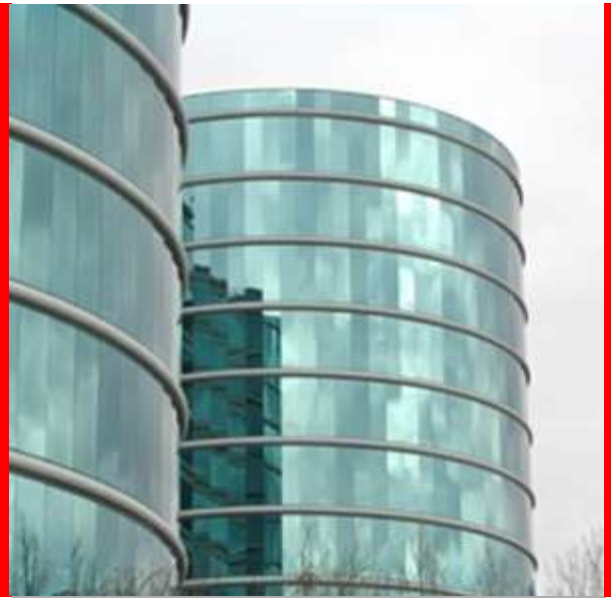


ORACLE

Accounting for Risk in Planning

An Integrated Crystal Ball and Planning Demonstration

Risk Reporting

Renewal Premiums Example

- Selected a simple Insurance example, where the Planner must decide on the best approach for increasing renewal premiums.
- Since his group is measured on achieving revenue targets, the Planner would like to both increase revenue and be confident of meeting or exceeding those forecasted results.
- Two questions:
  1. How certain is the Planner of meeting or exceeding the revenue?
  2. Which inputs have the most effect on the outcome?

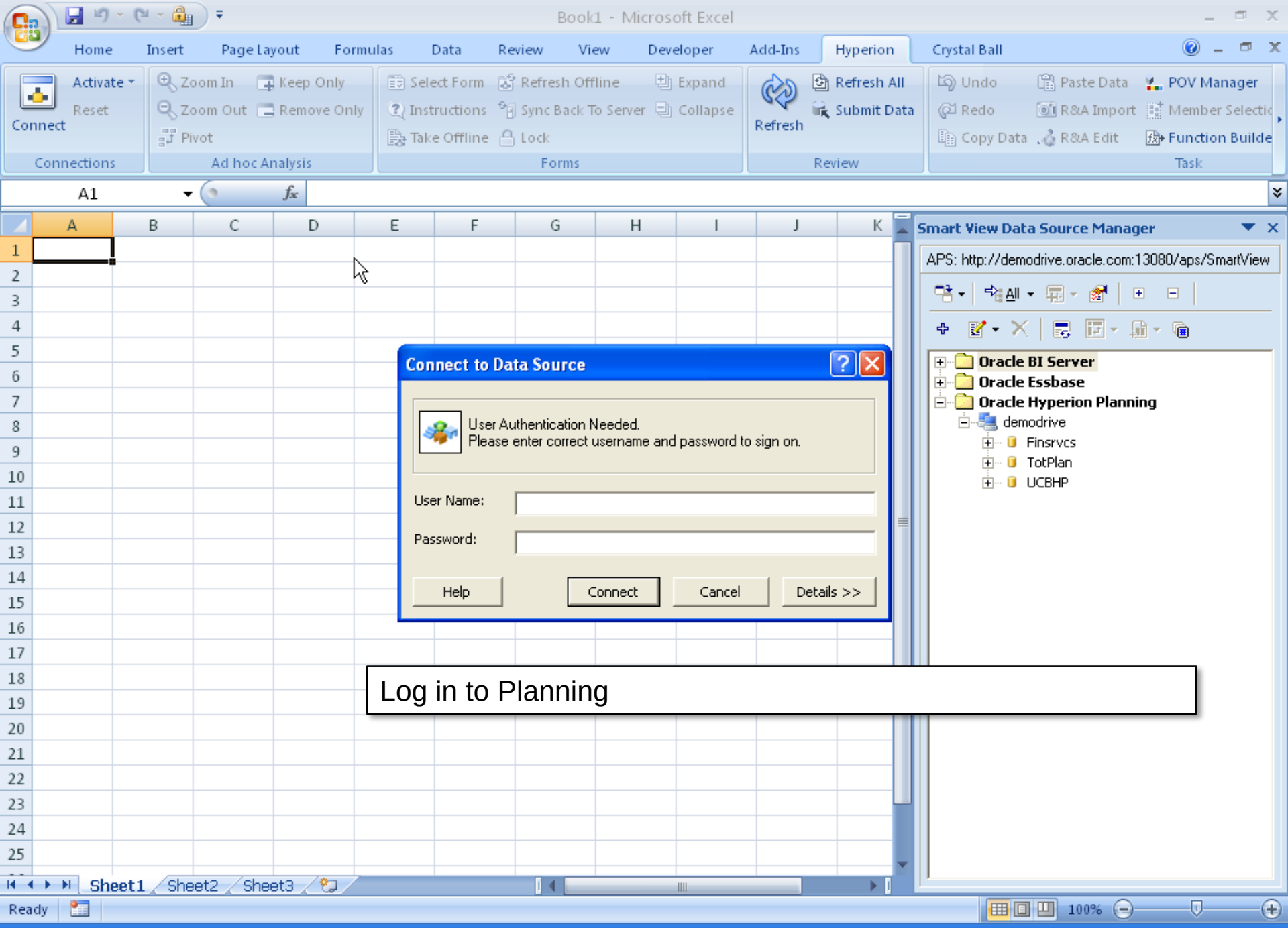
Risk Reporting

Renewal Premiums Example

- In this example, we use Oracle Crystal Ball in conjunction with Planning to:

1. Measure the risk inherent in renewal % and average renewal premiums
2. Compute the certainty ranges around total renewal premiums
3. Perform sensitivity analysis to identify key uncertainty drivers

Thus allowing the strategic planner to evaluate and propose the best approach for increasing renewal premiums.


