



**ORACLE®**

## **Add Risk Measurements to Key Metrics During the Strategic Planning Process**

A Hyperion Strategic Finance and Oracle Crystal Ball integrated demo

- The Executive Dashboard highlights the key metrics that Eden (our example corporation) uses to evaluate its strategies. Detailed financial models that have been forecast out 5 years provide the results for this dashboard. By looking at the Corporate Value chart, we can see that Eden is evaluating a potential *Acquisition*, expanding into a *Digital Video* product line, and looking at what impact a couple of recession scenarios (*Recession and Recession Package*) would have on the Digital Video expansion (lowering the company's value).
- We can compare the value of these scenarios to our *Baseline* scenario, or the forecast of the existing business before new investments or strategies are evaluated. We can also compare the resulting Earnings Per Share results over to the right.
- In this demo, we will show how adding a measure of the risk inherent in the key metrics vastly improves the decision making process.

# Executive Dashboard: Acquisition

## Year Selection

2014 ▼

Go

## Scenario Selection

Acquisition ▼

Go

## Scenario Comparison

	Acquisition	Baseline	Variance
Revenue (in MM)	\$3,635	\$2,912	\$723
Operating Profit Margin %	16.52%	13.57%	2.95%
Net Income (in MM)	\$352	\$210	\$143
Shares Outstanding	31,864,811	32,351,357	-486,546
EPS	\$11.05	\$6.48	\$4.58
Total Capital (in MM)	\$2,774	\$1,785	\$989
ROIC	19.17%	18.33%	
Interest Coverage	12.73	5.99	
Debt/Capital %	44.20%	29.44%	
Excess Debt	0	0	

Credit Rating	A	A+
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Credit Rating Certainty	48%	47%
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## Market Price Comparison

	Acquisition	Baseline
Value per Share	\$42.78	\$36.54
Current Stock Price	\$39.00	\$39.00
Variance	\$3.78	-\$2.46
Variance %	9.70%	-6.31%

Let's assume that for our demonstration, two of the key metrics that management will use to make a strategic decision are:  
Shareholder Value (SVA) and Credit Rating.

The question is, for each scenario, how certain are we that we will meet or exceed the forecast SVA and the forecast credit rating?

HomeInsertPage LayoutFormulasDataReviewViewDeveloperAdd-InsHyperionOracle BICrystal Ball

Define Assumption

Define Decision

Define Forecast

Copy

Paste

Clear

Select

Freeze

Cell Prefs

Start

Stop

Reset

Step

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Strategic Finance Setup

Entity Selection

General

Assumptions

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Summary

Select an entity to simulate

Select entity

☐ Use local entity

C:\Documents and Settings\Demouser\Desktop\H Browse...

☒ Use server entity

Server: HSF Log on...

Database: TotStratPlan

Entity: Eden Consolidated

Finish

Cancel

Help

2011 3 0.42125 4.842 354568 4.3 1.50476 54.69 1.85336 24.8 6.40892 54.91 525023 6.266 60.1472 145.4 812667 -48.8

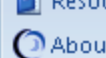
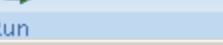
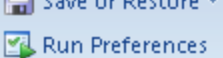
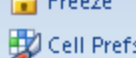
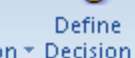
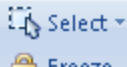
2011 2011

BBB- A-

We use a wizard to guide us through setting up the simulation. We're connecting this spreadsheet to the financial model. It allows us to choose key metrics for which we want to measure the risk. In our example, we want to measure the risk around Shareholder Value and Credit Rating.



Home Insert Page Layout Formulas Data Review View Developer Add-Ins Hyperion Oracle BI Crystal Ball



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## Strategic Finance Setup

Welcome

Entity Selection

General

Assumptions

Forecasts

Summary

Select an entity to simulate

Select entity

☐ Use local entity

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Browse...

☒ Use server entity

Server:

HSF

Log on...

