

Crystal Ball Software and Risk Analysis Tips

Creating a Switch Cell for Ranges of Assumption Values, Part 2

In the previous CB Tip, Crystal Ball user Bill Haskett suggested a method that used Excel's Choose (or Index) functions to quickly change the values in cells referenced in a distribution. By selecting one of several scenarios in a single "switch" cell, you can quickly change the values within the distribution parameters. Then you can run a simulation for a particular scenario without having to redefine the distribution.

What if you want to randomly select from multiple scenarios? One way to do this is to use a custom distribution in combination with your Choose function. First, you define a discrete custom distribution with 1, 2, and 3 as values with equal probabilities of 33%%. Next, you define each of the scenarios (in this case, three) as a distribution. Using the Insert > Name > Define option in Excel, you can assign each scenario a unique name (e.g., scenario1, scenario2, and scenario3). Finally, in a new cell, you define the formula as:

```
=CHOOSE(E7,scenario1,scenario2,scenario3)
```

where E7 is the switch cell and 1 corresponds to scenario1, 2 to scenario2, and so on. Make this Choose function cell a Crystal Ball forecast, run a simulation, and you will see a forecast chart that contains results from all three scenarios.

But what if you want Crystal Ball to select the best possible scenario for you? In this case, you define the switch cell as a discrete decision variable with values of 1, 2, and 3. The Choose function is the same, but you run the Decision Table tool from the CBTools menu.

As with the previous tip, we have posted a spreadsheet example of these methods. [To download this example, visit the useful techniques section of our Example Model Library.](#)

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