

Insurance Product Profitability Performance Blueprint V2



Introduction

This application brief demonstrates a Web-based planning and reporting process for the general insurance industry, specifically focused on the profitability of insurance products, using IBM Cognos® 8 Planning and IBM Cognos 8 Business Intelligence.

Despite the natural catastrophes of recent years, many insurance companies have managed to show record profits. Yet all is not well in the insurance industry. Many insurers feel that they need to exit risky business lines or geographic locations to ensure continued profitability. Risk-management experts predict that the catastrophes of recent years might continue for the foreseeable future, and if such events occur frequently, large insurance companies may not find it easy to escape financial disaster.

To maintain profitability in the face of escalating risks, insurance companies must be nimble enough to change course in an instant—shifting emphasis from one product to another, one region to another, one product line to another.

The problem is that, historically, most insurers have not been able to change course very quickly.

The breakdown occurs in two primary areas. First, insurers have struggled to get the right data to make decisions in a timely manner. Too often, insurance executives do not trust the data they are given, data is not presented in a user-friendly way or data is not structured to answer the key business questions and so on. Second, insurers have rarely been able to forecast accurately multiple business scenarios to determine the most profitable course of action. Strategic planning and forecasting have typically been annual events, often based on prior-year results plus some percentage growth—rather than on business drivers—and done in isolation by each product line or business segment. Usually, overall corporate impact is not considered.

Driving product and overall profitability with a coordinated, efficient process can be reality, however. The first step is to consolidate data, storing all relevant product revenue, claim and expense information in an accessible place. Next is to apply

appropriate reporting and analysis tools to the task of understanding as much as possible about product lines and individual products. At that point, the insurer can begin to assess financial impacts of proceeding with business-as-usual rather than implementing one or more initiatives in specific products or product lines to improve profitability.

The *IBM Cognos Insurance Product Profitability Performance Blueprint* enables insurers to create profit-and-loss statements and balance sheets at the product and product line levels so business analysts, product managers and finance executives can analyze and report on profitability and plan initiatives to improve business results.

The *Insurance Product Profitability Blueprint* helps insurers meet a number of objectives:

- Establishment of clear and concise targets for each manager at a profit-and-loss (P&L) level
- Establishment of clear and concise targets for each product
- Calculation of revenues, expenses and claims based on adjustable historic trends
- Development of alternative revenue planning scenarios and a process for choosing the best alternative to meet needs and expectations
- Automatic calculation of the Earned Premium and Unearned Premium Reserves (UPR) for the user and the day's phasing
- Determination of the Premium Spread by product
- The ability to calculate and adjust product expenses
- The ability to plan Current Accident Year Claims by Peril, a choice of methods to use in calculating the Incurred Dollar (Size & Frequency or Loss Ratio method) and the ability to adjust trended rates
- A balance sheet by product that includes all the necessary movements and enables users to enter a Premium Debtor's rate and adjust as necessary the trended Deferred Acquisition Cost (DAC) items
- The ability to plan forecasts in a local currency which is then converted to the corporate standard currency using corporate rate tables
- Immediate feedback on planning decisions
- Reporting and analysis by product line and product

The *Insurance Product Profitability Blueprint* is described in detail in this brief. The solution has two primary components:

- Reporting, analysis, dashboards, and scorecards using IBM Cognos 8 Business Intelligence
- Planning and forecasting using IBM Cognos 8 Planning

Using these components, product line managers, product managers and analysts can:

- Receive product line and product information.
- Analyze the information to determine targets.
- Plan initiatives to drive increased profits into the chosen target.
- Manage and update the P&L and balance sheet at desired levels in the product hierarchy.

Customer Segment Reports, Analysis, Dashboards and Scorecards

The *Insurance Product Profitability Blueprint* provides a hierarchy of dashboards and reports that guide users through increasingly deeper levels of understanding. A business intelligence portal view of the *Blueprint* begins with a high-level picture. The portal may be tailored to view reports based on a user's level of security and/or responsibility. IBM Cognos 8 Planning application administrator may allow a user to see revenue reports for all products and product lines or for a single area of responsibility, such as a specific product line, product or combination.

Welcome page

The Welcome page (*Figure 1*) provides a great deal of information very quickly. The alert at the top left is an event-based notification to the user recommending a course of action based on a data threshold.

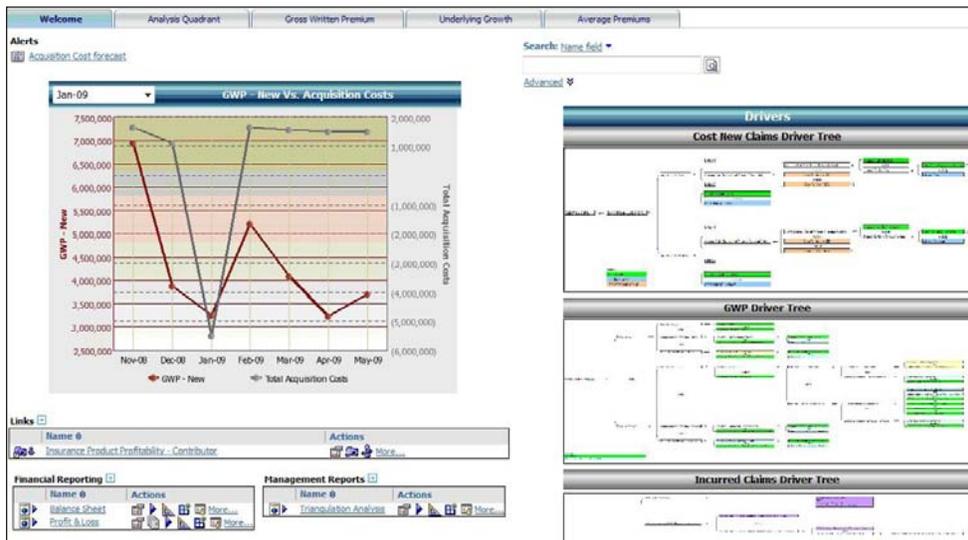


Figure 1. Welcome page

The graph below the alert is a dual-axis line trend drawing a correlation between new Gross Written Premiums and Acquisition Costs. This landing page also includes three key business “driver trees” that can be enlarged for a closer view by clicking on any of the thumbnails. In addition, the page includes a search engine and links to financial/triangulation reports (Figures 2 and 3) and the Planning model.

PROFIT & LOSS STATEMENT									
		Fiscal 08			Fiscal 09			Fiscal 10	
		Actuals	Budget	Current Forecast	Actuals	Budget	Current Forecast	Actuals	Current Forecast
REVENUE									
Fiscal 07	GWP - New	98,727,759	61,669,242		42,488,690	57,062,819	66,389,240		44,063,819
Fiscal 08	GWP - Renewal	195,107,428	396,781,561		81,179,569	143,274,538	98,138,704		188,811,264
Fiscal 09	Gross Written Premiums	293,835,227	108,450,803		123,668,259	200,337,356	225,525,944		212,875,083
Fiscal 10	Gross Earned Premium	257,835,103	149,839,858		127,538,295	164,885,094	249,054,478		216,500,763
Fiscal 11	Net Earned Premium	257,835,103	149,839,858		117,140,161	154,897,501	244,346,567		212,225,133
LOSSES AND EXPENSES									
Net Incurred Claims									
Auto	Net Commission	23,729,624	14,988,035		10,882,939	16,423,600	16,003,161		15,861,552
Home	Total Operating Expenses	23,729,624	14,988,035		10,882,939	16,423,600	12,999,012		15,984,861
Liability	Total Losses & Expenses	23,729,624	14,988,035		10,882,939	16,423,600	197,036,889		192,485,737
Property	Net Income	234,105,479	134,851,823		106,257,223	138,473,900	47,309,678		19,739,396
Workers Compensation									
Metrics									
	Gross Loss Ratio	30.98%	55.68%		29.51%	30.98%	30.98%		30.98%
	Total Expense Ratio	0.06%	0.04%		0.03%	0.07%	0.03%		0.05%
	GWP Growth	0.00%	0.00%		0.00%	0.09%	-0.06%		-0.04%
	Inforce Growth	0.00%	0.00%		0.00%	-0.01%	-0.02%		0.03%

Figure 2. Profit & Loss report



Figure 3. Loss Triangulation Analysis

Analysis Quadrant

With the Analysis Quadrant, a user can look at up to four metrics simultaneously (Figure 4). Dynamic filtering options are provided at both the global and individual chart levels. In addition, the user can swap which dimensions are displayed on which axis.



Figure 4. Analysis Quadrant with four metrics

There is also the option of choosing between bar, line and area graph representations. Finally, each graph supports drill-up and drill-down (that is, clicking on fiscal year switches the view to the 12 months in that fiscal period).

Gross Written Premium

Figure 5 shows the Growth Written Premium (GWP) tab, which provides a larger, more static view of the GWP metric than in the Analysis Quadrant.

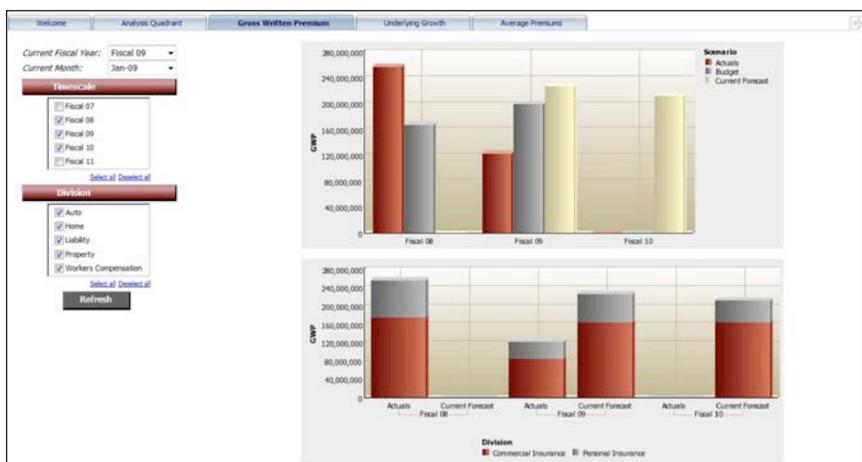


Figure 5. Gross Written Premium Tab

The top chart compares the actuals, budgets, and forecast across time, while the bottom compares the product divisions within actuals and forecasts across time. The report also allows for filtering on time periods and product divisions.

Underlying Growth

The Underlying Growth tab (Figure 6) is an area graph displaying Inforce growth percentage over time. By default, the forecasts for the current and proceeding fiscal periods are selected. However, the budget and fiscal period +2 can be added in the left-hand filter bar.



Figure 6. Underlying Growth tab

Average Premiums

The Average Premiums tab (Figure 7) provides two views of the Average Premiums metric. The top chart compares the actuals and budgets over time, while the bottom compares the product divisions over time. The report also allows for filtering on time periods and scenarios.

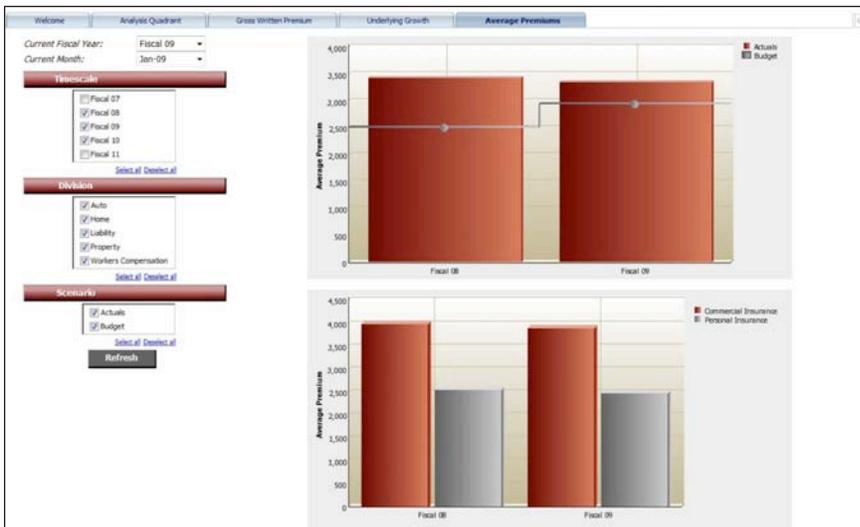


Figure 7. Average Premiums tab.

Planning and forecasting with the Insurance Product Profitability Blueprint

Performance management systems make it easy to articulate goals and to measure, track and receive feedback about performance against those goals.

The *Blueprint* can be used collaboratively by executives, product line managers, financial planners, financial analysts and product managers to help managers align decisions with corporate strategies.

The *Insurance Product Profitability Blueprint* anticipates that every effort is made to manage such items as Investment Income Rates, along with technical parameters like proportional RI (Re-Insurance) Rates and Recoveries, Unallocated Loss Adjustment Expenses (ULAE) and Incurred But Not Reported (IBNR). At the product manager or product line level, managers make decisions to optimize efficiency and revenues and control claims and expenses. There must be forward-looking collaboration so that product decisions are aligned with corporate expectations and so that variances can be evaluated.