Book1 - Microsoft Excel
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Ad hoc Analysis
Select Form
Instructions
Take Offline
Refresh Offline
Sync Back To Server
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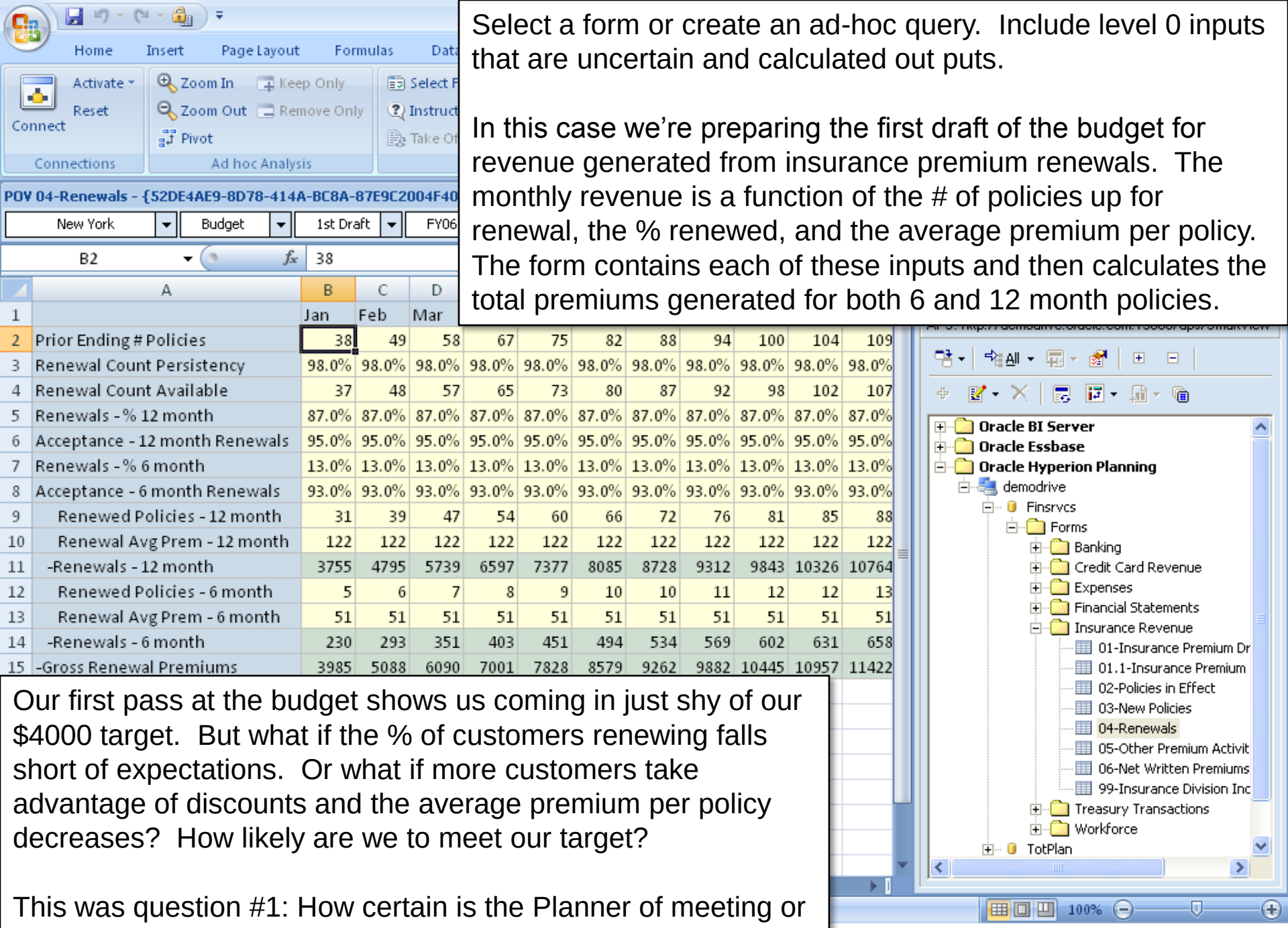
Select a form or create an ad-hoc query. Include level 0 inputs that are uncertain and calculated out puts.

In this case we're preparing the first draft of the budget for revenue generated from insurance premium renewals. The monthly revenue is a function of the # of policies up for renewal, the % renewed, and the average premium per policy. The form contains each of these inputs and then calculates the total premiums generated for both 6 and 12 month policies.



	A	Jan	Feb	Mar							
2	Prior Ending # Policies	38	49	58	67	75	82	88	94	100	104	109
3	Renewal Count Persistency	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%
4	Renewal Count Available	37	48	57	65	73	80	87	92	98	102	107
5	Renewals - % 12 month	87.0%	87.0%	87.0%	87.0%	87.0%	87.0%	87.0%	87.0%	87.0%	87.0%	87.0%
6	Acceptance - 12 month Renewals	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
7	Renewals - % 6 month	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%
8	Acceptance - 6 month Renewals	93.0%	93.0%	93.0%	93.0%	93.0%	93.0%	93.0%	93.0%	93.0%	93.0%	93.0%
9	Renewed Policies - 12 month	31	39	47	54	60	66	72	76	81	85	88
10	Renewal Avg Prem - 12 month	122	122	122	122	122	122	122	122	122	122	122
11	-Renewals - 12 month	3755	4795	5739	6597	7377	8085	8728	9312	9843	10326	10764
12	Renewed Policies - 6 month	5	6	7	8	9	10	10	11	12	12	13
13	Renewal Avg Prem - 6 month	51	51	51	51	51	51	51	51	51	51	51
14	-Renewals - 6 month	230	293	351	403	451	494	534	569	602	631	658
15	-Gross Renewal Premiums	3985	5088	6090	7001	7828	8579	9262	9882	10445	10957	11422

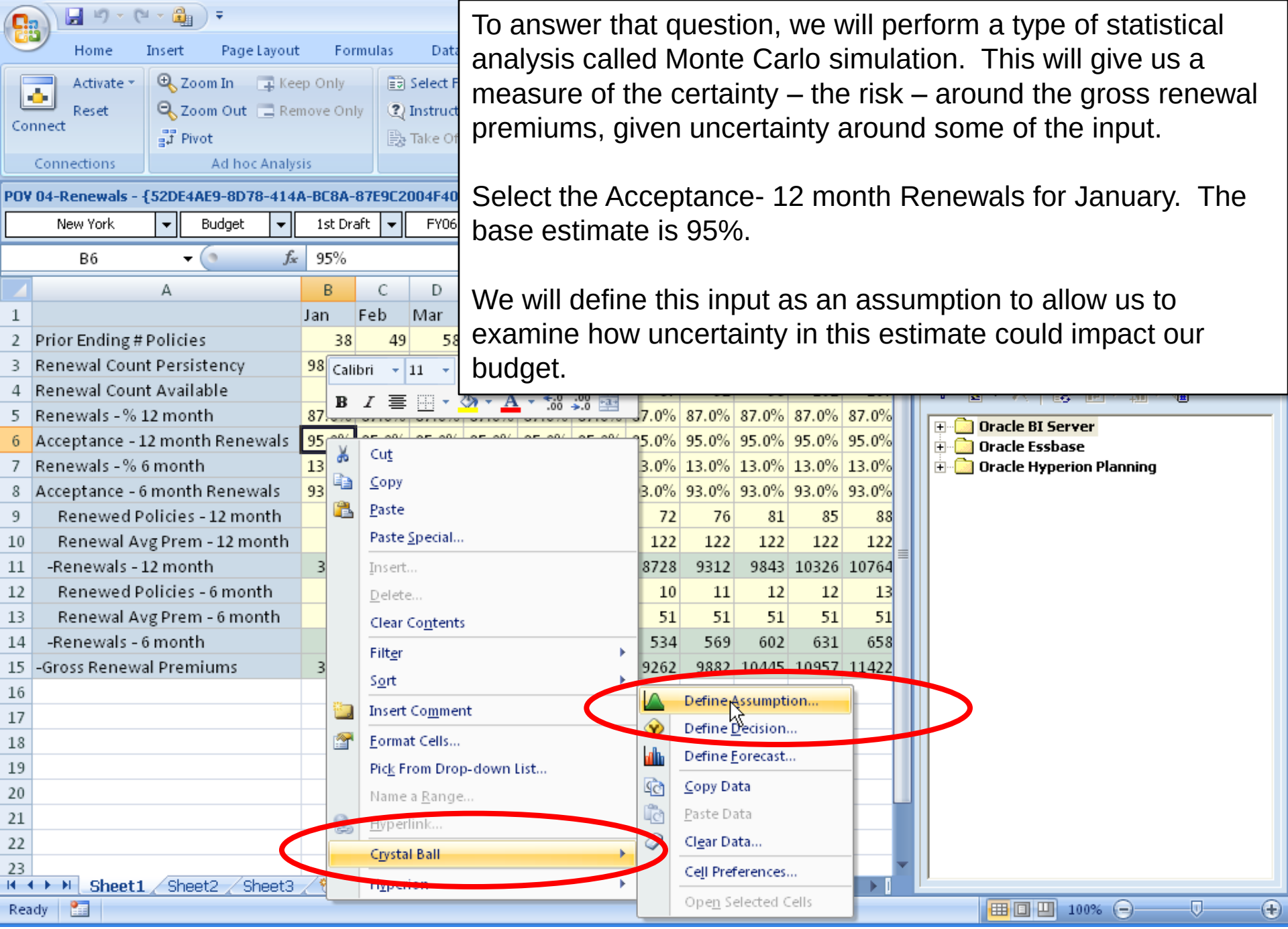
Our first pass at the budget shows us coming in just shy of our $4000 target. But what if the % of customers renewing falls short of expectations. Or what if more customers take advantage of discounts and the average premium per policy decreases? How likely are we to meet our target?