Database:

TotStratPlan

Entity:

Eden Consolidated

Finish

Cancel

Help

We use a wizard to guide us through setting up the simulation. We're connecting this spreadsheet to the financial model. It allows us to choose key metrics for which we want to measure the risk. In our example, we want to measure the risk around Shareholder Value and Credit Rating.

SVA and Credit Rating Certainty Measures.xls [Compatibility Mode] - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Developer Add-Ins Hyperion Oracle BI Crystal Ball

Define Assumption Define Decision Define Forecast Copy Paste Clear Select Freeze Cell Prefs Start Stop Reset Step Tools Save or Restore Run Preferences OptQuest View Charts Create Report Extract Data Help Resources About

**Strategic Finance Setup**

Welcome

Entity Selection

**General**

Assumptions

Forecasts

Summary

Enter information for this simulation

Simulation options

Description: SVA and Credit Rating calculation of certainty measures

Scenario: Baseline

Time periods: ☒ 2010 ☒ 2011 ☒ 2012 ☒ 2013 ☒ 2014

File options

☐ After simulation, automatically save simulation results to the folder below.

☐ Before simulation, automatically save workbook to the folder below.

Folder: H:\demos\HSFCORP\Common\ClientDo Browse...

Finish Cancel Help

2013 2014

4	5.976556	6.932163
8	4.352978	4.366719
3	55.05159	55.53413
8	24.90958	24.93832
5	55.3971	55.81177
2	6.268784	6.2491
6	136.6858	121.8239
8	4.631724	4.770116

2013 2014

36.53828	
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BBB- A+ A+ AA AAA

In this first screen, we choose which scenario we want to simulate, the time periods we're interested in, and enter some details for naming the simulation and saving the results.

Ready

Start Oracle Hyperion Strat... Crystal Ball H:\demos\TotStratPla... SVA and Credit Rating... Strategic Finance S... 10:06 AM

# Welcome

### Entity Selection

## General

## Assumptions

## Forecasts

## Summary

Select Strategic Finance inputs which should be defined as Crystal Ball assumptions

### Available accounts

100.00.000:	Weighted Average Exchange
105.00.000:	Period End Exchange Rate
110.00.000:	Equity Historical Exchange R
115.00.000:	User Defined Exchange Rate
300.00.000:	<<< MEMO GROUP 1 >>>
300.00.002:	
300.00.046:	
300.00.048:	Benchmark EBITDA Margin
300.00.050:	EBITDA Margin - NOKIUM
300.00.052:	EBITDA Margin - Opus Te
300.00.054:	EBITDA Margin - Lusitana
300.00.056:	EBITDA Margin - Industry
300.00.058:	Benchmark CFROI
300.00.060:	CFROI - NOKIUMA
300.00.062:	CFROI - Opus Terra
300.00.064:	CFROI - Lusitana Comm
300.00.066:	CFROI - Industry Average
300.00.068:	Benchmark DSO's

Search for accounts containing:

### Selected accounts

315.00.100:	LIBOR
1000.00.100:	Electronics Revenues
1000.00.200:	Services Revenues
1040.00.000:	Cost of Sales
1080.00.000:	SG&A Expense
2020.00.000:	Accounts Receivable
2040.00.000:	Inventory
2170.01.000:	Fixed Capital Investment
2500.00.000:	Accounts Payable

Finish

Cancel

Help

BBB-

A-

**In this screen the wizard has retrieved from the financial model all the available accounts. We choose the accounts that we want to define as variable inputs to our simulation model.**

SVA and Credit Rating Certainty Measures.xls [Compatibility Mode] - Microsoft Excel

HomeInsertPage LayoutFormulasDataReviewViewDeveloperAdd-InsHyperionOracle BICrystal Ball

Define Assumption

Define Decision

Define Forecast

Copy

Paste

Clear

Select

Freeze

Cell Prefs

Start

Stop

Reset

Step

Tools

Save or Restore

Run Preferences

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Strategic F

(For best results, do

Assumptions

315.00.100: LIBOR

1000.00.100: Electro

1000.00.200: Servic

1040.00.000: Cost o

1080.00.000: SG&A

2020.00.000: Accou

2040.00.000: Invent

2170.01.000: Fixed

2500.00.000: Accou

Forecasts (\$

Strategic Finance Setup

Welcome

Entity Selection

General

Assumptions

Forecasts

Summary

Select Strategic Finance outputs which should be tracked as Crystal Ball forecasts