Product managers and product line managers need clear targets and goals, and must understand corporate expectations. Managers must be able to forecast both operational needs and profitability and get continuous feedback on their performance against corporate targets and profitability guidelines. With its reporting, analysis, dashboards and scorecards combined with IBM Cognos 8 Planning, The *Insurance Product Profitability Blueprint* helps meet these needs.

Blueprint workflow

Figure 8 highlights the work and information flows through the *Blueprint*.

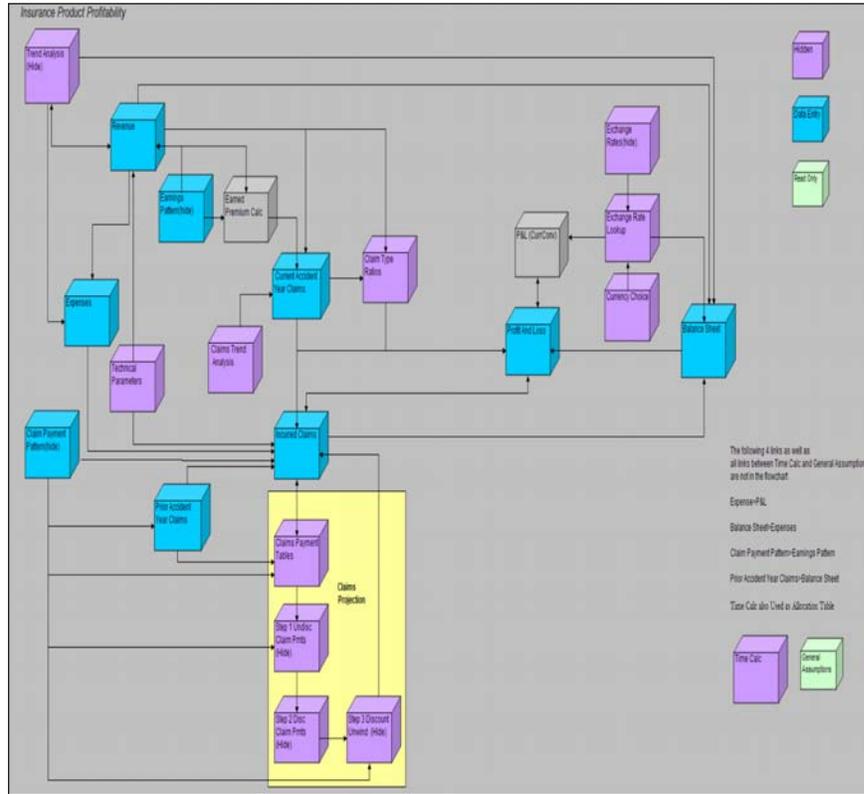


Figure 8. *Blueprint* workflow

These are basic workflows in which an individual contributor would:

- Review corporate targets for a product or product line.
- Forecast revenue and claim activity to align baseline plans and corporate targets.
- Assess impacts on product revenue, expenses and profitability.
- Monitor key performance indicators.
- Generate reports and analyses.

The *Insurance Product Profitability Blueprint* uses as its e-list a hierarchical list of products:

- Liability
- Workers Compensation
- Property
- Auto
- Home

These roll up to consolidated product groups: Commercial Insurance and Personal Insurance. The consolidated product groups roll to Total Company. Product Runoffs can be included as part of the product hierarchy.

The hierarchical list is tailored to the needs of an individual company and could include many more levels and brands.

The individual contributor's starting point in the budgeting and forecasting process is the Insurance Product Profitability application.

Insurance Product Profitability application

This section guides you through the Insurance Profitability application.

Revenue

The Revenue tab (Figure 9) is where the forecasting/budgeting process begins.

You begin by determining what the revenue will be and that is used to drive **Current Accident Year Claims**, along with other revenue driven items.

Choice	Choice	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Fiscal 09	Jul-09	Aug-09
Gross Written Premium	1st Scenario	119,934	3,975,974	3,354,679	3,052,669	2,355,546	3,202,978	3,940,566	4,617,618	3,869,197	4,159,841	5,791,337	46,355,804	4,650,922	5,020,722	
==== NEW BUSINESS =====	2nd Scenario															
GWP - New	3rd Scenario	153,964	926,393	931,975	905,339	539,141	867,578	1,368,958	1,094,796	876,107	992,006	1,174,136	11,760,757	944,715	1,180,919	
Premium - New		897,395	857,208	866,991	845,310	477,649	761,303	1,298,625	970,740	747,172	913,288	1,061,608	10,782,714	885,425	1,097,395	
Average Premium - New		2,200.9	1,984.5	1,954.7	2,053.5	2,009.3	2,225.5	2,871.6	2,029.5	1,998.0	2,059.1	2,597.2	2,190.5	2,213.3	2,200.9	
Average Premium - New (\$ Adj)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Average Premium - New (% Adj)		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Average Premium - New (Trend)		2,213.3	2,200.9	1,984.5	1,954.7	2,053.5	2,009.3	2,225.5	2,871.6	2,029.5	1,998.0	2,059.1	2,597.2	2,163.1	2,213.3	2,200.9
Policies - New		400	499	432	444	412	238	342	452	478	374	444	409	4,922	400	499
Policies - New (\$ Adj)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Policies - New (% Adj)		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Policies - New (Trend)		400	499	432	444	412	238	342	452	478	374	444	409	4,922	400	499
Endorsement Premium - New		59,018	68,092	81,571	75,234	66,005	70,527	123,625	92,420	144,489	148,519	130,447	133,726	1,195,673	98,423	116,336
Average Premium - New Endorsement		870.0	881.0	1,007.5	831.0	803.0	831.5	431.2	429.9	411.8	482.1	430.5	530.0	543.0	522.0	528.6
Average Premium - New Endorsement (\$ Adj)		0.0	0.0	0.0	0.0	0.0	0.0	(287.5)	(286.6)	(274.5)	(321.4)	(287.0)	(353.3)	(348.0)	(352.4)	
Average Premium - New Endorsement (% Adj)		0%	0%	0%	0%	0%	0%	(40%)	(40%)	(40%)	(40%)	(40%)	(40%)	(40%)	(40%)	(40%)
Average Premium - New Endorsement (Trend)		870.0	881.0	1,007.5	831.0	803.0	831.5	718.7	716.5	686.3	803.5	717.4	883.3	812.5	870.0	881.0
Policies - New Endorsement		68	77	81	91	85	85	287	215	351	308	303	252	2,202	189	220
Endorsement Rate - New		4.06%	4.76%	5.05%	5.75%	5.57%	5.74%	5.94%	4.46%	7.33%	6.46%	6.39%	5.41%	5.79%	4.06%	4.76%
Endorsement Rate - New (\$ Adj)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Endorsement Rate - New (% Adj)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Endorsement Rate - New (Trend)		4.06%	4.76%	5.05%	5.75%	5.57%	5.74%	5.94%	4.46%	7.33%	6.46%	6.39%	5.41%	5.79%	4.06%	4.76%
Cancellation Premium - New		14,080	11,523	12,386	10,251	7,926	9,034	17,350	22,087	20,434	19,584	51,729	21,198	217,630	39,133	32,812

Figure 9. Revenue tab

The Current Forecast in this tab defaults to Scenario 1. If you indicate no scenario preference, the model defaults to Scenario 1. When viewing the Current Forecast page, you will notice in the top-left corner of the grid a Choice drop-down which offers the opportunity to change the scenario in use to another.

By changing the menu that reads Current Forecast, users may work on any scenario they prefer, view actuals or review the current budget.

In Scenario 1, for example, users can see where and how they might influence their forecasts. There are a number of grayed-out rows representing trends that have been calculated and linked-in to give users a starting point as they begin the budgeting process. In *Figure 10*, notice that for each trended item in the first column, there is a drop-down to enable users to define the Trend method they would prefer to use.

Method Override	Method Default	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Fiscal 09
Gross Written Premium		3,915,465	4,119,934	3,975,974	3,254,679	3,052,669	2,355,546	3,202,978	3,940,566	4,617,618	3,869,197	4,159,841	5,791,337	46,355,804
==== NEW BUSINESS =====														
GWP - New		930,364	1,153,964	926,393	931,975	905,339	539,141	867,578	1,368,958	1,094,796	876,107	992,006	1,174,136	11,760,757
Premium - New		885,425	1,097,395	857,208	866,991	845,310	477,649	761,303	1,298,625	970,740	747,172	913,288	1,061,608	10,782,714
Average Premium - New		2,213.3	2,200.9	1,984.5	1,954.7	2,053.5	2,009.3	2,225.5	2,871.6	2,029.5	1,998.0	2,059.1	2,597.2	2,190.5
Average Premium - New (\$ Adj)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Premium - New (% Adj)		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Average Premium - New (Trend)	Same Period Previous Year	2,213.3	2,200.9	1,984.5	1,954.7	2,053.5	2,009.3	2,225.5	2,871.6	2,029.5	1,998.0	2,059.1	2,597.2	2,183.1
Policies - New	Same Period Previous Year	400	499	432	444	412	238	342	452	478	374	444	409	4,922
Policies - New (# Adj)	6 Month Average	0	0	0	0	0	0	0	0	0	0	0	0	0
Policies - New (% Adj)	12 Month Average	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Policies - New (Trend)	Last Period	400	499	432	444	412	238	342	452	478	374	444	409	4,922
Policies - New (Trend)	Zero Trend	400	499	432	444	412	238	342	452	478	374	444	409	4,922
Endorsement Premium - New		59,018	68,092	81,571	75,234	68,005	70,527	123,625	92,420	144,489	148,519	130,447	133,726	1,195,673
Average Premium - New Endorsement		870.0	881.0	1,007.5	831.0	803.0	831.5	431.2	429.9	411.8	482.1	430.5	530.0	543.0
Average Premium - New Endorsement (\$ Adj)		0.0	0.0	0.0	0.0	0.0	0.0	(287.3)	(286.6)	(274.5)	(321.4)	(287.0)	(353.3)	
Average Premium - New Endorsement (% Adj)		0%	0%	0%	0%	0%	0%	(40%)	(40%)	(40%)	(40%)	(40%)	(40%)	
Average Premium - New Endorsement (Trend)	Same Period Previous Year	870.0	881.0	1,007.5	831.0	803.0	831.5	718.7	716.5	686.3	803.5	717.4	883.3	812.5
Policies - New Endorsement		68	77	81	91	85	85	287	215	351	308	303	252	2,202
Endorsement Rate - New		4.06%	4.76%	5.05%	5.75%	5.57%	5.74%	5.94%	4.46%	7.33%	6.46%	6.39%	5.41%	5.79%
Endorsement Rate - New (# Adj)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Endorsement Rate - New (% Adj)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Endorsement Rate - New (Trend)	Same Period Previous Year	4.06%	4.76%	5.05%	5.75%	5.57%	5.74%	5.94%	4.46%	7.33%	6.46%	6.39%	5.41%	5.79%
Cancellation Premium - New		14,080	11,523	12,386	10,251	7,976	9,034	17,350	22,087	20,434	19,584	51,729	21,198	217,630
Average Premium - New Cancellation		694.5	692.7	547.1	514.4	478.7	474.5	523.6	456.8	481.9	496.3	541.6	535.2	526.5

Figure 10. Scenario 1

The default is Same Period Previous Year, a number that has been calculated and pre-populated as a starting point. You may change the default for any or all given trends to their preferred method. The choices are:

- Same Period Previous Year (here, January to January and so on – the default)
- 6-Month Average (average of previous 6 months)
- 12-Month Average (average of past 12 Months)
- Last Period (last period we have actual data for)
- Zero Trend (a zero base for beginning a new product)

Begin by entering the first letter or number of your choice and pressing Return or by selecting an item from the menu. The five choices are those selected for this *Blueprint*. Other or additional choices are also possible with some customization.

You can modify any item that has a Trend number by specifying an Adjustment Number (or Dollar), by entering a percentage to change the item or by directly editing the result and allowing the model to calculate the adjustments. As an example, you could increase Average Premium-New—the Average Premium for new business—by either adding or subtracting a dollar amount, by increasing or decreasing it by a percentage, or by entering the desired result in the Average Premium-New cell. Numbers can be changed by one cell at a time or by complete rows. Totals can be changed and the change would then break-back (reverse allocate) over the detail items.

Fields in GRAY cannot be edited and are either locked historical data, data linked from other tabs or items calculated based on information entered in the white (or editable) areas. As changes are made, they are highlighted in blue along with any cells affected by the change. Changes made on any specific tab will also be made on any other tabs affected by the changes. Making changes to the Revenue tab will change revenue, which would change Earned Premium Calc; and because the Earned Premium affects Current Accident Year Claims, that would be affected also, and so on.