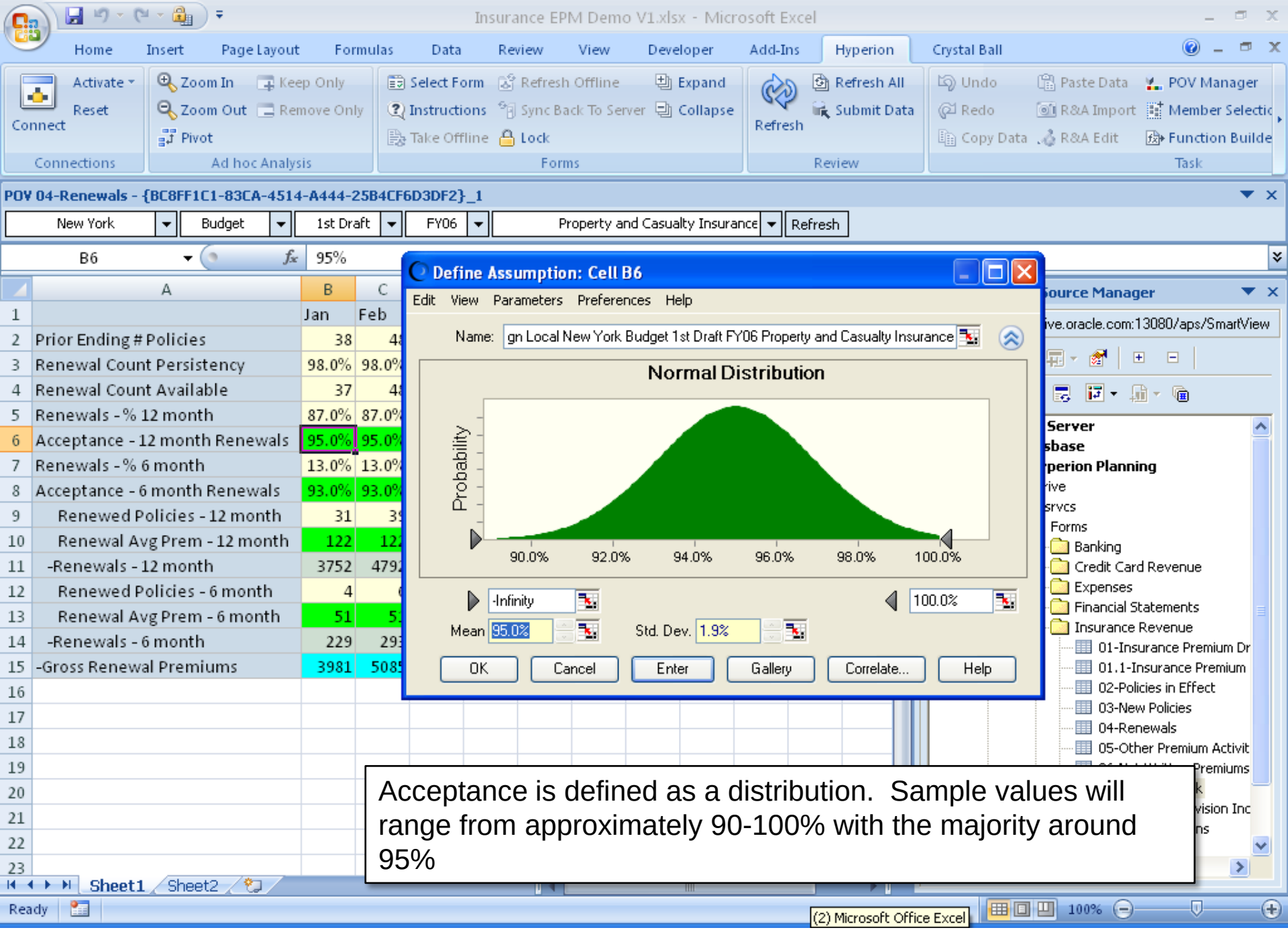
This was question #1: How certain is the Planner of meeting or exceeding the revenue?

To answer that question, we will perform a type of statistical analysis called Monte Carlo simulation. This will give us a measure of the certainty – the risk – around the gross renewal premiums, given uncertainty around some of the input.

Select the Acceptance- 12 month Renewals for January. The base estimate is 95%.

We will define this input as an assumption to allow us to examine how uncertainty in this estimate could impact our budget.