Available accounts

100.00.000: Weighted Average Exchange

105.00.000: Period End Exchange Rate

110.00.000: Equity Historical Exchange R

115.00.000: User Defined Exchange Rate

200.00.000: Period Length

300.00.000: <<< MEMO GROUP 1 >>>

300.00.001: <<OPERATIONAL AND FINA

300.00.002:

300.00.004: Target of CCC

300.00.006: Target of CCC+

300.00.008: Target of B-

300.00.010: Target of B

300.00.012: Target of B+

300.00.014: Target of BB-

300.00.016: Target of BB

300.00.018: Target of BB+

300.00.020: Target of BBB-

300.00.022: Target of BBB

Selected accounts

5080.00.000: Shareholder Value (per share)

6430.00.076: Final Average Bond Rating

Search for accounts containing:

Finish

Cancel

Help

2011

201

3

0.42125

4.842

354568

4.3

1.50476

54.69

1.85336

24.8

1.40892

54.91

1.525023

6.266

10.1472

145.4

1.812667

-48.8

2011

201

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A-

Similarly, now we choose which account we want to define as our simulation output, or forecasts. These are Shareholder Value and Final Average Bond Rating.

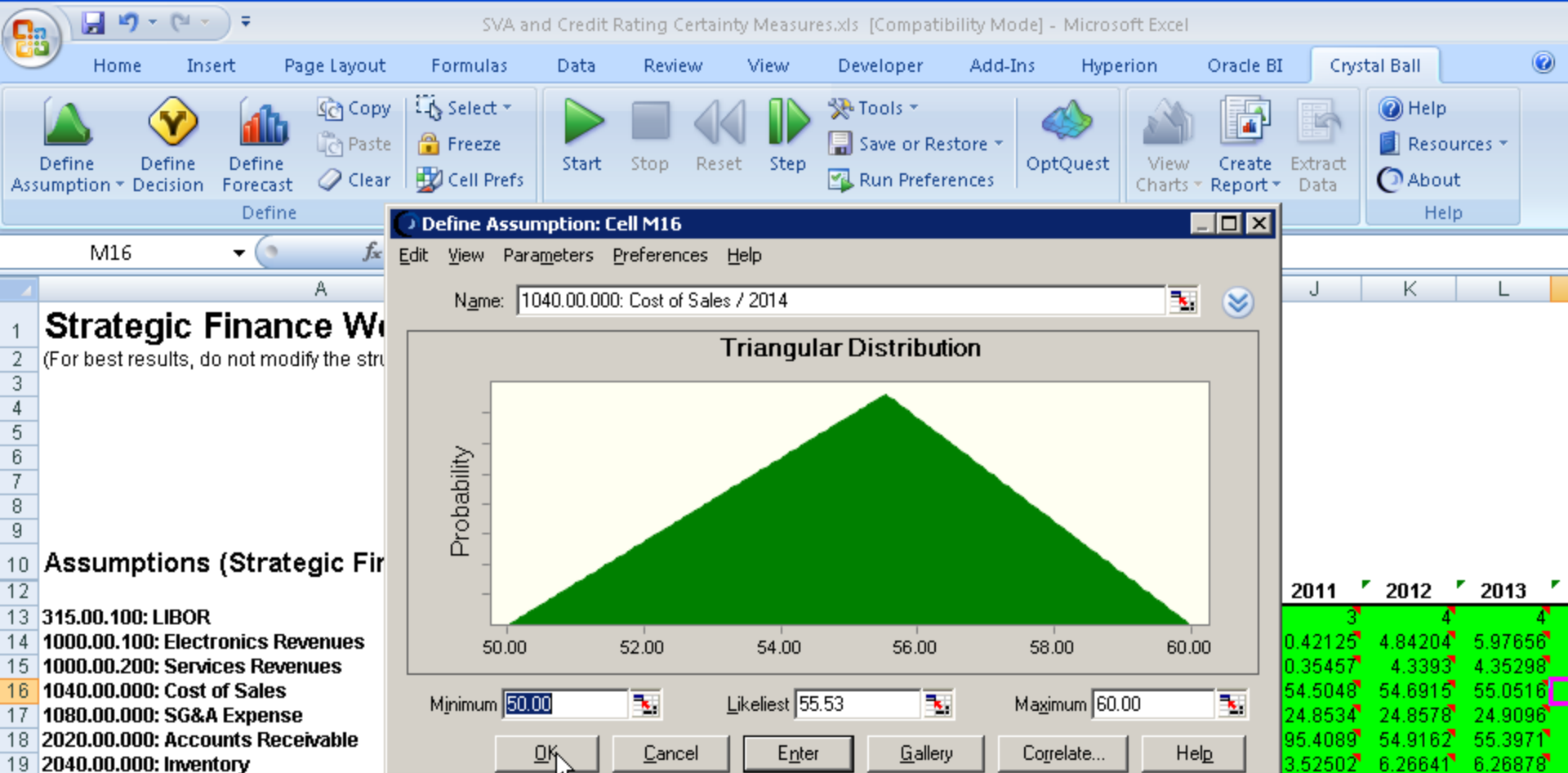


M25 36.5382762557376

	A	C	D	E	F	G	H	I	J	K	L
1	<b>Strategic Finance Worksheet</b>										
2	(For best results, do not modify the structure of this worksheet)										
3											
4	<b>Description:</b> SVA and Credit Rating calculation of certainty measures										
5	<b>Entity:</b> Server: HSF; Database: TotStratPlan; Entity: Eden Consolidated										
6	<b>Scenario:</b> Baseline										
7	<b>Units:</b> Millions of Dollars										
8	<b>Store folder:</b> H:\demos\HSFCORP\Common\ClientDocs										
9											
10	<b>Assumptions (Strategic Finance inputs)</b>										
11											
12		<b>Jul10</b>	<b>Aug10</b>	<b>Sep10</b>	<b>Oct10</b>	<b>Nov10</b>	<b>Dec10</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
13	315.00.100: LIBOR	2.5	2.5	2.5	2.5	2.5	2.5		3	4	4