The calculations in this model were developed from a number of driver trees, which are available from a link at the bottom-right corner of the Web portal. The driver tree in *Figure 11* should prove helpful in gaining a deeper understanding of the Revenue tab.

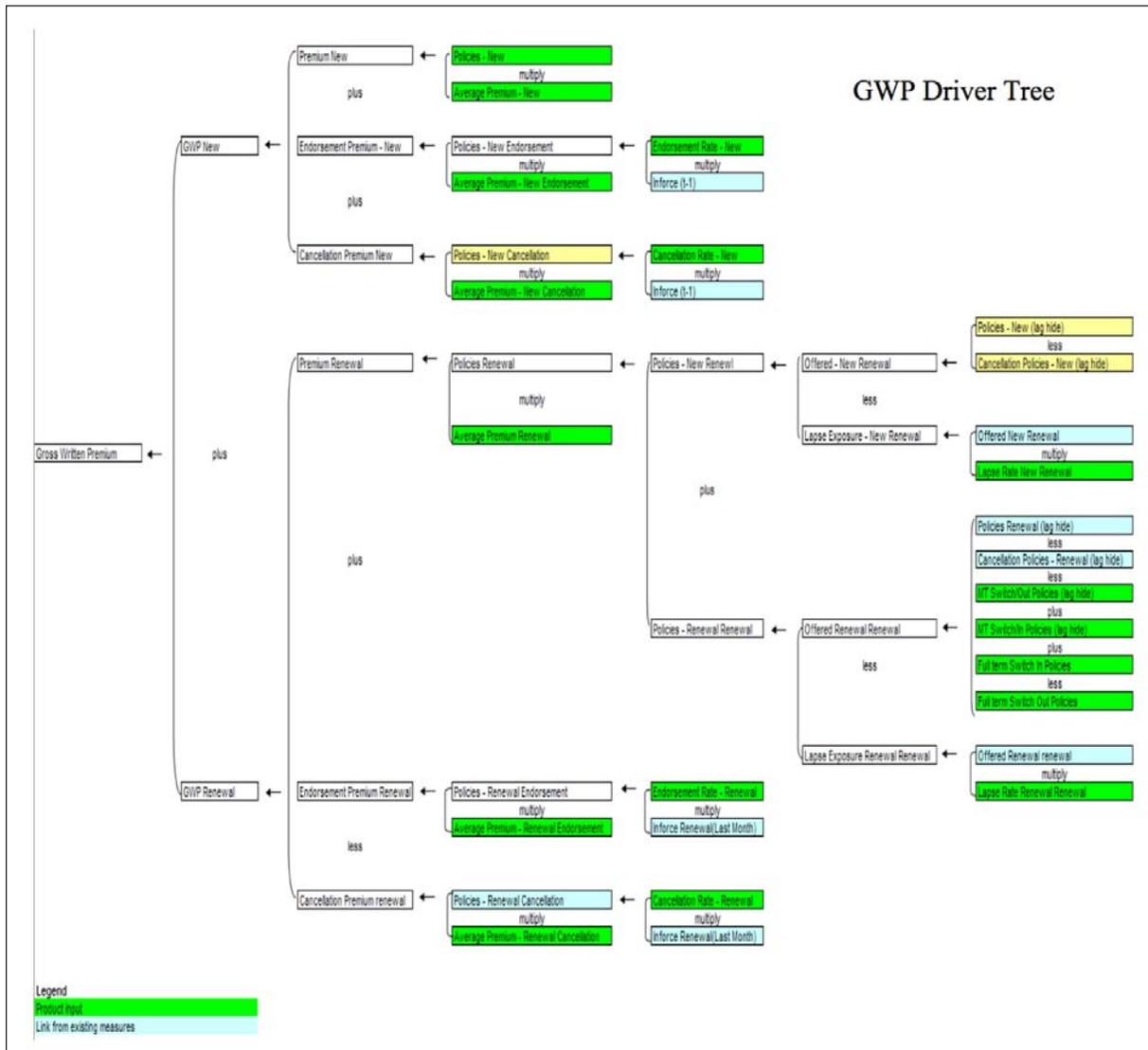


Figure 11. Revenue tab driver tree

As noted previously, users may also view Actuals or the current Budget from the Revenue tab. Notice that the timescale changes as the views change. In the example in *Figure 12*, the Current Forecast and related scenarios ran from July 2008 through December 2010, the two rolling fiscal years being forecasted. July 2006 through December 2008 are viewable as read-only because they are the actuals that make up part of Fiscal Year 2009. The Budget covers Fiscal 2009, which runs from July 2008 to June 2009.

	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Fiscal 09
Gross Written Premium	3,233,312	4,468,757	4,364,187	3,596,570	3,410,581	2,685,689	2,781,315	3,085,409	3,358,709	2,830,873	3,017,415	3,775,436	40,608,252
==== NEW BUSINESS =====													
GWP - New	1,014,643	1,531,852	1,329,190	1,167,192	1,279,510	887,131	1,173,564	1,626,199	1,393,614	1,126,631	1,236,987	1,396,378	15,162,890
Premium - New	1,014,643	1,258,449	996,725	1,010,254	978,273	554,430	871,793	1,444,696	1,125,239	867,962	1,056,551	1,193,635	12,372,650
Average Premium - New	2,536.3	2,523.9	2,307.5	2,277.7	2,376.5	2,332.3	2,548.5	3,194.6	2,352.5	2,321.0	2,382.1	2,920.2	2,513.5
Policies - New	400	499	432	444	412	238	342	452	478	374	444	409	4,922
Endorsement Premium - New	0	343,270	404,515	221,769	341,135	376,127	335,811	219,838	302,182	289,160	245,984	231,268	3,311,058
Average Premium - New Endorsement	1,301.8	1,226.3	1,380.7	728.8	1,201.6	1,383.1	1,061.0	965.8	931.9	1,062.7	966.9	1,150.2	1,093.1

Figure 12. Current Forecast timescale

Actuals (*Figure 13*) cover a period from July 2006 through December 2008.

	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Fiscal 07	Jul-07	Aug-07	Sep-07	Oct-07
Gross Written Premium	3,867,147	4,083,826	3,958,550	3,333,832	3,053,524	2,545,453	2,695,227	3,266,577	3,689,988	3,088,092	3,406,619	4,784,355	41,773,190	3,867,147	4,083,826	3,958,555	3,333,832
==== NEW BUSINESS =====																	
GWP - New	939,289	1,166,991	943,612	949,304	923,985	560,051	835,752	1,349,376	1,055,293	834,067	974,684	1,136,470	11,668,874	939,289	1,166,991	943,612	949,304
Premium - New	885,425	1,097,395	857,208	866,991	845,310	477,649	761,303	1,298,625	970,740	747,172	913,288	1,061,608	10,782,714	885,425	1,097,395	857,208	866,991
Average Premium - New	2,213.3	2,200.9	1,984.5	1,954.7	2,053.5	2,099.3	2,225.5	2,871.6	2,029.5	1,998.0	2,059.1	2,597.2	2,190.5	2,213.3	2,200.9	1,984.5	1,954.7
Policies - New	400	499	432	444	412	238	342	452	478	374	444	409	4,922	400	499	432	444
Endorsement Premium - New	70,740	83,773	101,873	95,298	89,128	94,509	81,294	59,247	92,392	94,360	80,564	82,730	1,025,908	70,740	83,773	101,879	95,298
Average Premium - New Endorsement	870.0	881.0	1,007.5	831.0	803.0	831.5	718.7	716.5	686.3	803.5	717.4	883.3	807.4	870.0	881.0	1,007.5	831.0
Policies - New Endorsement	81	95	101	115	111	114	113	83	135	117	112	94	1,271	81	95	101	115

Figure 13. Actuals timescale

Current Accident Year Claims

The Current Accident Year Claims (*Figure 14*) tab calculates the cost of the current year claims for both new and renewal business. The cost of the Current Accident Year Claims is arrived at by adding Incurred Dollar–New and Incurred Dollar–Renewal. You can choose one of two methods when calculating Incurred Dollar. The two methods are the *Size & Frequency Method* or the *Loss Ratio Method*.

	Method Override	Method Default	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Fiscal 09	Jul-09
==== NEW CLAIMS =====																
New Claims (no ULAE or IBNR)			688,469	703,365	728,367	752,520	738,032	757,147	908,768	798,243	1,001,796	1,028,937	1,045,976	1,178,148	10,329,768	968,920
Incurred Dollar - New			125,555	138,223	146,548	160,220	163,888	176,879	189,765	169,263	199,152	197,399	196,288	200,053	2,063,235	163,502
Gross Loss Ratio - New			16.81%	17.10%	17.40%	17.69%	17.98%	18.27%	18.57%	18.86%	19.15%	19.44%	19.74%	20.03%	18.50%	16.81%
Gross Loss Ratio - New (# Adj)			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Gross Loss Ratio - New (% Adj)			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Gross Loss Ratio - New (Trend)		Same Period Previous Year	16.81%	17.10%	17.40%	17.69%	17.98%	18.27%	18.57%	18.86%	19.15%	19.44%	19.74%	20.03%	18.50%	16.81%
Incurred Number - New			0	0	0	0	0	0	0	0	0	0	0	0	4	0
Average Claim Size - New			7.6	7.7	7.8	8.0	8.1	8.2	8.4	8.5	8.6	8.8	8.9	9.0	8.4	7.6
Average Claim Size - New (\$ Adj)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Claim Size - New (% Adj)			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Average Claim Size - New (Trend)		Same Period Previous Year	7.6	7.7	7.8	8.0	8.1	8.2	8.4	8.5	8.6	8.8	8.9	9.0	8.4	7.6
Claim Frequency - New (Annual)			0.08%	0.08%	0.08%	0.08%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.08%	0.08%
Claim Frequency - New (# Adj)			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Claim Frequency - New (% Adj)			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Claim Frequency - New (Trend)		Same Period Previous Year	0.08%	0.08%	0.08%	0.08%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.08%
==== RENEWAL CLAIMS =====																
Incurred Dollar - Renewal			562,913	565,143	581,818	592,300	574,143	580,268	719,002	628,979	802,644	831,538	849,688	978,095	8,266,533	805,417
Gross Loss Ratio - Renewal			23.89%	24.31%	24.72%	25.14%	25.55%	25.97%	26.38%	26.80%	27.22%	27.63%	28.05%	28.46%	26.35%	23.89%
Gross Loss Ratio - Renewal (# Adj)			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Gross Loss Ratio - Renewal (% Adj)			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Gross Loss Ratio - Renewal (Trend)		Same Period Previous Year	23.89%	24.31%	24.72%	25.14%	25.55%	25.97%	26.38%	26.80%	27.22%	27.63%	28.05%	28.46%	26.35%	23.89%
Incurred Number - Renewal (Annual)			1	1	1	1	1	1	2	2	2	2	2	2	17	1

Figure 14. Current Accident Year Claims tab

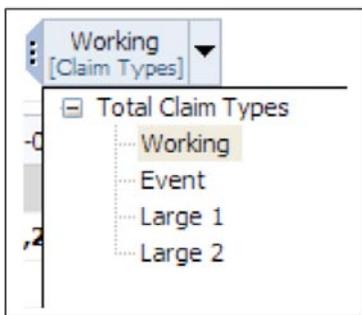
The Size & Frequency Method multiplies Incurred Number by Average Claim Size, and then phases the result by the days in the month. (The numbers are brought over from Earned Premium Calc. tab.)

The Loss Ratio Method takes the Earned Premium numbers (New and Renewal), linked from the Revenue tab and multiplies them by their respective Gross Loss Ratios (New and Renewal).

When calculating the Incurred Dollar used in the Size & Frequency Method, the Incurred Number is determined by multiplying Claim Frequency by Inforce. The Inforce numbers were linked at the same time as the Earned Premium numbers and represent the number of policies “in force.”

The Earned Premium numbers linked from the Revenue tab come from the Current Forecast. You start work on the Revenue tab numbers before beginning work on your Current Accident Year Claims. In the Revenue tab, you would have chosen a scenario as your Current Forecast or accepted the first scenario by default.

As in the Revenue tab, you may choose a Trend Method when bringing in trended items. In the Current Accident Year Claims tab, the trended items are Average Claim Size, Claim Frequency and Gross Loss Ratios. These items are linked in for both new and renewal business and may be adjusted as desired.



While working in the **Current Accident Year Claims** tab, you may work on one peril at a time or all perils at once. The perils are Working, Event, Large 1 and Large 2 (Figure 15). The name and number of Perils are tailored to the needs of a company.

Figure 15. Current Accident Year Claims tab—Perils

The Cost of New Claims driver tree (Figure 16) helps explain the flow of calculations in the tab.