	A	B	C
1		Jan	Feb
2	Prior Ending # Policies	38	4
3	Renewal Count Persistency	98.0%	98.0%
4	Renewal Count Available	37	4
5	Renewals - % 12 month	87.0%	87.0%
6	Acceptance - 12 month Renewals	95.0%	95.0%
7	Renewals - % 6 month	13.0%	13.0%
8	Acceptance - 6 month Renewals	93.0%	93.0%
9	Renewed Policies - 12 month	31	3
10	Renewal Avg Prem - 12 month	122	12
11	-Renewals - 12 month	3752	479
12	Renewed Policies - 6 month	4	
13	Renewal Avg Prem - 6 month	51	5
14	-Renewals - 6 month	229	29
15	-Gross Renewal Premiums	3981	508
16			
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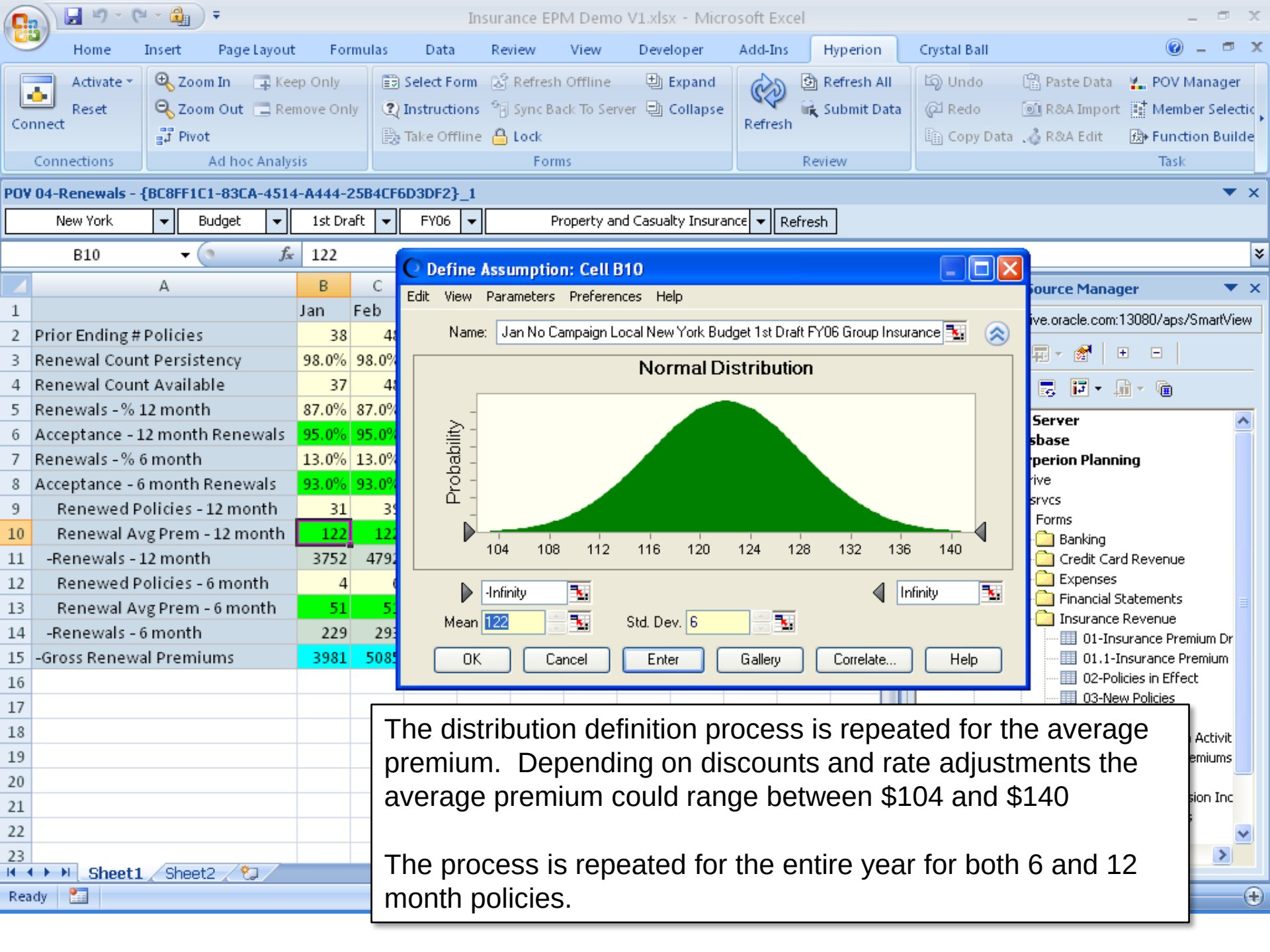
Acceptance is defined as a distribution. Sample values will range from approximately 90-100% with the majority around 95%



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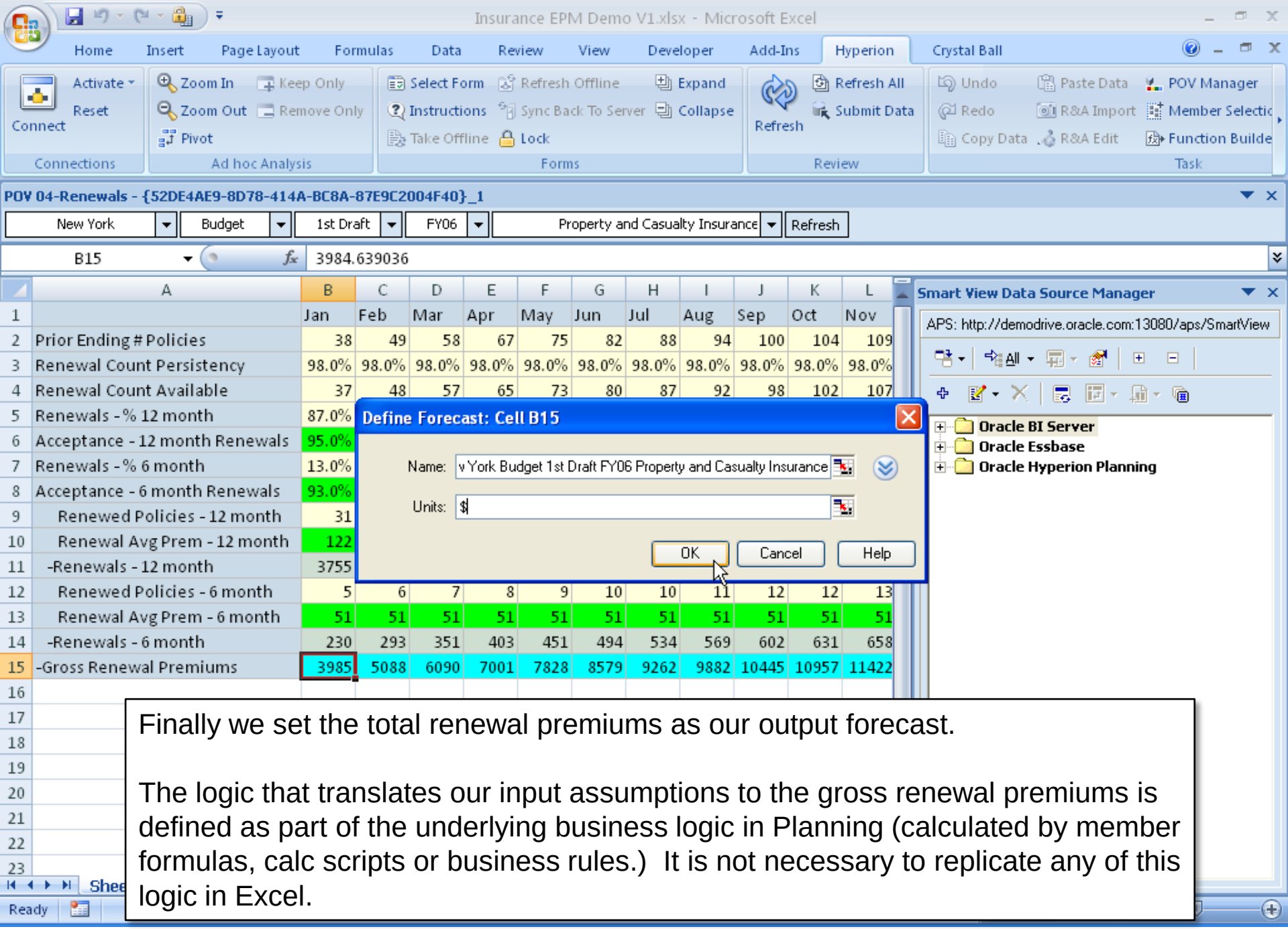
The distribution definition process is repeated for the average premium. Depending on discounts and rate adjustments the average premium could range between $104 and $140

The process is repeated for the entire year for both 6 and 12 month policies.