14	1000.00.100: Electronics Revenues	-15.0371	-39.3266	12.8547	107.655	101.939	83.2332		0.42125	4.84204	5.97656
15	1000.00.200: Services Revenues	-5.35603	-19.0825	11.5572	74.4975	138.666	111.056		0.35457	4.3393	4.35298
16	1040.00.000: Cost of Sales	50.6479	50.4063	50.7972	51.23	50.868	52.1849		54.5048	54.6915	55.0516
17	1080.00.000: SG&A Expense	22.6915	24.7104	24.0276	23.6261	23.2467	23.3589		24.8534	24.8578	24.9096
18	2020.00.000: Accounts Receivable	58.344	58.4325	58.2891	58.1719	58.3269	58.315		95.4089	54.9162	55.3971
19	2040.00.000: Inventory	5.98286	6.21116	5.84938	5.70049	6.07006	6.00532		3.52502	6.26641	6.26878
20	2170.01.000: Fixed Capital Investment	10.8672	10.8888	10.8343	10.9317	10.8416	10.9751		150.147	145.419	136.686
21	2500.00.000: Accounts Payable	-10.035	-25.8801	32.4872	33.7274	2.74146	-7.92993		5.81267	-48.8938	4.63172
22											

**The solution automatically sets up the simulation worksheet, connected to the financial model. We're using Excel only as the user interface – all the mathematical equation, or business rules, are in the financial model.**

**Now that we've chosen our inputs and outputs, and connected to the model, let's do the last two steps required to set up a simulation: defining the variable parameters around our inputs, and labeling which are the outputs.**



For each of our inputs, i.e. what we call assumptions, we assign a probability distribution. In this example, we're saying that Cost of Sales for 2014 should look like a triangle, we a likeliest value of 55.53

There are many methods that can be used to find the right shape and parameters for our inputs. We either use some of the software tools to fit the right distribution if we have valid historical data, or apply risk elicitation techniques combined with subject matter expertise to define the distributions when we don't have any data.