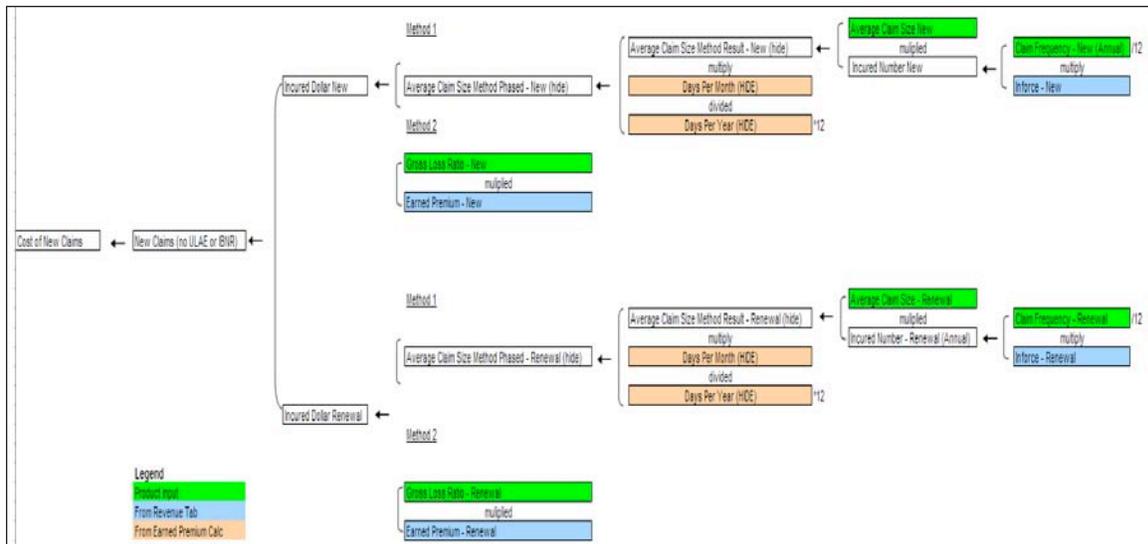


Figure 16. Cost of New Claims driver tree

Prior Accident Year Claims

Using the Prior Accident Year Claims tab (Figure 17), you can enter the previous Gross Incurred Claims in order to unwind it and arrive at the Opening OS Reserve (OS=Outstanding). It links in three items: from the Time Calc tab, the Discount Month; from General Assumptions, the Discount Rate and from the Claim Payment Pattern tab, the Unwind factor. The current month is always Development Month zero.

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10
Development Month (0-240)	0	1	2	3	4	5	6	7	8	9	10	11	12
Undiscounted Cash Flow (Full)	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Discounted Cash Flow (Full)	99,756.33	99,270.77	98,787.58	98,306.74	97,828.23	97,352.06	96,878.21	96,406.66	95,937.40	95,470.43	95,005.74	94,543.30	94,083.12
Reserve	14,105,910.90	14,074,906.40	14,043,750.24	14,012,441.70	13,980,980.01	13,949,364.44	13,917,594.23	13,885,668.62	13,853,586.86	13,821,348.18	13,788,951.81	13,756,396.98	13,723,682.92
Movement in Reserve	(65,384.62)	(31,004.50)	(31,156.15)	(31,308.55)	(31,461.68)	(31,615.57)	(31,770.21)	(31,925.61)	(32,081.76)	(32,238.68)	(32,396.37)	(32,554.83)	(32,714.06)

Figure 17. Prior Accident Year Claims tab

The Time Calc tab, among other things, monitors automatically what the current month is and then enters the correct Development Month into the appropriate calendar month. Prior Year Cash Flows are then linked into Prior Period Claims in the Claim Payment Table tab; Prior Period OS Claims Reserve and Movements are linked into the Incurred Claims tab.

Incurred Claims

The Incurred Claims tab (Figure 18) calculates the Outstanding Claims Reserve, Incurred but not reported (IBNR), and Unallocated Loss Adjustment (ULAE) Reserves. The tab also calculates other items such as the movement on these items, Net Claims paid and Re-Insurance recoveries.

	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Fiscal 09	Jul-09	Aug-09	Sep-09	Oct-09
GWP - Renewal	2,985,101	2,965,970	3,049,581	2,422,704	2,147,330	1,816,405	2,335,400	2,571,608	3,522,822	2,993,090	3,167,835	4,617,201	34,595,047	3,706,207	3,839,804	3,621,805	3,080,074
Premium - Renewal	2,198,228	2,293,731	2,380,932	1,872,629	1,701,423	1,500,598	1,566,398	2,020,100	2,608,235	1,995,157	2,253,925	3,268,236	25,659,593	2,521,852	2,820,206	2,592,621	2,227,732
Gross Earned Premium	3,103,166	3,133,313	3,195,927	3,262,048	3,158,314	3,202,417	3,747,171	3,244,421	3,989,012	4,024,538	4,023,960	4,435,103	42,519,389	4,343,993	4,239,471	4,200,099	4,145,890
Proportional Re-Ins	15,516	15,667	15,980	16,310	15,792	16,012	18,736	16,222	19,945	20,123	20,120	22,176	212,597	21,720	21,197	21,000	20,725
Non-proportional Re-Ins	19,577	20,600	19,880	16,773	15,263	11,778	16,015	19,703	23,088	19,346	20,799	28,957	231,779	23,255	25,104	22,922	20,245
Facultative Re-Ins	19,577	20,600	19,880	16,773	15,263	11,778	16,015	19,703	23,088	19,346	20,799	28,957	231,779	23,255	25,104	22,922	20,245
Earned Premium - New	746,855	808,139	842,407	905,760	911,423	967,919	1,022,068	897,500	1,039,848	1,015,185	994,510	998,779	11,150,393	972,580	996,813	989,313	1,015,222
Earned Premium - Renewal	2,356,311	2,325,174	2,353,520	2,356,288	2,246,890	2,234,498	2,725,104	2,346,921	2,949,164	3,009,352	3,029,450	3,436,324	31,368,996	3,371,414	3,242,658	3,210,786	3,130,667
Net Earned Premium	3,028,918	3,055,848	3,120,308	3,195,417	3,096,732	3,151,072	3,680,391	3,169,091	3,899,802	3,946,377	3,941,442	4,326,057	41,611,455	4,252,509	4,142,963	4,110,331	4,064,426
==== RECOVERIES =====																	
Gross Incurred Claims	2,111,539	2,366,940	2,456,118	2,532,409	2,482,495	2,541,023	3,107,977	2,784,025	3,488,159	3,599,889	3,674,985	4,159,065	35,304,624	3,465,484	3,429,522	3,463,537	3,467,074
Total Reinsurance Recoveries	10,281	10,389	10,586	10,769	10,417	10,526	12,338	10,741	13,195	11,273	13,286	14,704	140,506	14,351	14,029	13,880	13,677
Proportional Re-Ins Recoveries	10,085	10,183	10,387	10,602	10,265	10,408	12,178	10,544	12,964	13,080	13,078	14,414	138,188	14,118	13,778	13,650	13,474
Proportional Re-Ins Recoveries Rate	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%
Facultative Re-Ins Recoveries	98	103	99	84	76	59	80	99	115	97	104	145	1,159	116	126	115	101
Facultative Re-Ins Recoveries Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Non-proportional Re-Ins Recoveries	98	103	99	84	76	59	80	99	115	97	104	145	1,159	116	126	115	101
Non-proportional Re-Ins Recoveries Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
==== CLAIMS ADJUSTMENTS =====																	
Net Incurred Claims (excluding ULAE)	2,101,258	2,356,551	2,445,533	2,521,640	2,472,078	2,530,497	3,095,638	2,773,284	3,474,964	3,586,616	3,661,699	4,144,361	35,164,119	3,451,134	3,415,493	3,449,658	3,453,398
Net Claims Paid	14,134	26,494	43,337	88,264	133,316	179,698	317,447	351,996	391,013	430,067	464,953	511,102	2,953,821	544,595	580,730	618,859	646,745
Movement in OS Claims Reserve	2,087,123	2,116,416	2,183,815	2,212,159	2,126,147	2,137,090	2,525,628	2,201,171	2,803,592	2,869,591	2,906,133	3,302,963	29,471,827	2,642,307	2,577,057	2,573,453	2,551,499
Movement in IBNR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Movement in ULAE Reserve	0	211,642	218,281	221,216	212,615	213,709	252,563	220,117	280,359	286,959	290,613	330,296	2,738,470	264,231	257,706	257,345	255,150

Figure 18. Incurred Claims tab

To perform these calculations, the Cost of New Claims links in from the Current Accident Year Claims tab the rates needed from:

- The Technical Parameters tab
- The Opening OS Reserve and movement from Prior Accident Year Claims
- The Net Claims Paid as calculated in the Claim Payment table
- The monthly Discount Rate from General Assumptions
- Any Unallocated Loss Adjustment Expenses that may have been entered into the Expenses tab

These items, along with Revenue information linked in from the Profit and Loss tab, are then used to calculate the following recoveries and ratios.

The undiscounted Pay Pattern is brought in from the Claim Payment Pattern tab in order to calculate Gross Undiscounted Incurred Cost. Hidden from users is the fact that the Current Month has been linked in from the Time Calc tab and is used in certain formulas.

Having received from Current Accident Year Claims the Cost of New Claims and then accounting for RI (Re-Insurance) recoveries, the result, Net Cost of New Claims, is linked into the Claim Payment Table to calculate Net Claims Paid. This will be covered when we explore the Claim Payment Table tab.

The final link into this tab would be from STEP3 Discount Unwind(hide), which is the third step in the Claims Projection process. It brings in the OS Claim Reserve. The process of arriving at this number is covered in the section called Claim Projection Forecasting.

Besides the link into the Claim Payment Table mentioned above, this tab also feeds the Claim figures, recoveries, movements and reserves found in the Profit and Loss tab and the Reserves and Incurred but not Reported (IBNR) found on the Balance Sheet.

This tab also allows for user input of the Claim Provision Releases and Valuation Strain and therefore is writable.

The driver tree for Incurred Claims (*Figure 19*) explains how we arrive at Net Incurred Claims (excluding ULAE).

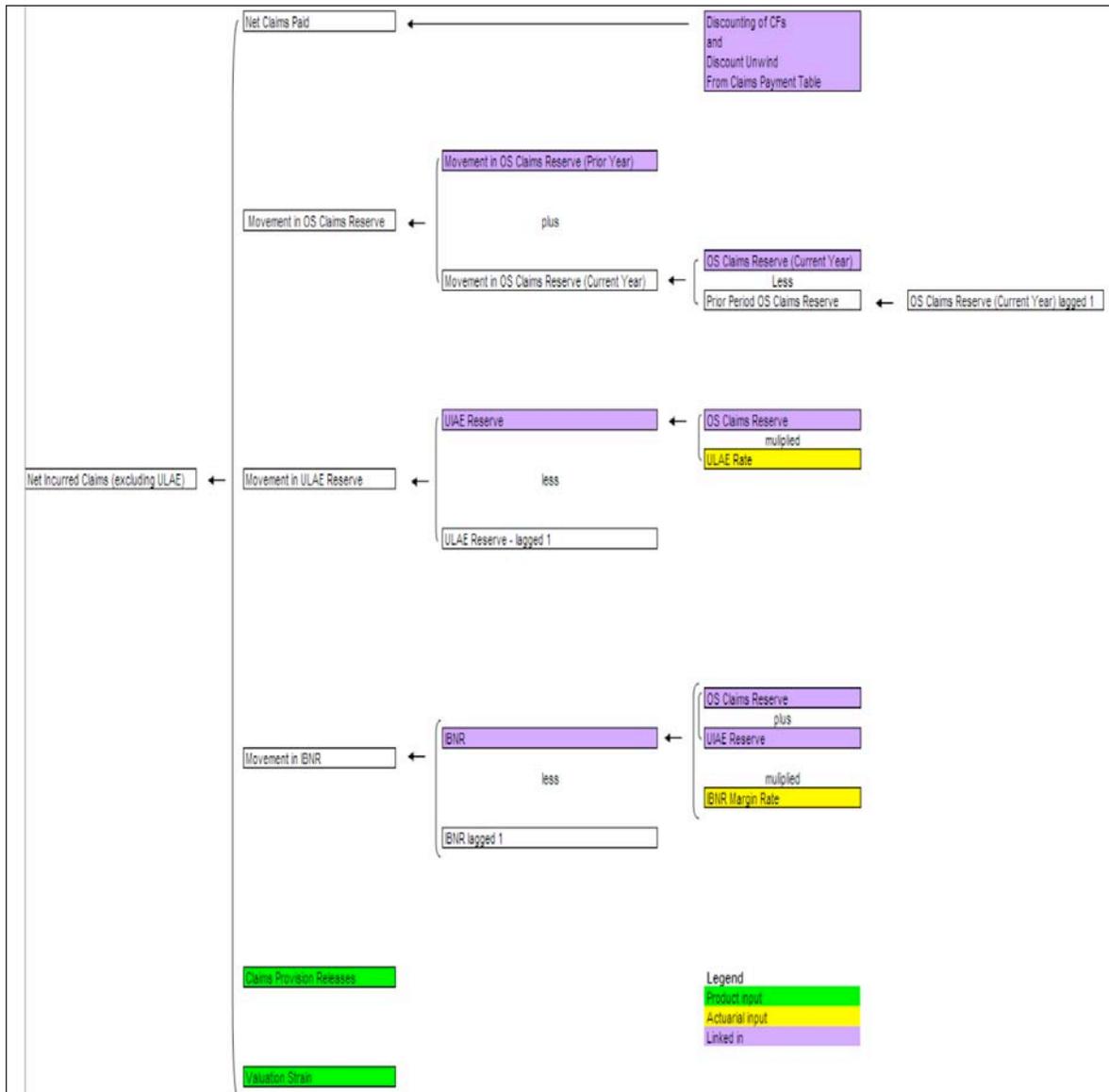


Figure 19. Incurred Claims driver tree

Expenses

The Expenses tab (*Figure 20*) is where you may, as in the Revenue tab, choose which method you'd prefer when linking in trend numbers. Having linked in the trend numbers, you may adjust them at the top level or by using a percentage or number amount.

