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Overview of Scenario Analysis Methods

This is an overview of the scenario analysis methods for financial modelling in Excel.

Once you've decided that you need to put some scenarios into your financial model we usually leave that towards the end of the model building process and let's face it, any financial model worth its salt will always have some kind of scenario analysis attached to it even if it's just a very simple sensitivity analysis at the end.

When you've decided that you are going to put in your scenario analysis, you've got a couple of options in Excel. There are a number of very useful tools and features that are provided by Excel for putting in to those scenarios.

I'm just going to give you a very quick overview. We won't go into a huge amount of detail here but I just like to go over the couple of different methods of scenario analysis tools in Excel.

Basically there are three different methods. There's the manual scenario selection. You say let's look at the best case and all the numbers change. Let's select the worse case and all the numbers change. That's a manual scenario selection. There's two technical ways of doing that. You can either use a data validation drop down box or you can use a combo drop down box. From the user perspective it's probably not going to make a huge amount of difference but for you as the financial modeller, how you build those are a little different.

Secondly there's a scenario manager. Scenario manager is just a little tool in Excel. It's got a very cool name so you'd think it would be pretty useful? Probably not my favourite method of scenario analysis. It's a little bit like a goal seek. I'll show you briefly how it works. You just go in and you manually select the scenario. It is one method, not my favourite method.

Lastly we have data tables. Data tables are a sensitivity analysis tool which are very useful as well and this is where you have all of the outputs side by side. I'm going to flick over to Excel now and take you through very quickly what each of those scenario methods looks like.

Here we have a manual scenario selection and this is using a data validation drop down. Let's have a look at a best case scenario and you can see all of the numbers here. This is a property development scenario. You can see my profit changing and my profit margin changing. I'm just going to change my screen size so that you can see all of the numbers as I change my scenario on a single screen. Base case and all the numbers change. Worst case and all the numbers change. Now I've done that using formulas. From a technical perspective they work in a very similar method just a different type of drop down box.

Let's go into scenario manager now. I've built a scenario manager in here already, so let's have look at what I've already done. You need to go to the data tool. You've got a copy of this file, if you want to have a play around with it. The scenario tool is already saved in there so you can open up the file and have a look at that. Go into the data tab, WHATIF analysis and then go to scenario manager and you can see all of my pre-saved scenarios. You can say I want to look at best case and all the numbers change. Base case, show and all the numbers change. Worst case, show and all the numbers change.

It’s not my favourite tool because I don't think it's very easy for the user. I much prefer that somebody opens up the financial model and they see a bit drop down and they know what they're supposed to do not have to go in and look for it. Some people use it but given it's got such a useful sounding name, I don't think it's a particularly popular method of scenario analysis in financial modelling.

Lastly let's go into a data table. A data table is a totally different kind of analysis. Instead of having drop down and all the numbers change, we are going to see all of the outputs side by side. We’ve got our inputs here. Let's say our building costs might change, those are the inputs here and our sale price might change. With a data table you can only have one single output and two different inputs. It’s a very different sort of layout. What would happen if my building costs were this and my sale price was this? You want to see what that output would be? We highlight the whole lot, go into your data table and then we would say your

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row input cell which is going to be the sale price, this one here and building cost is going to be your column input cell. There we go and that gives you the hypothetical outcomes for this number here which is your profit margin. I know I went through that very quickly but I just wanted to give you a very brief overview of how a data table works. If you take that component of the course, we will go into a lot more detail and take you step by step through how to build data tables for sensitivity analysis in financial modelling.

In summary, I've shown you three different methods of scenario analysis in Excel. There's a manual scenario selection with the drop down boxes. We have scenario manager and lastly we have data tables. All very different and just have a little bit of a think about which method of scenario analysis you might like to use for your model.

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