We can also correlate inputs to one another if required – often an important step in correctly evaluating risk.

	A	C	D	E	F	G	H	I	J	K	L	
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(For best results, do not modify the structure of this worksheet)

### Assumptions (Strategic Finance

315.00.100: LIBOR

1000.00.100: Electronics Revenues

**1000.00.200: Services Revenues**

**1040.00.000: Cost of Sales**

**1080.00.000: SG&A Expense**

2020.00.000: Accounts Receivable

2040.00.000: Inventory

2170.01.000: Fixed Capital Investment

2500.00.000: Accounts Payable

## Forecasts (Strategic Finance ou

**5080.00.000: Shareholder Value (per share)**

6430.00.076: Final Average Bond Rating

**Next we tell the software which are our forecasts: Shareholder Value and Final Average Bond Rating. The software convention colors forecast cells blue.**

2010 2011 2012 2013

	2010	2011	2012	2013
3				
4				
4				

0.42135<sup>3</sup> 4.84304<sup>4</sup> 5.97656<sup>4</sup>

0.42123	4.64264	3.97838
0.35457	4.3393	4.35308

0.55457	4.55395	4.55298
54.6048	54.6016	55.0516

34.5048	34.6915	35.0518
34.9534	34.9539	34.9996

	24.8534	24.8578	24.9096
	25.1000	51.0163	55.3031

35.4089	54.9162	55.3971
6.53593	6.36641	6.36632

	3.52502	6.26641	6.26878
1.52113	1.15112	1.22222	

age

rs 0.81267 -48.8938 4.63172

13

\_\_\_\_\_

	2011	2012	2013
2011	100	100	100
2012	100	100	100
2013	100	100	100


2010	2011	2012	2013
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\_\_\_\_\_

BBB                      0                      0 +                      0 0

BBB-	A-	A+	AA
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Downloaded from <http://ajph.org/> on November 10, 2015