Method Override	Method Default	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Fiscal 09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10
REVENUE DATA																
Gross Written Premium		3,202,979	3,940,566	4,617,619	3,869,197	4,159,941	5,791,337	46,355,804	4,650,922	5,020,722	4,594,497	4,048,999	3,279,720	2,387,638	3,326,141	4,319,773
GWP - New		867,578	1,368,958	1,094,796	876,107	992,006	1,174,136	11,760,757	944,715	1,180,919	962,692	968,925	944,205	581,852	882,655	1,366,267
GWP - Renewal		2,335,400	2,571,608	3,522,822	2,993,090	3,167,935	4,617,201	34,595,047	3,706,207	3,839,804	3,621,805	3,084,074	2,435,521	1,805,786	2,463,445	2,952,506
Gross Earned Premium		3,747,171	3,244,421	3,989,012	4,024,538	4,023,960	4,435,103	42,519,389	4,343,993	4,239,471	4,200,099	4,145,890	3,906,178	3,802,693	4,166,872	3,690,363
Gross Earned Premium - New		1,022,068	897,500	1,039,848	1,015,185	994,510	998,779	11,150,393	972,580	996,813	989,313	1,015,223	982,724	1,017,493	1,014,683	922,010
Gross Earned Premium - Renewal		2,725,104	2,346,921	2,949,164	3,009,352	3,029,450	3,436,324	31,368,996	3,371,414	3,242,658	3,210,786	3,130,667	2,923,454	2,785,199	3,152,189	2,768,353
Net Earned Premium		3,680,391	3,149,091	3,899,802	3,946,377	3,941,442	4,326,057	41,611,455	4,252,509	4,142,963	4,110,331	4,064,426	3,835,951	3,747,865	4,096,146	3,607,130
ACQUISITION COSTS																
Total Acquisition Costs		(806,278)	317,804	311,510	306,736	308,720	340,615	2,403,473	319,137	332,019	319,008	315,986	312,737	274,236	315,260	337,271
Net Commissions		(240,884)	334,017	335,119	299,986	315,377	385,994	3,053,975	331,454	360,726	330,511	314,418	292,783	227,184	288,024	353,600
Commission - New		134,731	212,592	170,016	136,055	154,054	182,337	1,814,023	146,709	183,391	149,501	150,469	146,630	90,359	133,972	212,174
Commission - New Rate		15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.42%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%
Commission - New Rate (# Adj)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Commission - New Rate (% Adj)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Commission - New Rate (Trend)	Same Period Previous Year	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%		15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%
Commission - Renewal		123,262	135,729	185,935	157,975	167,198	243,696	1,813,925	195,614	202,665	191,159	162,566	128,547	95,309	130,021	155,833
Commission - Renewal Rate		5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.24%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%
Commission - Renewal Rate (# Adj)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Commission - Renewal Rate (% Adj)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Commission - Renewal Rate (Trend)	Same Period Previous Year	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%		5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%
Reinsurance Exchange Commission		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DACA - Commissions		498,877	14,305	20,832	(5,956)	5,875	40,040	573,972	10,869	25,329	10,149	(1,383)	(17,606)	(41,518)	(24,032)	14,408
Net Other Acquisition Costs		(565,394)	(16,212)	(23,609)	6,750	(6,658)	(45,378)	(650,502)	(12,318)	(28,707)	(11,502)	1,567	19,953	47,052	27,236	(16,329)

Figure 20. Expenses tab

Trended in the Expenses tab are two rates used to calculate the Commissions on the New and Renewal. The Trend default method, as in the Revenue tab, is Same Period Previous Year. Also contained in the Expenses tab are the DAC, or Deferred Acquisition Cost, Movements. Because recognition of Premium has been deferred, the recognition of costs associated with that Premium is also deferred. The DAC movements are calculated in the Balance Sheet and linked into the Expenses tab.

Other user-entered items are:

- Reinsurance Exchange Commission
- Other Acquisition Costs
- LAT Adjustments
- Levies and Charges
- Management Expenses

Unlike the Revenue or Current Accident Year Claims tab, the Expenses tab does not have a Scenario dimension, because expenses are entered and not modeled.

Profit and Loss

The Profit and Loss tab (*Figure 21*) is where all the work done thus far in the model arrives. The Profit and Loss tab is a consolidation of the information from:

- Revenue
- Expenses
- Current Accident Year Claims
- Incurred Claims
- Balance Sheet.

Besides the consolidation effort, there is also work done in this tab. From the Claim Type Ratios tab, you link in the Peril ratios that are used to break claims down into their respective components.

Figure 21. Profit and Loss tab

Up until this point, you have been working in the local currency. The Profit and Loss tab has a dimension for Local Currency and the Corporate Standard. All dimensions in this tab can be viewed in either currency. The currency conversion is based upon corporately established exchange rates. The Exchange Rate function will be discussed in greater detail, when we explore the tabs that perform the actual conversion. By virtue of the consolidation just described, you are now able to calculate such items as the Net Underwriting Result, the Investment Margin on Technical Reserves, and Gross Margin (*Figure 22*).

Balance Sheet

The Balance Sheet tab (*Figure 24*) has two trended items. As in previous tabs with trended items, you may select a trend method or accept the default of Same Period Last Year. You may also adjust this Trend item directly by either an amount or a percentage. The only other decision to be made in this tab is Additional IBNR (Incurred but Not Reported), if desired.

Row	Method	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Fiscal 09	Jul-09	Aug-09	Sep-09
Total Reserves		18,185,453	21,545,377	24,693,480	27,295,295	29,465,574	46,611,088	47,834,855	50,695,417	54,419,051	57,392,719	60,769,856	65,632,631	65,632,631	68,872,917	72,485,481	75,627,935
Total Claims Reserves		2,295,836	4,623,893	7,026,089	8,458,464	11,798,226	29,737,450	32,515,641	34,936,929	38,020,880	41,177,429	44,374,176	48,007,435	48,007,435	50,913,973	53,748,736	56,579,534
Net OSC Provision (Incl IBNR or ULAE)		2,087,123	4,203,539	6,387,354	8,599,513	10,725,660	27,034,045	29,559,673	31,700,944	34,564,436	37,424,027	40,340,100	43,643,122	43,643,122	46,285,400	48,862,487	51,435,940
ULAE Reserve		208,712	420,354	638,735	858,951	1,072,566	2,703,405	2,955,967	3,176,084	3,456,444	3,740,403	4,034,016	4,364,312	4,364,312	4,628,543	4,886,249	5,143,594
IBNR		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Additional IBNR		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Reserves		15,889,617	16,921,484	17,667,391	17,809,831	17,667,348	16,873,638	15,319,214	15,758,488	16,398,171	16,215,290	16,395,681	17,625,197	17,625,197	17,958,944	18,736,746	19,048,401
LPR		15,889,617	16,921,484	17,667,391	17,809,831	17,667,348	16,873,638	15,319,214	15,758,488	16,398,171	16,215,290	16,395,681	17,625,197	17,625,197	17,958,944	18,736,746	19,048,401
Premium Debtors		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Premium Debtors Rate		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
DAC - Commissions		0	0	0	0	0	0	498,877	513,182	534,014	528,058	533,933	573,972	573,972	584,841	610,171	620,320
DAC - Commissions (Initiatives)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%
DAC - Commissions / UPR (# Adj)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
DAC - Commissions / UPR (Trend)	Same Period Previous Year	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%
DAC - Other Acquisition Costs		0	0	0	0	0	0	565,394	581,607	605,216	598,466	605,124	650,502	650,502	662,820	691,527	703,029
DAC - Other Acquisition Cost (Initiatives)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%
DAC - Other Acquisition / UPR		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
DAC - Other Acquisition / UPR (# Adj)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
DAC - Other Acquisition / UPR (Trend)	Same Period Previous Year	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%
IBNR Margin ratio		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Investment Income on Tech Reserves		0	0	0	0	0	0	232,839	246,763	264,887	279,362	295,800	319,470	319,470	335,242	352,827	368,123

Figure 24. Balance Sheet tab

The Balance Sheet tab is the target of a number of tabs:

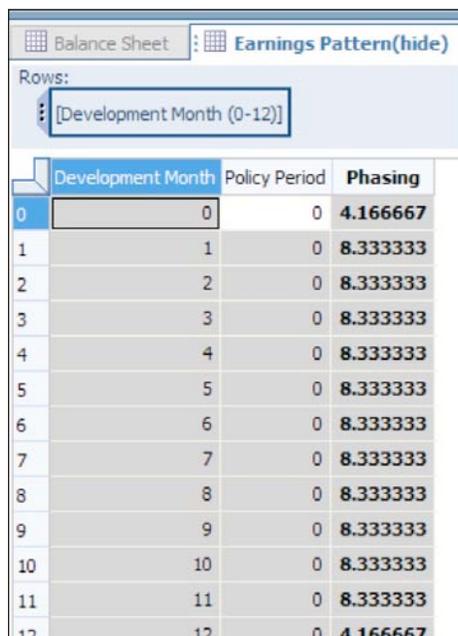
- The Incurred Claims tab is the source for the current and prior period claims for IBNR, ULAE Reserve and the OS Claims Reserve.
- The UPR (Unearned Premium Reserve) is brought over from the Revenue tab.
- From General Assumptions, the default method for the trends and the Investment Income rate are linked in.
- In addition to the lookup link for the trended items, exchange rates also are brought in from the Exchange Rate Lookup tab, because the Balance Sheet is expressed in both local currency and the corporate standard currency.

The Balance Sheet is a source of information for the Profit and Loss and Expenses tabs. DAC Movements are linked into the Expenses tab as the DAC - Commissions and DACA - Other Acquisition Costs. These are used to calculate Net Commissions and Total Acquisition Costs. Linked over into the Profit and Loss tab from the Balance Sheet are the OS Claims Reserve, ULAE Reserve and Investment on Technical Reserve. The Movements are OS Claims Reserve IBNR and ULAE Reserve.

Earnings Pattern (hide)

With the Earnings Pattern (hide) tab, you can enter the Policy Period, that is, the number of months the premium is to be spread over or—put another way—the cover period for the premium. Policy Period varies by product, which is how the planner has logged onto the model. The default, if no selection is made, is to spread the premium on a 12-month basis. In *Figure 25*:

- 1/24th of the premium is recognized in the first period, Development Month 0 .
- 1/24th of the premium in the 13th Period, Development Month 12.
- The remaining 11/12ths would be recognized between periods 1 through 11.



Development Month	Policy Period	Phasing
0	0	4.166667
1	1	8.333333
2	2	8.333333
3	3	8.333333
4	4	8.333333
5	5	8.333333
6	6	8.333333
7	7	8.333333
8	8	8.333333
9	9	8.333333
10	10	8.333333
11	11	8.333333
12	12	4.166667

Figure 25. Earnings pattern (hide) tab

It is always the case that:

- $1(2 * \text{Policy Period})$ goes in Development Month 0
- Development Month 0 is equal to the Policy Period
- $(1 \text{ Policy Period})$ goes into Development Month 1 through $(\text{Policy Month} - 1)$

The phasing calculated in this tab is used in the Earned Premium Calc(hide) tab.

Claim Payment Pattern (hide)

The Claim Payment Pattern (hide) tab (*Figure 26*) is where the Discounted Pay Pattern is entered. You can enter this number or actuaries can pre-load it. If the Payment Pattern is pre-entered, this tab might be hidden from you or set to Read-Only. Discounted Pay Pattern is the payment pattern of the undiscounted claims cash flows.

