

One-Minute Spotlight

CRYSTAL BALL: FORECAST FILTERING

Many modelers, when working on a familiar model, are interested only in forecasting a portion of the entire possible range of outcomes. Crystal Ball can perform **forecast filtering**, a feature that lets you discard values inside or outside a range for one or all of the forecasts in a simulation.

With this filtering feature, you can focus only on the outcomes that most interest you. Additionally, you can speed up your simulation because Crystal Ball spends less time graphing and calculating forecast statistics.

The model below forecasts the NPV and IRR metrics for a five year project. As an analyst, you're interested in seeing the IRR metric for different ranges of the NPV metric.

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Cost/Package		\$6.00	\$6.05	\$6.10	\$6.17	\$6.22
# Sold		802,000	967,000	1,132,000	1,297,000	1,462,000
Gross Revenues		\$4,812,000	\$5,850,350	\$6,905,200	\$7,998,167	\$9,088,767
Cost of Revenues		\$3,609,000	\$4,387,763	\$5,178,900	\$5,998,625	\$6,816,575
Gross Income		\$1,203,000	\$1,462,588	\$1,726,300	\$1,999,542	\$2,272,192
Operating Costs		\$120,300	\$146,259	\$172,630	\$199,954	\$227,219
Net Income Before Taxes		\$1,082,700	\$1,316,329	\$1,553,670	\$1,799,588	\$2,044,973
Taxes		\$346,464	\$421,225	\$497,174	\$575,868	\$654,391
Initial Investment	-\$3,400,000					
Net Income	-\$3,400,000	\$736,236	\$895,104	\$1,056,496	\$1,223,720	\$1,390,581
NPV		\$502,080				
IRR		15%				

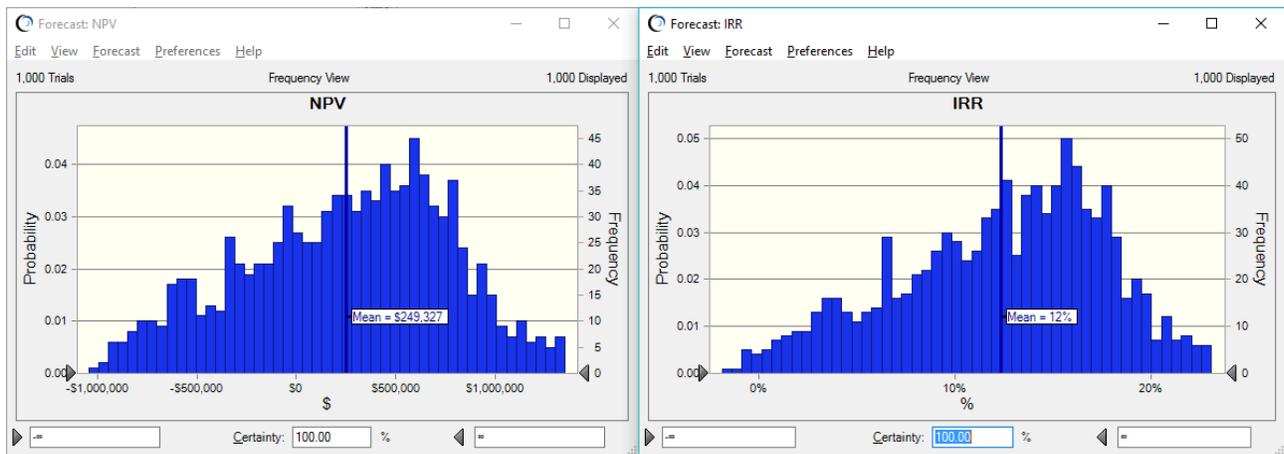
Forecast project NPV and IRR

ORACLE

Forecast Filtering, continued

RUNNING THE SIMULATION WITHOUT A FILTER

When you run 1000 Crystal Ball trials, you see the two forecasts below.