	A	B	C	D	E	F	G	H	I	J	K	L
1		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
2	Prior Ending # Policies	38	49	58	67	75	82	88	94	100	104	109
3	Renewal Count Persistency	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%
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15	-Gross Renewal Premiums	3985	5088	6090	7001	7828	8579	9262	9882	10445	10957	11422
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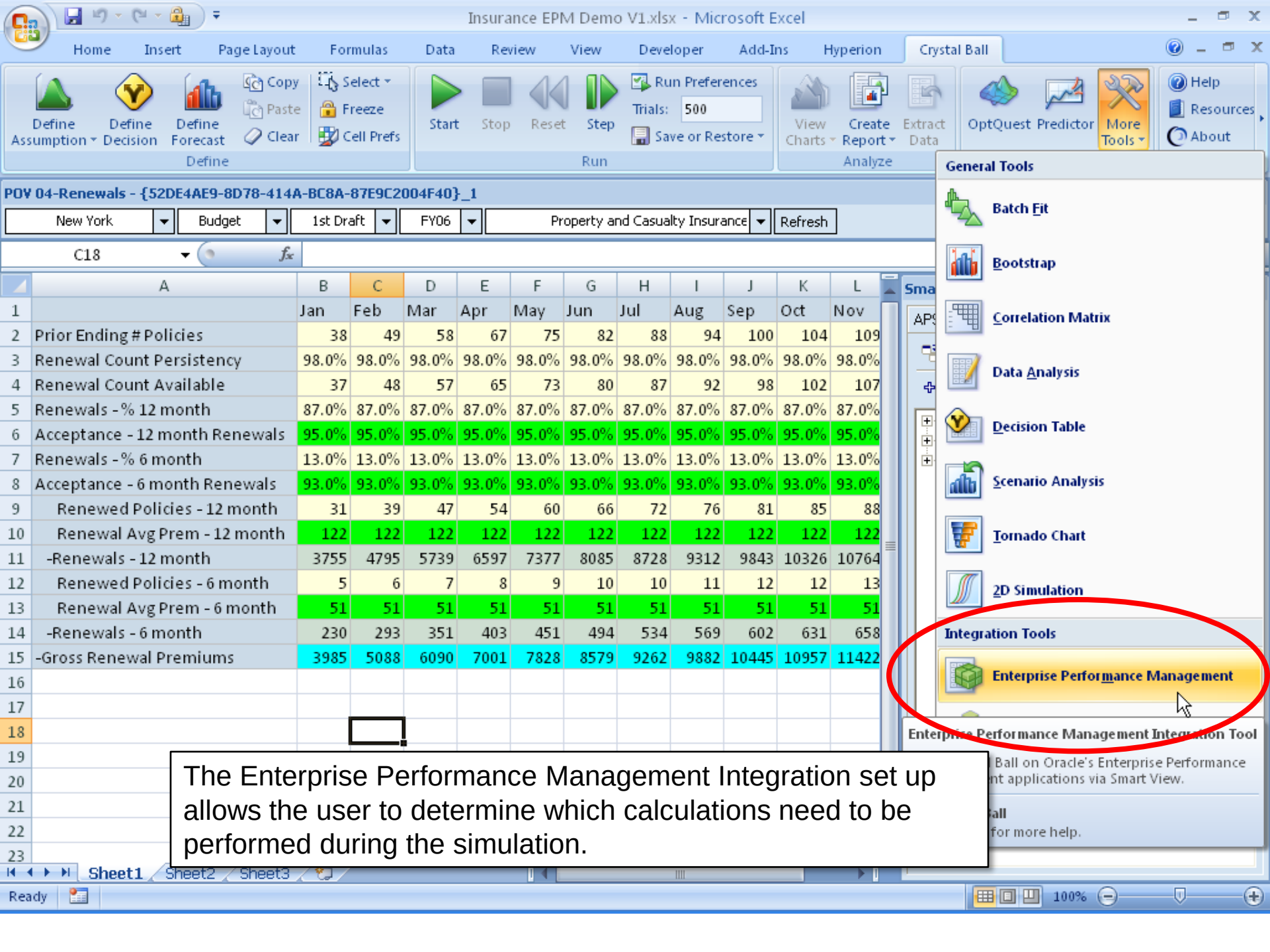
Finally we set the total renewal premiums as our output forecast.

The logic that translates our input assumptions to the gross renewal premiums is defined as part of the underlying business logic in Planning (calculated by member formulas, calc scripts or business rules.) It is not necessary to replicate any of this logic in Excel.