Development Month	Discounted Pay Pattern	Discount Rate	Power
0		0.67%	0.50
1	1	0.67%	1.50
2	2	0.67%	2.50
3	3	2.05%	3.50
4	4	2.04%	4.50
5	5	2.03%	5.50
6	6	1.43%	6.50
7	7	1.43%	7.50
8	8	1.42%	8.50
9	9	1.10%	9.50
10	10	1.09%	10.50
11	11	1.08%	11.50
12	12	0.79%	12.50
13	13	0.78%	13.50
14	14	0.78%	14.50
15	15	0.83%	15.50
16	16	0.83%	16.50
17	17	0.82%	17.50
18	18	0.94%	18.50
19	19	0.94%	19.50
20	20	0.93%	20.50
21	21	1.05%	21.50
22	22	1.04%	22.50
23	23	1.04%	23.50
24	24	1.17%	24.50
25	25	1.17%	25.50
26	26	1.16%	26.50

Figure 26. Claim Payment Pattern (hide) tab

The Claim Payment Pattern (hide) tab takes the Discounted Pay Pattern and, after calculating the Development Month, arrives at the Undiscounted Pay Pattern.

The Claim Payment Pattern (hide) tab has the Discount Rate linked into it from the General Assumptions tab. The Discount Rate is converted to a Monthly Discount Rate, which is then used to calculate the Unwind Factor.

The Unwind Factor is the number applied to the Claims Payment Phasing to arrive at an Unwound Payment, that is, the Undiscounted Cost of the Claim.

The information calculated by this tab is used by a number of tabs throughout the model. It feeds the Development Month to the Earnings Pattern, which is then used to calculate Earned and Unearned Premiums.

The Discounted Pay Pattern might cover from 1 to 241 periods. Since we are doing a 24-month forecast, development months 25 to 240 are accounted for in development month 25 of the model.

The total of the Undiscounted Pay Pattern is used in the Incurred Claims tab; the Unwind Factor is used in the first step of the Claim Projections—Step 1 Undisc Claim Pmts (Hide)—tab, and the Monthly Discount Rate and Power are used in the third step of the Claim Projections—Step 3 Discount Unwind (Hide). The Unwind Factor is also used in the Prior Accident Year Claims tab.

Claim Projection Forecasting

Figure 27 represents the process of arriving at OS Claims Reserve, along with other key measures and metrics. You are now leaving Claim Payment Pattern(hide), located at the far left of the flowchart, and entering the Claim Payment Table. The process begins with the Claim Payment Table and continues through the Claim Projection tabs, steps 1 through 3. The Claim Projections Forecasting Process discussed in this section includes tabs that might be hidden from users within the application. They are viewable in the *Blueprint* as tabs ten through thirteen.

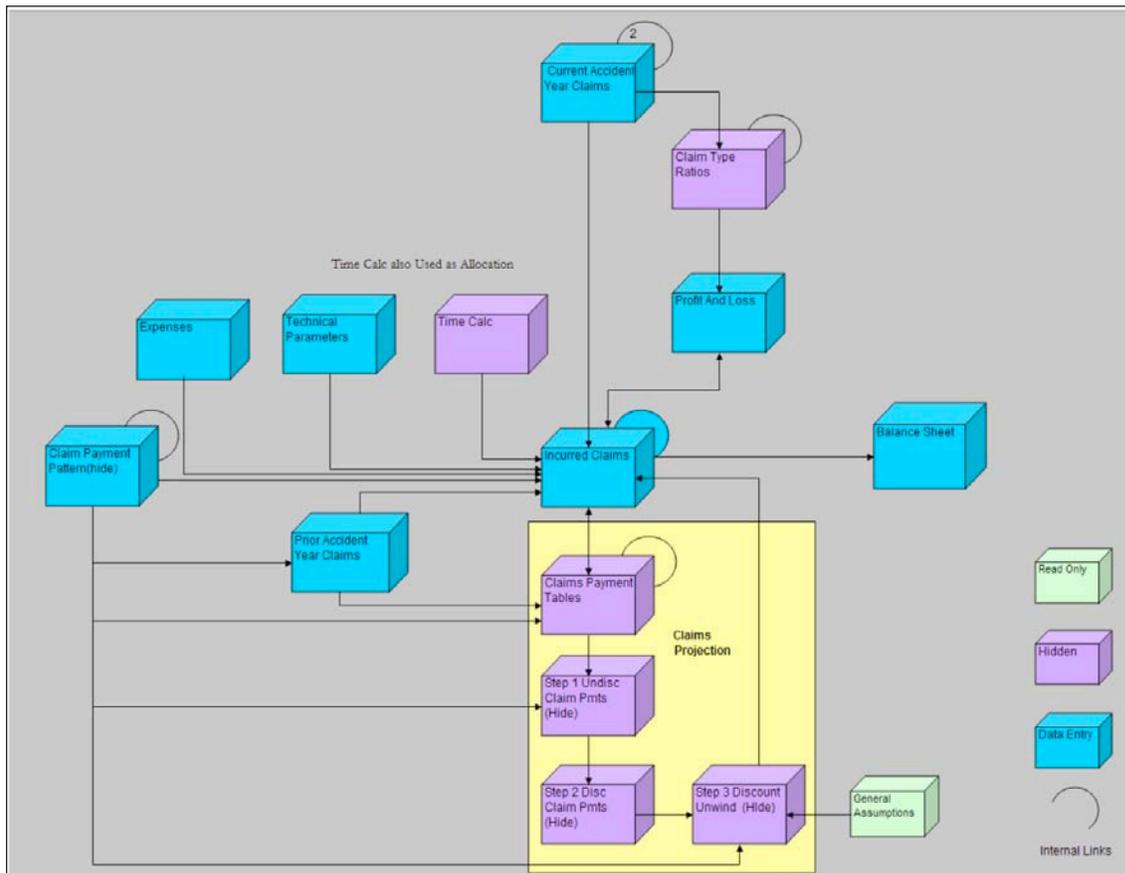


Figure 27. Arriving at OS Claims Reserve

Claim Payment Table

The Claim Payment Table tab (Figure 28) is used to calculate the Net Claims Paid, which is then fed directly back into the Incurred Claims tab. The remaining portion of the Cost of Current Year Claims is then processed through the three tabs—steps 1, 2 and 3—that together calculate the OS Claim Reserve.

	Net Cost of New Claims	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Claim Payments Current Year
Jul-06	2,096,137.51	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	14,134.35
Aug-06	2,129,499.17	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	28,493.64
Sep-06	2,201,213.85	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	43,336.55
Oct-06	2,263,652.18	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	88,264.45
Nov-06	2,211,998.05	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	133,316.11
Dec-06	2,258,808.89	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	179,698.42
Jan-07	2,738,855.15	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	217,447.41
Feb-07	2,402,714.35	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	251,995.51
Mar-07	3,031,848.52	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	291,012.75
Apr-07	3,122,965.73	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	330,066.70
May-07	3,180,218.59	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	364,952.75
Jun-07	3,607,938.39	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	411,102.21
Fiscal 07	31,245,850.40	16.18	16.18	16.18	50.15	50.15	50.15	35.54	35.54	35.54	27.54	27.54	27.54	20.11	20.11	20.11	21.52	21.52	21.52	24.78	24.78	24.78	27.86	27.86	27.86	31.69	1,966.75	2,351,821.44
Jul-07	2,966,188.18	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	444,595.44
Aug-07	2,924,250.98	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	480,730.25
Sep-07	2,946,117.76	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	518,859.41
Oct-07	2,939,481.86	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	546,748.66
Nov-07	2,803,327.46	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	574,078.44
Dec-07	2,744,843.60	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	596,520.12
Jan-08	3,104,424.58	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	626,289.71
Feb-08	2,781,415.53	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	653,074.11
Mar-08	3,382,761.19	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	679,703.51
Apr-08	3,455,315.79	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	716,862.18
May-08	3,496,678.25	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	750,296.11
Jun-08	3,924,907.49	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	794,679.11
Fiscal 08	37,479,712.67	16.18	16.18	16.18	50.15	50.15	50.15	35.54	35.54	35.54	27.54	27.54	27.54	20.11	20.11	20.11	21.52	21.52	21.52	24.78	24.78	24.78	27.86	27.86	27.86	31.69	1,966.75	7,384,438.13
Jul-08	3,227,887.32	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	839,271.78
Aug-08	3,170,622.62	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	876,242.08
Sep-08	3,183,042.42	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	913,605.84
Oct-08	3,167,911.33	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	951,773.31
Nov-08	3,014,403.56	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	990,667.30
Dec-08	2,948,237.73	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	1,030,805.30
Jan-09	(12,638.78)	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	1,071,444.08
Feb-09	(11,986.05)	1.35	1.35	1.35	4.18	4.18	4.18	2.96	2.96	2.96	2.30	2.30	2.30	1.68	1.68	1.68	1.79	1.79	1.79	2.07	2.07	2.07	2.32	2.32	2.32	2.64	163.90	1,113,430.13

Figure 28. Claim Payment Table tab

The Current Period Claims page is linked in from the Incurred Claims tab and brings in the Net Cost of Current Year Claims. The Net Cost of Current Year Claims for the Prior Period Claims page is linked in from the Prior Accident Year Claims tab. The Undiscounted PayPattern is linked in from the Claim Payment Pattern(hide) tab.

This tab requires no user input and would be hidden.

By use of the Delay BiF (Built-in Function), we arrive at Net Claims Paid, which is linked back to Incurred Claims. It is called Total Claim Payments here. In the page called Base, the Net Cost of Current Year Claims is being delayed based upon the payment Pattern.

In the first month of the forecast, the amount delayed is the sum of Development months 1 through 25. The three entries in this case would add up to more than 100% because it is the Undiscounted Pay Pattern. The Undiscounted Pay Pattern is the payment pattern of undiscounted claims cash flows. The pattern is used to allocate the remaining cost of new claims over the future development periods.

Discounted Pay Pattern

In the Claim Payment Pattern(hide) tab we entered the Discounted Pay Pattern (DPP). The DPP is the pattern used to “spread” the cash flow payments for all new claims incurred over their expected future payment periods. As an example, almost 100% of motor vehicle insurance claims are expected to be paid within 12 months from date of occurrence (hence the term “short tail insurance”). A stylized example is 30% paid in Month 1, 25% Month 2, 25% Month 3, 20% Month 4 – i.e. 100% of the claims are paid within 4 months.

The development months (0 – 25) for the Base along with the Net Cost of New Claims and Claim Payments Current Year is what was shown in Figure 28. The “spread” page (Figure 29) shows the spread balance of claims that will be fed into Step 1 of the Claims Projections Process.