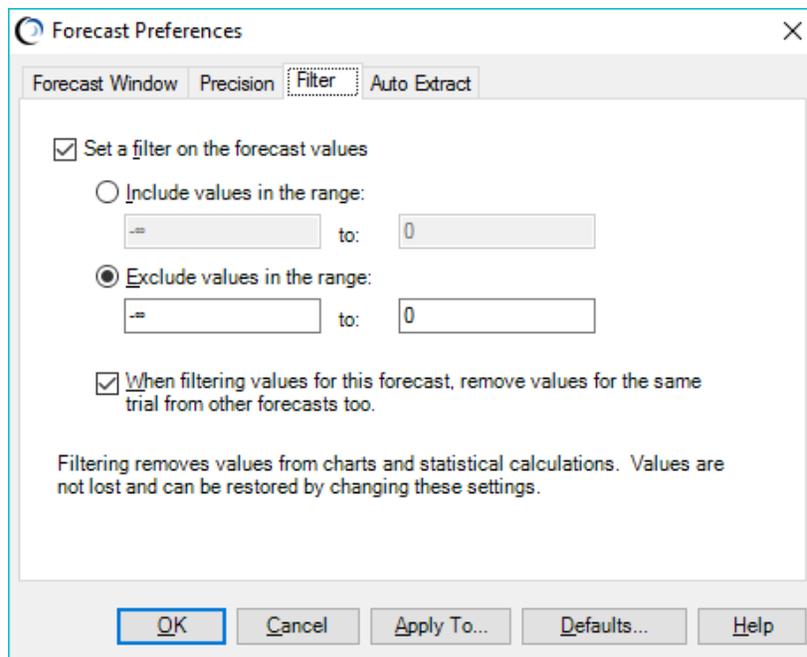


The mean NPV is forecasted at roughly \$250K while the mean IRR is 12%. The NPV forecast includes a loss of nearly \$1MM.

You would like to know what the means are for just the positive NPV values, as well as what the shapes of the curves look like. You decide to filter out the negative NPV values forecasts to look at just the positive outcomes.

SETTING A FORECAST FILTER

To filter the NPV forecast, you click on the forecast chart and then choose Forecast from the Preferences menu. When the dialog appears, click on Filter to set your filtering preferences.



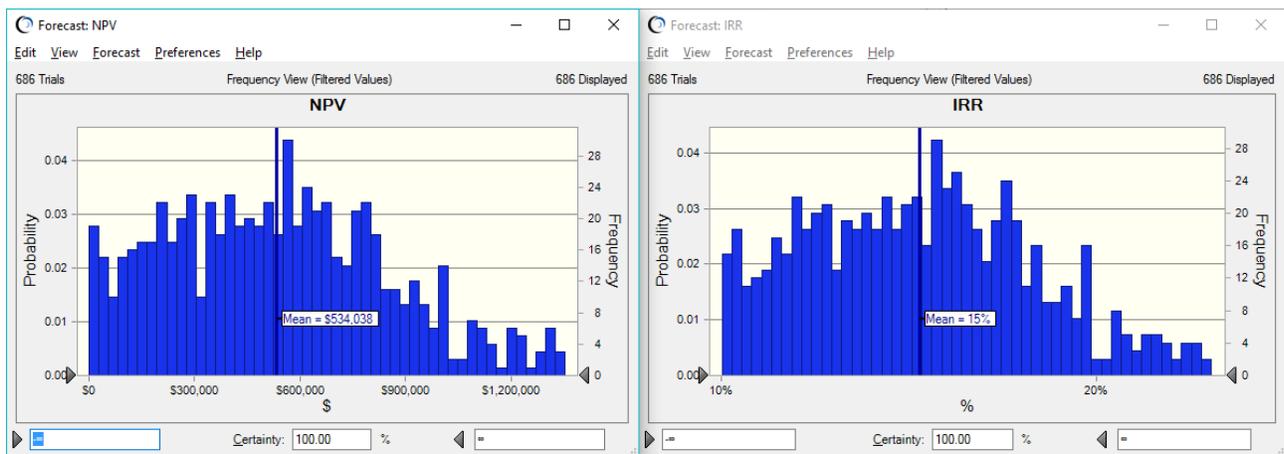
Forecast Filtering, continued

You want to filter out all values below zero, so you set the filter range to exclude values in the range between negative infinity and zero. At the same time, you also want to filter out values for the IRR forecast that occurred *during the same trial* in the simulation.

Once you select these options, click on OK to set the filter.

VIEWING YOUR FILTERED FORECAST RESULTS

Crystal Ball discards all forecast values for the NPV forecast that fall at or below zero, while at the same time filtering values for the IRR forecast. Although Crystal Ball was set to run 1000 trials, the forecast charts subset of the trials, 686 trials in this example.



Now you can examine these filtered values further using Crystal Ball functionality to adjust the certainty range, etc. You can even bring up the sensitivity charts for these forecasts, and the results will take into account only those trial values in the filtered range.

For more information or to contact us, browse to

<http://www.oracle.com/technetwork/middleware/crystalball/overview/index.html>.