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16												
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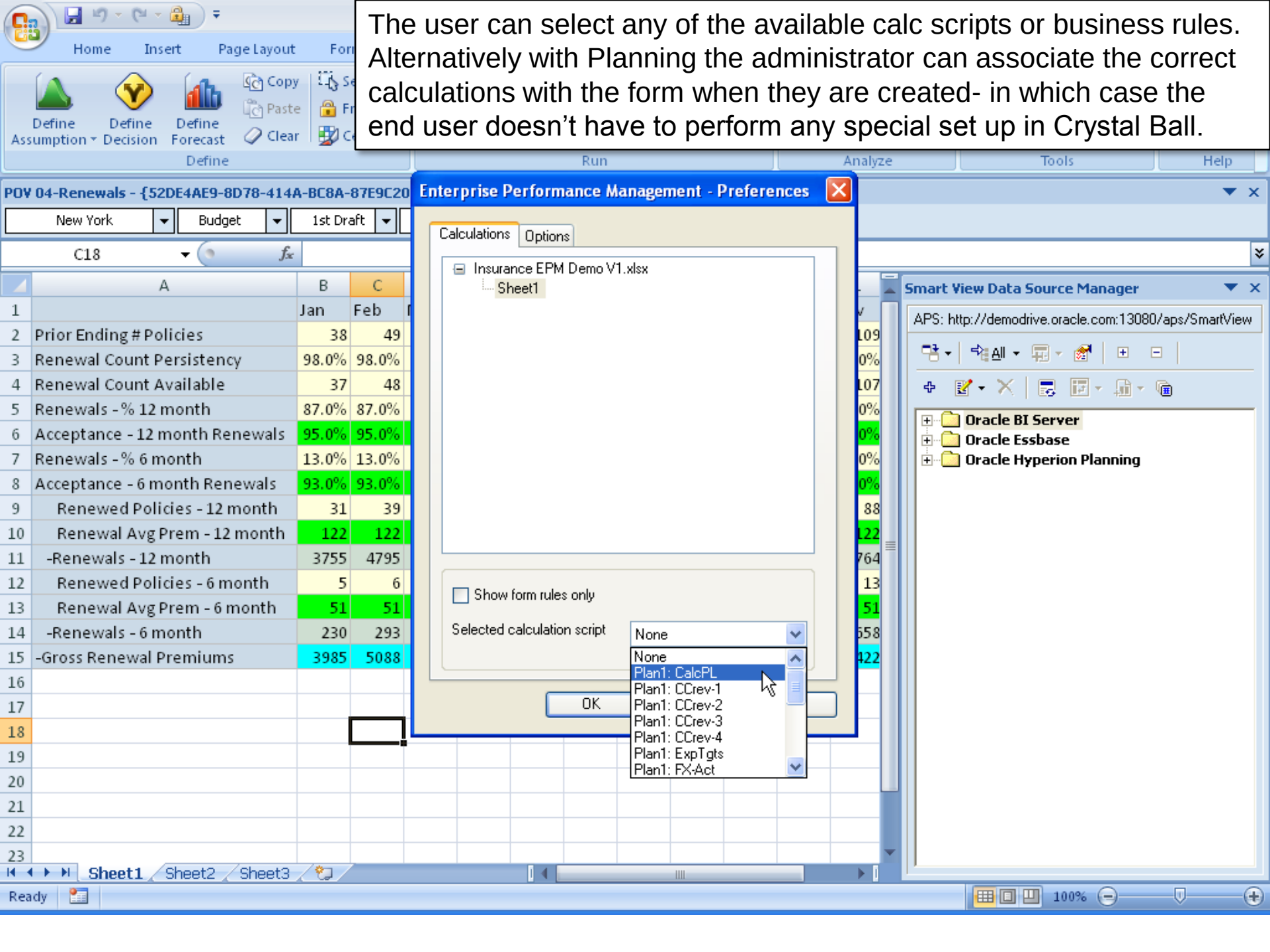
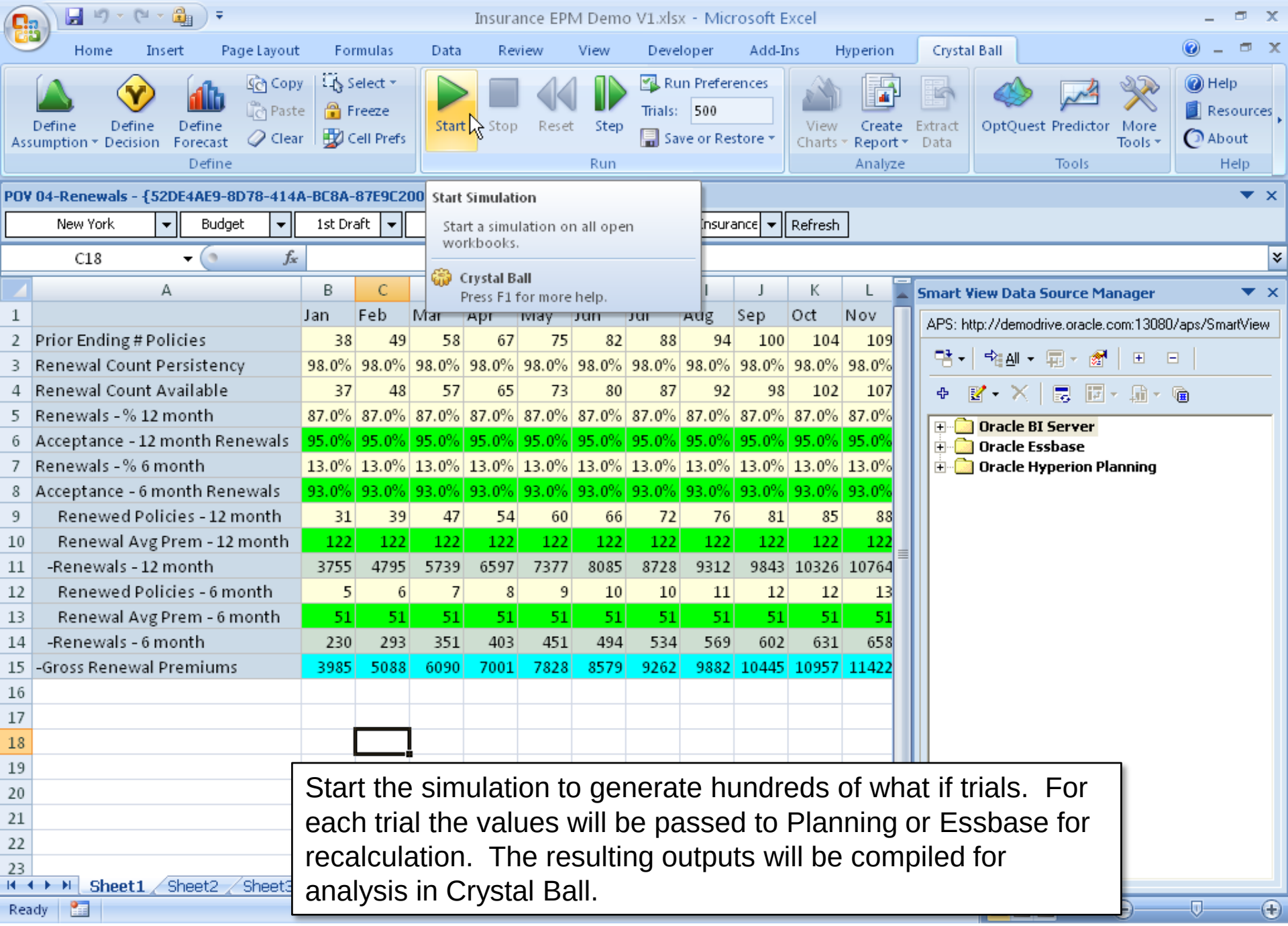
The Enterprise Performance Management Integration set up allows the user to determine which calculations need to be performed during the simulation.

The user can select any of the available calc scripts or business rules. Alternatively with Planning the administrator can associate the correct calculations with the form when they are created- in which case the end user doesn't have to perform any special set up in Crystal Ball.





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13	Renewal Avg Prem - 6 month	51	51	51	51	51	51	51	51	51	51	51
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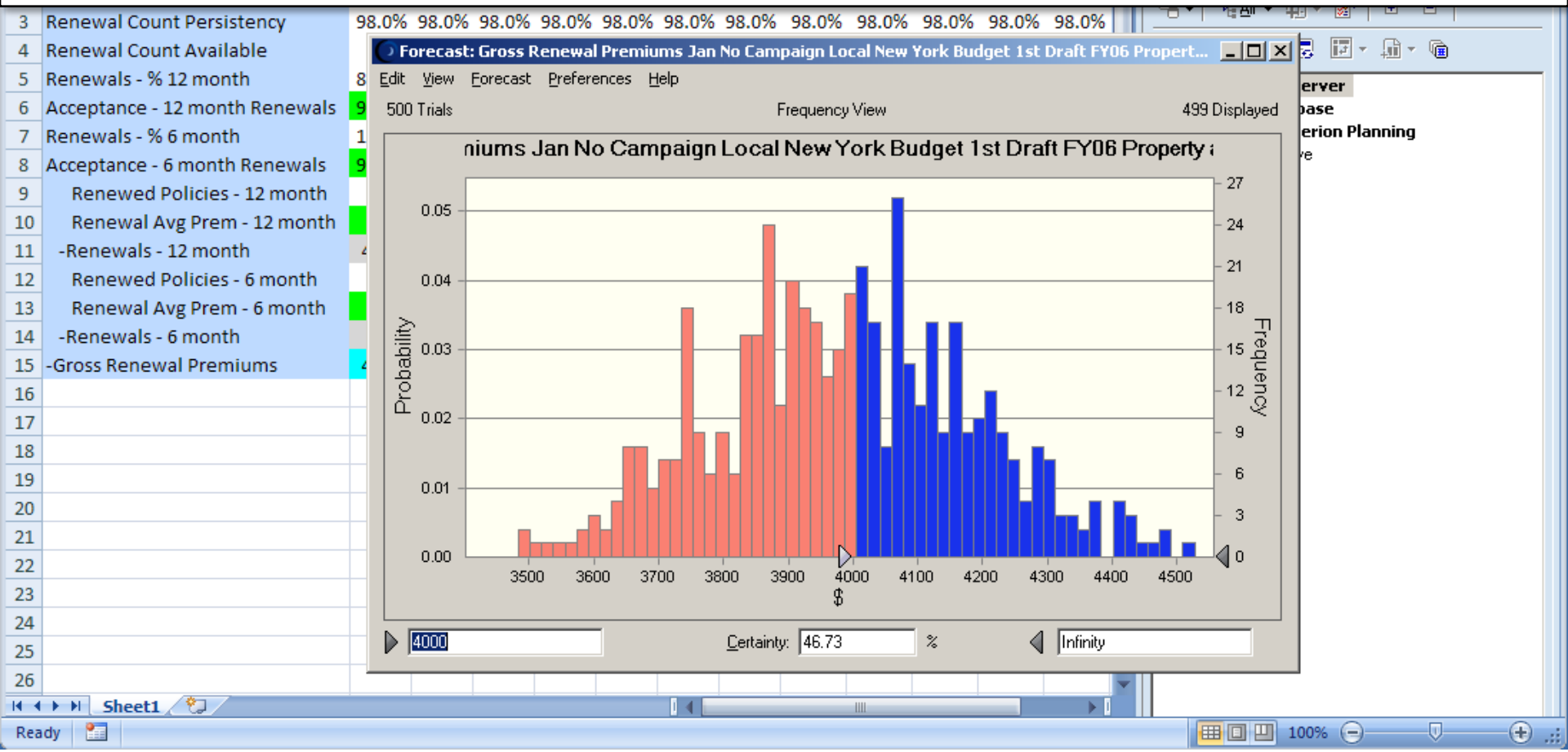
15	-Gross Renewal Premiums	3985	5088	6090	7001	7828	8579	9262	9882	10445	10957	11422

