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Calculating the WACC

Let's take a look at some methods of evaluation or financial calculations; we are going to take a look next at NPV and IRR but in order to do that we need to understand the cost of capital which is really an important input into our NPV calculation. So deciding what cost of capital we use could just be a random number, we could just say "hey our company uses when you going to evaluate a project for calculating NPV our cost of capital is 12% for example", so you might just have for example an amount that you say it is and when you compare projects with each other you will just always use that same cost of capital, so that you can compare those projects.

There can be a lot of more into it and if you want to actually calculate it properly, if you want to know exactly what your cost of capital is or if you are evaluating different businesses in different industries, you might want to know exactly what their cost of capital is? So to do that you might need to do a weighted average cost of capital calculation. So let's have a look at a very simple method of building this in Excel.

So it shows you how to do this in chapter 9 of the book and there is a file called NPV_IRR and WACC and if you open that up at the front is NPV_IRR, we are going to use that next to calculate our NPV's. Over the page is the WACC, and just a really simple calculation, let's say the company that you are evaluating is worth 10 million dollars, 6 million dollars of that is debt and 4 million of that is equity. So we know how much what they are paying for their debt, we are making an estimate on what return that they expect from their equity and we are going to calculate what their weighted average cost of capital is.

So the total amount here is 10 million dollars, so we will say, we know they are paying 8.5% for their debt, that is pretty easy to work out. This is a very simplistic model, I mean ordinarily you might have a dozen different loans and all at a different amount of borrowing or what your interest rate is, so you would need to calculate all of those separately. So we just keeping it very – very simple and saying whole amount of debt is they are paying 8.5 % for, so we multiply that up. So 6 million dollars at 8.5%, we can copy that across. That 15% is really just a stab in the dark, that's the bit that is quite difficult to work out. So we just making an assumption here of 15%, you know whatever you decide it is basically.

Financial Modelling in Excel

So we then need to take out our tax, so we are going to say that multiplied by 1 minus the tax amount, we are going to copy it across to get the consistent formulas and then we are going to add them up like that. So basically it is costing us a million dollars to fund a company worth 10 million dollars. So your cost of capital is going to be basically that proportion. So we say a million dollars as a percentage of the 10 million dollars, so our cost of capital in this case or our weighted average cost of capital is 9.78%. So that's what we are going to use for our NPV calculations.