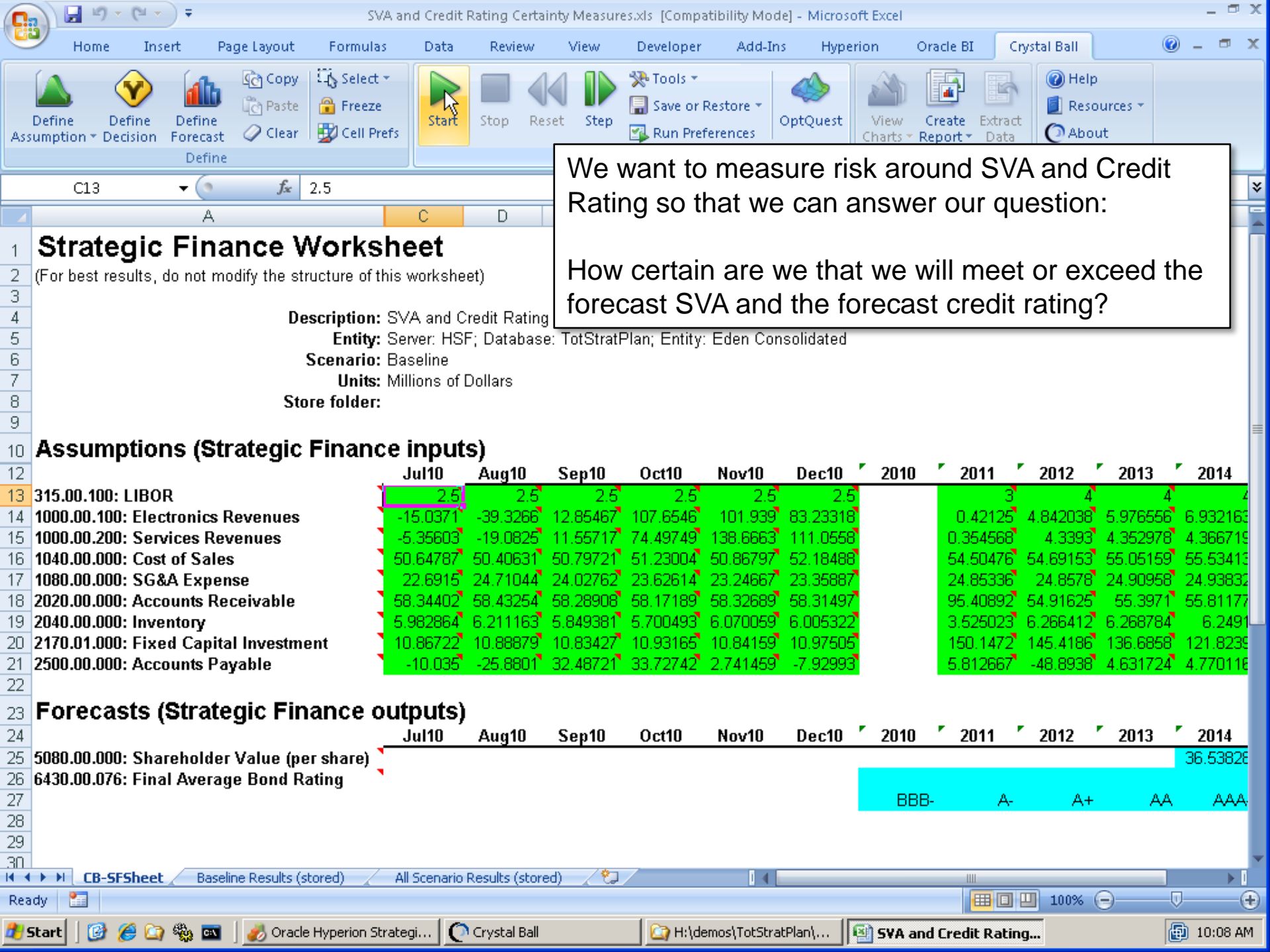
Now we're ready to run a simulation. The software will run what's called a Monte Carlo simulation.