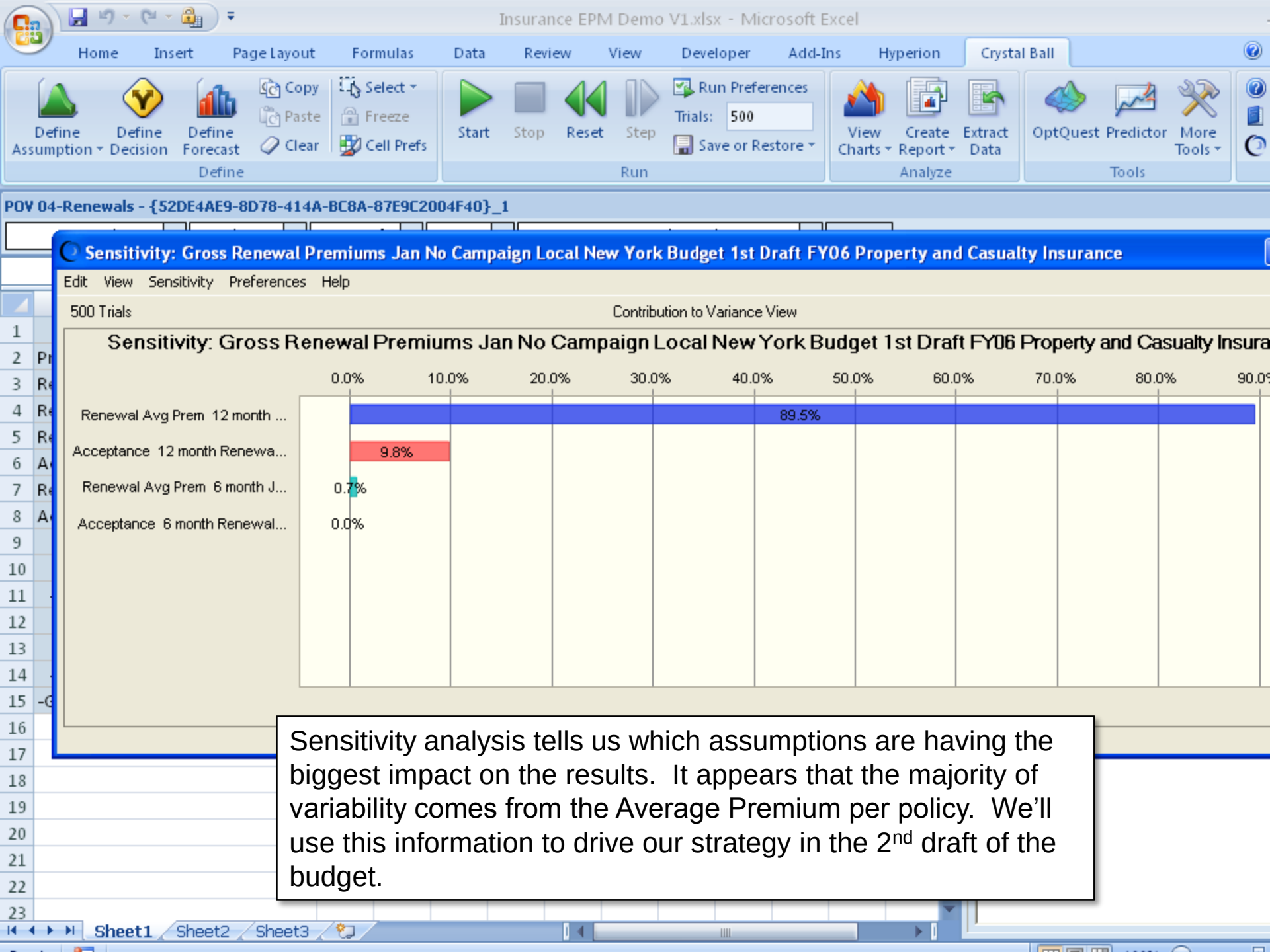
Start the simulation to generate hundreds of what if trials. For each trial the values will be passed to Planning or Essbase for recalculation. The resulting outputs will be compiled for analysis in Crystal Ball.

This chart shows the outputs of 500 what-ifs. We see the range of revenue and probability of hitting our goals. If the goal for renewal premiums is $4000, there is more than 50% chance that we'll fail to meet our goal.

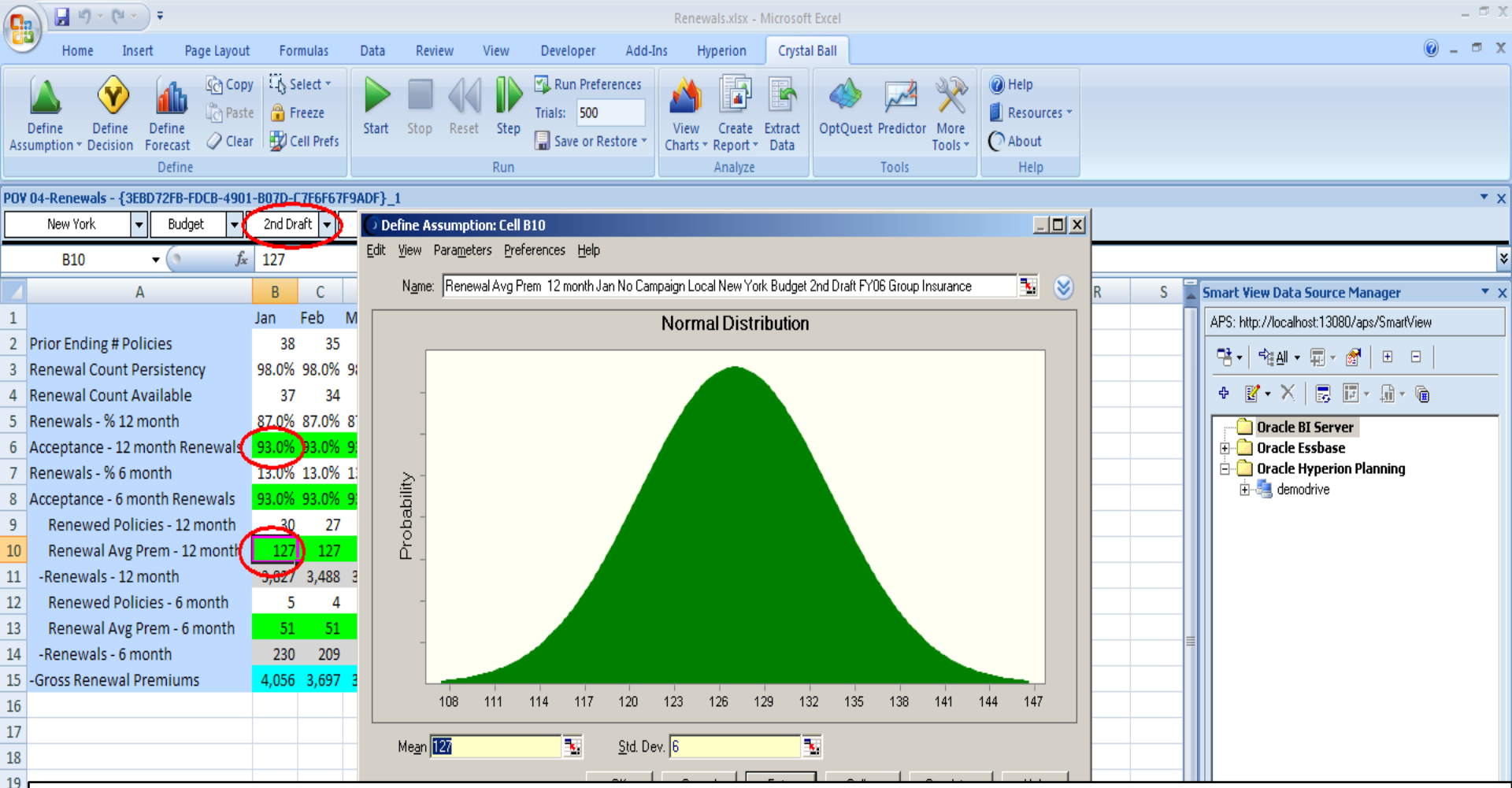
We've now answered our first question. We definitely would like to be more certain of reaching our goal, given that our group is measured on this outcome. So now, we want to understand why we are likely to miss our target.