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Jul-08	14,134.35	14,134.35	14,134.35	43,798.34	43,798.34	43,798.34	31,044.54	31,044.54	31,044.54	24,053.65	24,053.65	24,053.65	17,564.22	17,564.22	17,564.22	18,799.54	18,799.54	18,799.54	21,645.32	21,645.32	24,331.37	24,331.37	24,331.37	24,331.37	27,680.61
Aug-08	14,359.31	14,359.31	14,359.31	44,495.43	44,495.43	44,495.43	31,538.64	31,538.64	31,538.64	24,436.49	24,436.49	24,436.49	17,843.76	17,843.76	17,843.76	19,098.75	19,098.75	19,098.75	21,989.83	21,989.83	24,718.63	24,718.63	24,718.63	24,718.63	28,121.16
Sep-08	14,842.89	14,842.89	14,842.89	45,993.89	45,993.89	45,993.89	32,600.76	32,600.76	32,600.76	25,259.43	25,259.43	25,259.43	18,444.69	18,444.69	18,444.69	19,741.94	19,741.94	19,741.94	22,730.37	22,730.37	25,551.07	25,551.07	25,551.07	25,551.07	29,068.19
Oct-08	15,263.91	15,263.91	15,263.91	47,298.52	47,298.52	47,298.52	33,525.50	33,525.50	33,525.50	25,975.92	25,975.92	25,975.92	18,967.88	18,967.88	18,967.88	20,301.92	20,301.92	20,301.92	23,375.13	23,375.13	26,275.84	26,275.84	26,275.84	26,275.84	29,892.72
Nov-08	14,915.60	14,915.60	14,915.60	46,219.22	46,219.22	46,219.22	32,760.48	32,760.48	32,760.48	25,383.18	25,383.18	25,383.18	18,535.05	18,535.05	18,535.05	19,838.66	19,838.66	19,838.66	22,841.73	22,841.73	25,676.25	25,676.25	25,676.25	25,676.25	29,210.60
Dec-08	15,231.25	15,231.25	15,231.25	47,197.33	47,197.33	47,197.33	33,453.77	33,453.77	33,453.77	25,920.35	25,920.35	25,920.35	18,927.29	18,927.29	18,927.29	20,258.49	20,258.49	20,258.49	23,325.11	23,325.11	26,219.62	26,219.62	26,219.62	26,219.62	29,828.77
Jan-09	18,468.23	18,468.23	18,468.23	57,227.79	57,227.79	57,227.79	40,563.42	40,563.42	40,563.42	31,428.98	31,428.98	31,428.98	22,949.76	22,949.76	22,949.76	24,563.86	24,563.86	24,563.86	28,282.21	28,282.21	31,791.86	31,791.86	31,791.86	31,791.86	36,108.03
Feb-09	16,201.61	16,201.61	16,201.61	50,204.20	50,204.20	50,204.20	35,585.06	35,585.06	35,585.06	27,571.69	27,571.69	27,571.69	20,133.12	20,133.12	20,133.12	21,549.12	21,549.12	21,549.12	24,811.12	24,811.12	27,890.03	27,890.03	27,890.03	27,890.03	31,729.11
Mar-09	20,443.89	20,443.89	20,443.89	63,349.82	63,349.82	63,349.82	44,902.76	44,902.76	44,902.76	34,791.15	34,791.15	34,791.15	25,404.84	25,404.84	25,404.84	27,191.61	27,191.61	27,191.61	31,307.75	31,307.75	35,192.84	35,192.84	35,192.84	35,192.84	40,037.16
Apr-09	21,058.30	21,058.30	21,058.30	65,253.70	65,253.70	65,253.70	46,252.24	46,252.24	46,252.24	35,836.74	35,836.74	35,836.74	26,168.34	26,168.34	26,168.34	28,008.81	28,008.81	28,008.81	32,248.65	32,248.65	36,250.50	36,250.50	36,250.50	36,250.50	41,240.42
May-09	21,444.36	21,444.36	21,444.36	66,449.98	66,449.98	66,449.98	47,100.17	47,100.17	47,100.17	36,493.73	36,493.73	36,493.73	26,648.08	26,648.08	26,648.08	28,522.29	28,522.29	28,522.29	32,839.86	32,839.86	36,915.08	36,915.08	36,915.08	36,915.08	41,996.47
Jun-09	24,328.49	24,328.49	24,328.49	75,387.10	75,387.10	75,387.10	53,434.85	53,434.85	53,434.85	41,401.91	41,401.91	41,401.91	30,232.09	30,232.09	30,232.09	32,358.37	32,358.37	32,358.37	37,256.62	37,256.62	41,879.93	41,879.93	41,879.93	41,879.93	47,644.74
Fiscal 09	210,692.20	210,692.20	210,692.20	652,875.31	652,875.31	652,875.31	462,762.19	462,762.19	462,762.19	358,553.23	358,553.23	358,553.23	261,819.12	261,819.12	261,819.12	280,233.36	280,233.36	280,233.36	322,653.70	322,653.70	362,693.01	362,693.01	362,693.01	362,693.01	412,617.99
Jul-09	20,001.14	20,001.14	20,001.14	61,977.86	61,977.86	61,977.86	43,930.30	43,930.30	43,930.30	34,037.68	34,037.68	34,037.68	24,854.65	24,854.65	24,854.65	26,602.73	26,602.73	26,602.73	30,629.72	30,629.72	34,430.68	34,430.68	34,430.68	34,430.68	39,170.08
Aug-09	19,718.36	19,718.36	19,718.36	61,101.59	61,101.59	61,101.59	43,309.20	43,309.20	43,309.20	33,556.44	33,556.44	33,556.44	24,503.25	24,503.25	24,503.25	26,226.61	26,226.61	26,226.61	30,196.66	30,196.66	33,943.88	33,943.88	33,943.88	33,943.88	38,616.28

Figure 29. The spread balance of claims that will be fed into Step 1 of the Claims Projections Process

Figures 30, 31 and 32 explain the relationship between the two views.

Figure 30. The relationship between the two views

	25	Claim Payments Current Year	
.32	81.95	14,134.35	14,134.35 = 14,134.35
.32	81.95	28,493.66	28,493.66 = 14,134.35 + 14,359.31
.32	81.95	43,336.55	48,336.55 = 14,134.35 + 14,359.31 + 14842.89
.32	81.95	88,264.45	88,264.45 = 43798.34 + 14359.31 + 14842.89 + 15263.91
.32	81.95	133,316.17	133,316.17 = 14915.60 + 15263.91 + 14842.89 + 44495.43 + 43798.34
.32	81.95	179,698.42	Etc.
.32	81.95	217,447.47	

Figure 31. The relationship between the two views (continued)

Figure 32. The relationship between the two views (continued)

STEP1 Undisc Claim Pmts(HIDE)

The spread of the remaining portion of the Claims is linked into STEP1 Undisc Claim Pmts(HIDE) (Figure 33) and lagged 1 Development Month. The lag is accomplished in the link. This serves to remove development month 0, the month the claim was realized, and the Net Claims Paid realized. This spread is linked into the Claim Payment Phasing Lagged item, where an Unwind factor is applied to arrive at an Unwound Payment. This is tab eleven in the application. The link uses the Time Calc tab as an allocation table and always lags the “Development Months” appropriately.

	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Fiscal 09	Jul-09
Claims Payment Phasing Lagged	14,134.35	14,359.31	14,842.89	15,263.91	14,915.60	15,231.25	18,468.23	16,201.61	20,443.89	21,058.30	21,444.36	24,328.49	210,692.20	20,000.00
Unwind Factor	0.992708	0.992708	0.992708	0.992708	0.992708	0.992708	0.992708	0.992708	0.992708	0.992708	0.992708	0.992708	11.912493	0.992708
Unwound Payment	14,031.28	14,254.60	14,734.65	15,152.60	14,806.84	15,120.18	18,333.55	16,083.47	20,294.81	20,904.74	21,287.98	24,151.08	209,155.78	19,850.00

Figure 33. STEP1 Undisc Claim Pmts(HIDE)

STEP2 Disc Claim Pmts (HIDE)

In the STEP2 Disc Claim Pmts (HIDE) tab (Figure 34), the Unwound Payment is aggregated. So AG 0 adds up Development Months 0 to 25, but in AG 1, aggregate Development Months 1 to 25 are aggregated, and so on.

	Jul-08	Aug-08	Sep-08	Oct-08
0	14,031.28	14,254.60	14,734.65	15,152.60
1	13,962.98	14,185.22	14,662.93	15,074.00
2	43,056.72	43,742.00	45,215.09	46,497.64
3	42,847.14	43,529.09	44,995.01	46,271.31
4	42,638.59	43,317.21	44,776.00	46,046.09
5	30,075.40	30,554.07	31,583.03	32,478.90
6	29,929.01	30,405.35	31,429.30	32,320.81
7	29,783.33	30,257.35	31,276.32	32,163.49
8	22,964.13	23,329.62	24,115.29	24,799.33
9	22,852.35	23,216.06	23,997.91	24,678.62
10	22,741.12	23,103.06	23,881.10	24,558.50
11	16,524.96	16,787.97	17,353.34	17,845.57
12	16,444.53	16,706.26	17,268.87	17,758.71
13	16,364.49	16,624.94	17,184.81	17,672.27
14	17,430.18	17,707.59	18,303.93	18,823.12
15	17,345.34	17,621.40	18,214.83	18,731.50
16	17,260.91	17,535.63	18,126.17	18,640.33
17	19,777.04	20,091.81	20,768.44	21,357.54
18	19,680.78	19,994.02	20,667.35	21,253.59
19	19,584.99	19,896.70	20,566.75	21,150.14
20	21,908.20	22,256.89	23,006.43	23,659.02
21	21,801.57	22,148.55	22,894.45	23,543.86
22	21,695.45	22,040.75	22,783.01	23,429.26
23	24,561.71	24,952.62	25,792.95	26,524.58
24	1,516,775.42	1,540,916.08	1,592,809.18	1,637,989.86
AG 0	2,082,037.60	2,115,174.85	2,186,407.13	2,248,425.47
AG 1	2,068,006.32	2,100,920.25	2,171,672.48	2,233,272.86
AG 2	2,054,043.34	2,086,735.04	2,157,009.56	2,218,194.02
AG 3	2,010,986.62	2,042,993.03	2,111,794.46	2,171,696.38
AG 4	1,968,139.47	1,999,463.94	2,066,799.45	2,125,425.07

Figure 34. STEP2 Disc Claim Pmts (HIDE)

STEP3 Discount Unwind(HIDE)

The aggregated total is then linked into step 3 (Figure 35), which, by month and for the aggregated Development Months, multiplies the aggregated amount by the Monthly Discount Rate raised to the power calculated in the Claim Payment Pattern(hide) tab. This yields the Claim Expense Provision which is then linked into OS Claim Reserve in the Incurred Claims tab.

	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Fiscal 09	Jul-09
Aggregated	2,082,037.60	4,183,181.17	6,341,370.72	8,517,819.60	10,598,533.72	12,680,880.02	15,206,571.74	17,362,776.82	20,110,472.08	22,911,574.70	25,736,496.94	28,944,743.04	174,676,458.16	31,479,242.17
Monthly Discount Rate	0.010049	0.020098	0.030147	0.040196	0.050245	0.060293	0.070342	0.080391	0.090440	0.100489	0.110538	0.120587	0.783815	0.130636
Power	0.01	0.02	0.05	0.08	0.13	0.18	0.25	0.32	0.41	0.50	0.61	0.72	3.25	0.85
Claim Expense Provision	2,087,123.27	4,203,539.02	6,387,353.64	8,599,512.79	10,725,660.13	12,862,749.91	15,453,762.52	17,685,938.09	20,520,685.87	23,421,584.93	26,359,179.67	29,693,757.95	178,000,847.80	32,367,835.54

Figure 35. STEP3 Discount Unwind(HIDE) tab

Reorienting the step 3 tab shows us the OS Claim Reserve Triangulation table (Figures 36 and 37).

	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09
Net Cost of New Claims	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
0	2,087,123.27	2,120,341.46	2,191,747.74	2,253,917.56	2,202,485.56	2,249,095.10	2,727,076.96	2,392,381.70
1	2,083,197.55	2,116,353.27	2,187,625.23	2,249,678.12	2,198,342.86	2,244,864.72	2,721,947.54	2,387,881.82
2	2,079,252.64	2,112,345.56	2,183,482.56	2,245,417.94	2,194,179.90	2,240,613.66	2,716,793.04	2,383,359.92
3	2,045,624.43	2,078,182.14	2,148,168.63	2,209,102.31	2,158,692.95	2,204,375.73	2,672,853.75	2,344,813.33
4	2,011,831.75	2,043,851.62	2,112,681.96	2,172,609.05	2,123,032.43	2,167,960.55	2,628,699.55	2,306,078.19
5	1,977,873.77	2,009,353.17	2,077,021.72	2,135,937.29	2,087,197.48	2,131,367.26	2,584,329.38	2,267,153.59
6	1,956,503.50	1,987,642.77	2,054,580.18	2,112,859.19	2,064,646.00	2,108,338.54	2,556,406.56	2,242,657.74
7	1,935,028.70	1,965,826.18	2,032,028.88	2,089,668.21	2,041,984.21	2,085,197.18	2,528,347.15	2,218,042.08
8	1,913,448.86	1,943,902.88	2,009,367.28	2,066,363.80	2,019,211.58	2,061,942.63	2,500,150.50	2,193,306.02
9	1,898,754.35	1,928,974.51	1,993,936.16	2,050,494.98	2,003,704.87	2,046,107.75	2,480,950.37	2,176,462.32
10	1,883,987.98	1,913,973.11	1,978,429.56	2,034,548.53	1,988,122.30	2,030,195.43	2,461,656.33	2,159,536.25
11	1,869,149.37	1,898,898.34	1,962,847.12	2,018,524.09	1,972,463.52	2,014,205.27	2,442,267.91	2,142,527.38
12	1,860,727.63	1,890,342.56	1,954,003.21	2,009,429.31	1,963,576.28	2,005,129.95	2,431,263.89	2,132,873.89
13	1,852,264.69	1,881,744.92	1,945,116.04	2,000,290.05	1,954,645.56	1,996,010.25	2,420,206.05	2,123,173.18
14	1,843,760.36	1,873,105.24	1,936,185.40	1,991,106.09	1,945,671.17	1,986,845.93	2,409,094.12	2,113,425.02
15	1,833,979.10	1,863,168.31	1,925,913.82	1,980,543.16	1,935,349.27	1,976,305.60	2,396,313.74	2,102,213.18
16	1,824,150.01	1,853,182.78	1,915,592.01	1,969,928.56	1,924,976.89	1,965,713.71	2,383,470.84	2,090,946.50
17	1,814,272.83	1,843,148.40	1,905,219.70	1,959,262.04	1,914,553.77	1,955,070.02	2,370,565.13	2,079,624.71
18	1,801,501.57	1,830,173.87	1,891,808.23	1,945,470.15	1,901,076.59	1,941,307.64	2,353,877.94	2,064,985.54
19	1,788,667.83	1,817,135.88	1,878,331.16	1,931,610.80	1,887,533.50	1,927,477.94	2,337,109.13	2,050,274.78
20	1,775,771.33	1,804,034.11	1,864,788.17	1,917,683.65	1,873,924.16	1,913,580.59	2,320,258.29	2,035,492.05
21	1,760,125.69	1,788,139.46	1,848,358.24	1,900,787.68	1,857,413.73	1,896,720.77	2,299,815.39	2,017,558.12
22	1,744,403.53	1,772,167.07	1,831,847.95	1,883,809.07	1,840,822.56	1,879,778.49	2,279,272.50	1,999,536.46
23	1,752,935.84	1,780,835.18	1,840,807.97	1,893,023.25	1,849,826.47	1,888,972.95	2,290,420.99	2,009,316.69
24	1,709,378.89	1,736,584.99	1,795,067.58	1,845,985.41	1,803,861.99	1,842,035.75	2,233,508.61	1,959,389.19
Claim Payments Current Year	2,087,123.27	4,203,539.02	6,387,353.64	8,599,512.79	10,725,660.13	12,862,749.91	15,453,762.52	17,685,938.09
Claim Payments Prior Year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Claim Payments	2,087,123.27	4,203,539.02	6,387,353.64	8,599,512.79	10,725,660.13	12,862,749.91	15,453,762.52	17,685,938.09