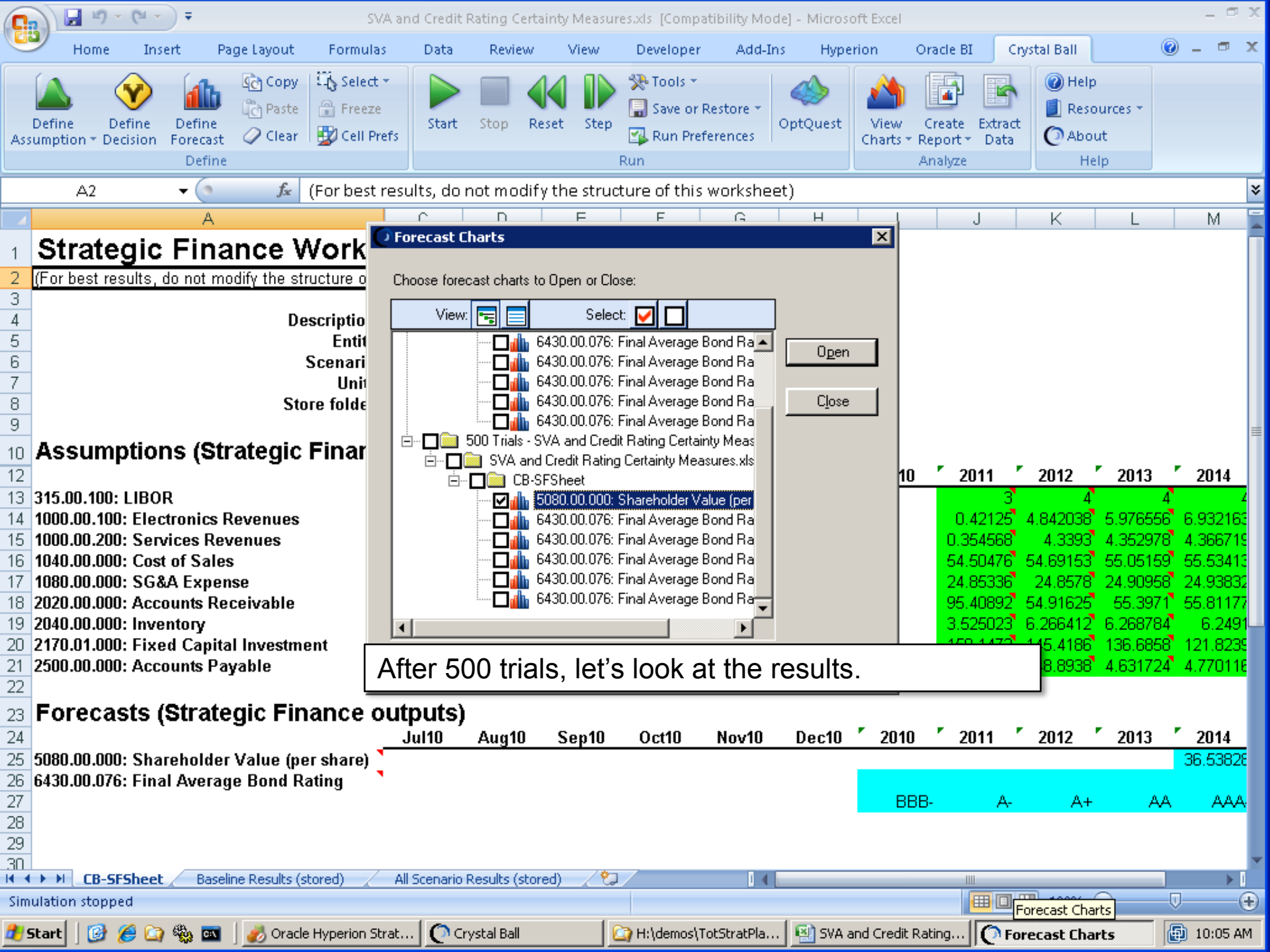
A Monte Carlo simulation is a series of trials. Each trial picks a different number from the allowed inputs (the green cells) recalculates the outputs (the blue cells) and saves the results of each of those trials for analysis. Once you run 500, 1000 or more of those trials, you can calculate things like certainty measures (i.e. risk), sensitivities, percentiles and any number of other statistics.