And that is question #2: Which inputs have the most effect on the outcome?





Sensitivity analysis tells us which assumptions are having the biggest impact on the results. It appears that the majority of variability comes from the Average Premium per policy. We'll use this information to drive our strategy in the 2nd draft of the budget.



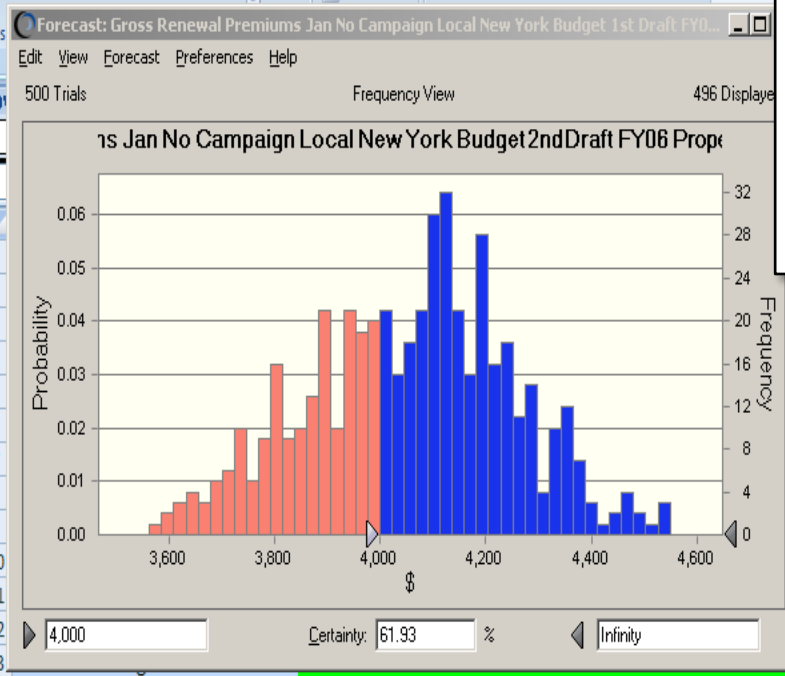
Smart View allows us to easily move between the 1st and 2nd draft of the budget. Notice that the budget is largely the same, with two important exceptions.

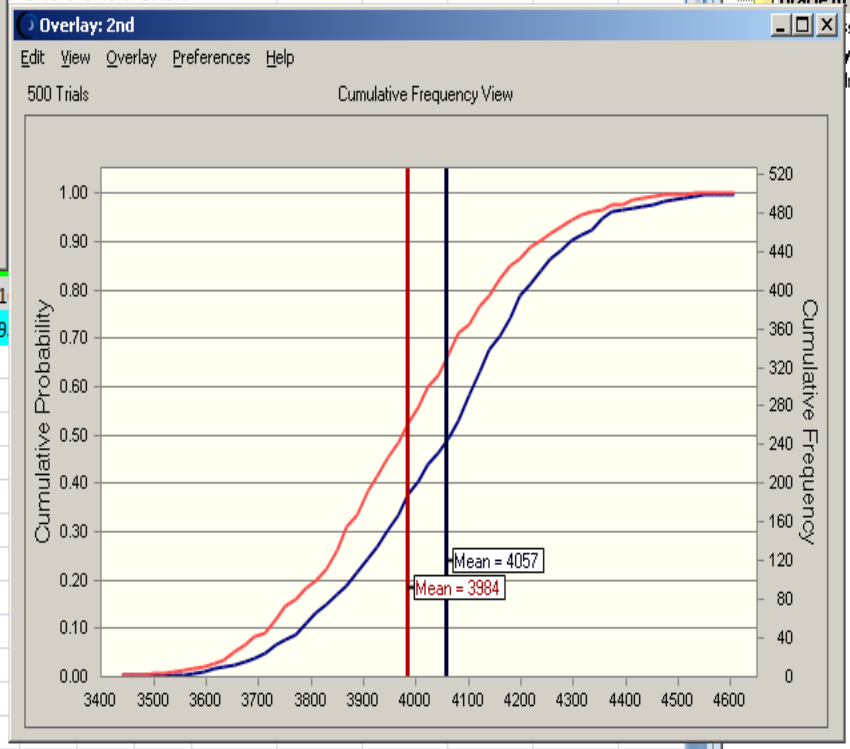
We think that by increasing our prices we can realize an increase in the average premium from $122 to $127… Of course this risks alienating some customers, so we've also decreased the renewal % from 95% to 93%.

What will the net impact be on our gross premiums?

With this slight change we now have a 62% chance of hitting our goal!

By applying a simple methodology that captures the variability or uncertainty in our plan inputs, we've vastly improved both our likelihood of reaching our goals and our confidence in that forecast – a key benefit of Performance Management.





-Renewals - 6 month	223	204	194	164	159	148	119	128	11
-Gross Renewal Premiums	4,366	3,534	3,067	3,172	3,009	2,703	2,398	2,241	2,09

9	18	16	15
%	98.0%	98.0%	98.0%
9	17	16	14
%	87.0%	87.0%	87.0%

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Risk Reporting – Taking Action

Renewal Premiums

- Potential Courses of Action
  - Price increase to increase revenue

  or
  - Examine discounting practices to decrease variability
- With additional data we can refine our price elasticity analysis
  - Correlations
  - Optimization

With this information we can identify multiple strategies for driving new revenue. Additional data could be used to support Optimization- enabling us to move beyond what's likely to what's best.

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