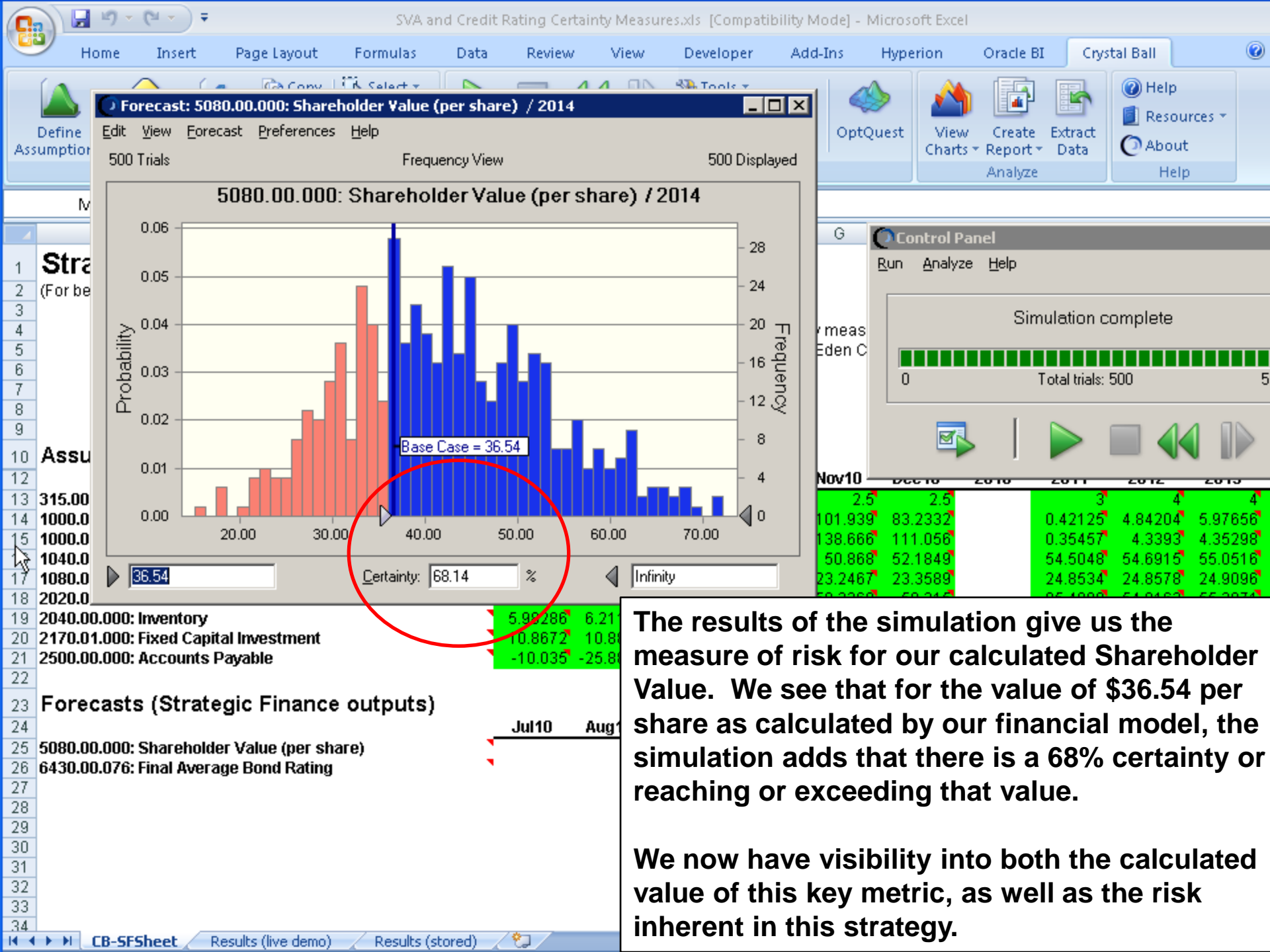
In evaluating our strategic opportunities, we settled on a number of scenarios and strategies— things that might happen and how we could respond to them. Our financial model gave us the key financial measures or metrics, by which we evaluate the value of each strategy.

With simulation, now we measure the risk of any given strategy.

Right now, “scenario” is a given. The future, good or bad, will happen whether you plan for it or not. Smart companies today evaluate strategies to respond to Scenarios (and EPM gives you the nimbleness to execute changes in strategies efficiently). The absolute best companies will add simulation to strategy in order to evaluate the comprehensive worth (value + risk = worth) of that choice.







**Once the simulation is complete, we need to share the results with others. We submit the results to our database.**

**From our dashboard we can now fully review both the strategic value of each opportunity under consideration, as well as understand the risk inherent in each strategy.**

	Acquisition	Baseline	Variance
Revenue (in MM)	\$3,635	\$2,912	\$723
Operating Profit Margin %	16.52%	13.57%	2.95%
Net Income (in MM)	\$592	\$391	\$201
Shares Outstanding	40,000,000	40,000,000	0
EPS	\$14.80	\$9.76	\$5.03
Total Capital (in MM)	\$2,774	\$1,785	\$989
ROIC	19.18%	17.72%	1.46%
Interest Coverage	36.51	11.99	24.52
Debt/Capital %	25.19%	11.76%	13.44%
Excess Debt	0	0	0

Credit Rating	Aa+	Aa-
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Credit Rating Certainty	54%	47%
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Scenario Selection

Acquisition

Acquisition

Digital Video

Recession

Recession Package

Go

	Acquisition
Value Per Share	\$43

Current Stock Price	\$39
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Valore per Share Certainty	55%
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# FOR MORE INFORMATION...

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