Figure 36. Reorienting the STEP3 tab

2,087,123.27	2,120,341.46	2,191,747.74	2,253,917.56	2,202,485.56	2,249,095.10	2,727,076.96
2,083,197.55	2,116,353.27	2,187,625.23	2,249,678.12	2,198,342.86	2,244,864.72	2,721,947.54
2,079,252.64	2,112,345.56	2,183,482.56	2,245,417.94	2,194,179.90	2,240,613.66	2,716,793.04
2,045,624.43	2,078,182.14	2,148,168.63	2,209,102.31	2,158,692.95	2,204,375.73	2,672,853.75
2,011,831.75	2,043,851.62	2,112,681.96	2,172,609.05	2,123,032.43	2,167,960.55	2,628,699.55
1,977,873.77	2,009,353.17	2,077,021.72	2,135,937.29	2,087,197.48	2,131,367.26	2,584,329.38
1,956,503.50	1,987,642.77	2,054,580.18	2,112,859.19	2,064,646.00	2,108,338.54	2,556,406.56
1,935,028.70	1,965,826.18	2,032,028.88	2,089,668.21	2,041,984.21	2,085,197.18	2,528,347.15
1,913,448.86	1,943,902.88	2,009,367.28	2,066,363.80	2,019,211.58	2,061,942.63	2,500,150.50
1,898,754.35	1,928,974.51	1,993,936.16	2,050,494.98	2,003,704.87	2,046,107.75	2,480,950.37
1,883,987.98	1,913,973.11	1,978,429.56	2,034,548.53	1,988,122.30	2,030,195.43	2,461,656.33
1,869,149.37	1,898,898.34	1,962,847.12	2,018,524.09	1,972,463.52	2,014,205.27	2,442,267.91
1,860,727.63	1,890,342.56	1,954,003.21	2,009,429.31	1,963,576.28	2,005,129.95	2,431,263.89
1,852,264.69	1,881,744.92	1,945,116.04	2,000,290.05	1,954,645.56	1,996,010.25	2,420,206.05
1,843,760.36	1,873,105.24	1,936,185.40	1,991,106.09	1,945,671.17	1,986,845.93	2,409,094.12
1,833,979.10	1,863,168.31	1,925,913.82	1,980,543.16	1,935,349.27	1,976,305.60	2,396,313.74
1,824,150.01	1,853,182.78	1,915,592.01	1,969,928.56	1,924,976.89	1,965,713.71	2,383,470.84
1,814,272.83	1,843,148.40	1,905,219.70	1,959,262.04	1,914,553.77	1,955,070.02	2,370,565.13
1,801,501.57	1,830,173.87	1,891,808.23	1,945,470.15	1,901,076.59	1,941,307.64	2,353,877.94
1,788,667.83	1,817,135.88	1,878,331.16	1,931,610.80	1,887,533.50	1,927,477.94	2,337,109.13
1,775,771.33	1,804,034.11	1,864,788.17	1,917,683.65	1,873,924.16	1,913,580.59	2,320,258.29
1,760,125.69	1,788,139.46	1,848,358.24	1,900,787.68	1,857,413.73	1,896,720.77	2,299,815.39
1,744,403.53	1,772,167.07	1,831,847.95	1,883,809.07	1,840,822.56	1,879,778.49	2,279,272.50
1,752,935.84	1,780,835.18	1,840,807.97	1,893,023.25	1,849,826.47	1,888,972.95	2,290,420.99
1,709,378.89	1,736,584.99	1,795,067.58	1,845,985.41	1,803,861.99	1,842,035.75	2,233,508.61
2,087,123.27	4,203,539.02	6,387,353.64	8,599,512.79	10,725,660.13	12,862,749.91	15,453,762.52
2,087,123.27	4,203,539.02	6,387,353.64	8,599,512.79	10,725,660.13	12,862,749.91	15,453,762.52

Figure 37. OS Claim Reserve Triangulation Table

None of the three steps has any need for user input and would be hidden in a deployed application.

Technical Parameters(hide)

The Technical Parameters(hide) tab (Figure 38) stores parameters that are established by corporate and used in Revenue and Incurred Claims tabs, along with a history of their changes and those currently in use. All the parameters are rates and can vary by product. It can be a Read-Only tab.

	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09
Proportional Re-Ins Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Non-proportional Re-Ins Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Facultative Re-Ins Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Terrorism Levy Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Proportional Re-Ins Recoveries Rate	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%
Facultative Re-Ins Recoveries Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Non-proportional Re-Ins Recoveries Rate	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
TBIR Rate ?	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
ULAE Rate	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%

Figure 38. The Technical Parameters(hide) tab

General Assumptions(hide)

The General Assumptions(hide) tab (Figure 39) is used to store the Global Assumptions used throughout the model. These assumptions are established by corporate and do not vary by product.

	Value
Discount Rate	6.03%
Investment Income Rate (Annual)	6.00%
Investment Income Rate	0.49%
Trend Method Default	Same Period Previous Year
Aggregated	100.00
Monthly Discount Rate	1.000000
Power	1.00
Management Expenses	1

Figure 39. General Assumptions(hide) tab

General Assumptions is read-only and its data is used in the tabs shown in Figure 40.

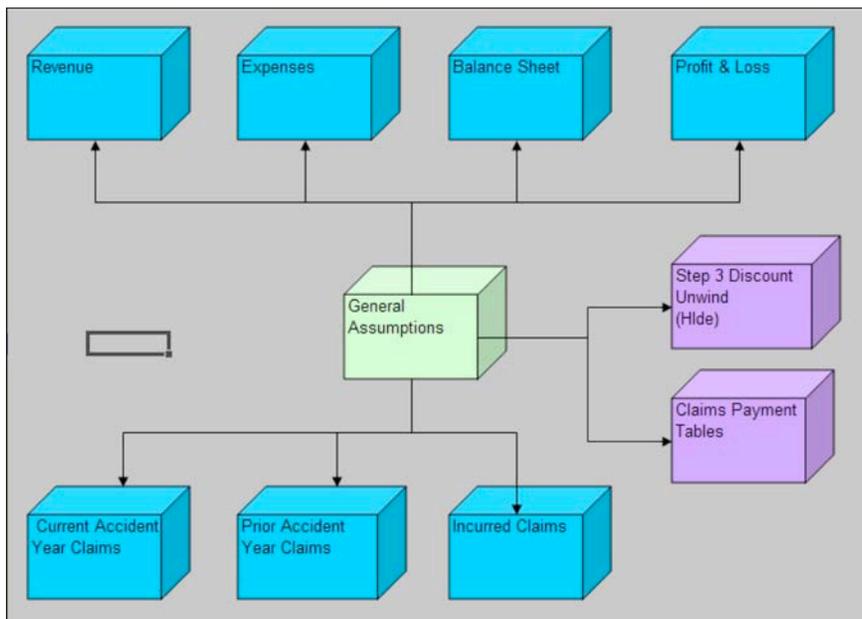


Figure 40. Tabs that use the General Assumptions tab data

Earned Premium Calc(hide)

You can hide the Earned Premium Calc(hide) tab (Figure 41) from users if desired. If it is not hidden, it requires no direct user input and would therefore be read-only. It takes the Phasing calculated in the Earnings Pattern tab and brings it into each month for use as an input into the Delay BiF, which calculates the Earned Premium in each period.

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Fiscal 09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10
Premium	761,303	1,298,625	970,740	747,172	913,288	1,061,608	10,782,714	885,425	1,097,395	857,208	866,991	845,310	477,649	761,303	1,298,625
0	4	4	4	4	4	4	50	4	4	4	4	4	4	4	4
1	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
2	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
3	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
4	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
5	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
6	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
7	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
8	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
9	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
10	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
11	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
12	4	4	4	4	4	4	50	4	4	4	4	4	4	4	4
Earned Premium	898,560	898,560	898,560	898,560	898,560	898,560	10,178,999	898,560	898,560	898,560	898,560	898,560	898,560	898,560	898,560
Earned Premium (Daily Adjust)	915,792	827,167	915,792	886,250	915,792	886,250	10,172,350	913,290	913,290	883,829	913,290	883,829	913,290	913,290	854,368
UPR (Unearned Premium Reserve)	4,962,435	5,362,501	5,434,681	5,283,294	5,298,023	5,461,072	63,897,835	5,447,937	5,646,773	5,605,421	5,573,853	5,520,603	5,099,692	4,962,435	5,362,501
Premium	1,566,298	2,020,100	2,608,235	1,995,157	2,252,925	3,268,236	25,659,593	2,521,852	2,820,206	2,592,621	2,227,732	1,732,735	1,308,465	1,592,086	2,331,174
0	4	4	4	4	4	4	50	4	4	4	4	4	4	4	4
1	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
2	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
3	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
4	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
5	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
6	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
7	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
8	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
9	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
10	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
11	8	8	8	8	8	8	100	8	8	8	8	8	8	8	8
12	4	4	4	4	4	4	50	4	4	4	4	4	4	4	4
Earned Premium	1,919,293	1,950,374	1,996,292	2,039,356	2,075,731	2,116,351	22,448,216	2,151,784	2,187,205	2,217,961	2,241,578	2,257,678	2,250,977	2,244,042	2,258,074
Earned Premium (Daily Adjust)	1,956,101	1,795,413	2,034,577	2,011,420	2,115,539	2,087,360	22,433,543	2,187,059	2,223,060	2,181,601	2,278,325	2,220,667	2,287,879	2,280,830	2,147,021
UPR (Unearned Premium Reserve)	11,421,050	11,490,776	12,102,719	12,058,520	12,236,714	13,388,600	143,431,859	13,758,668	14,391,670	14,766,329	14,752,483	14,227,539	13,285,027	12,633,071	12,706,171

Figure 41. Earned Premium Calc(hide) tab

A BiF, or a built-in- function, is a standard calculation available from the IBM Cognos 8 Planning application. Delay BiF calculates the Premium Earned based on a delay, in this case “phasing.” Phasing indicates the time between the receipt of funds and recognition. The other item needed, Premium, is linked in from the Revenue tab and is equal to Premium–New and Premium–Renewal. Premium dollars, after having run through the delay calculation, can be used to calculate Earned Premium and Unearned Premium Reserve(UPR).

The Earned Premium for both New and Renewal business are then adjusted for the number of days in the period to arrive at a Daily Adjusted figure which is then linked back into the Revenue tab. Having calculated Earned Premium, we can also calculate UPR, which is also linked back into the Revenue tab.

Because we have calculated the numbers used to determine the daily adjustments in each period, we feed the information forward into the Current Accident Year Claims tab, which does a daily adjustment calculation on Incurred Dollar if the Size & Frequency Method is used.

Trend Analysis(hide)

The Trend Analysis(hide) tab (Figure 42) is used to store the trends used in the Revenue, Expenses, and Balance Sheet tabs. Trends are based on 12 months of actuals history. For each trended item, there are pages for:

- The past 12 months of history
- The 12-month average for the item
- The 6-month average for the item
- Storing zeros
- Storing the last known value for the item

This tab, which may be hidden, is used by these targets to “look up” the values desired by users.

Rows:	Columns:												Context:		
[Trend Measures]	[Trend Periods]												Liability (elist)	Same Period Previous Year (Trend Analysis)	
	1	2	3	4	5	6	7	8	9	10	11	12	Average 12	Average 6	Last
Average Premium - New (Trend)	2,225.5	2,871.6	2,029.5	1,998.0	2,059.1	2,597.2	2,213.3	2,200.9	1,984.5	1,954.7	2,053.5	2,009.3	2,183.1	2,069.4	2,009.3
Policies - New (Trend)	342	452	478	374	444	409	400	499	432	444	412	238	410	404	238
Average Premium - New Endorsement (Trend)	718.7	716.5	686.3	803.5	717.4	883.3	870.0	881.0	1,007.5	831.0	803.0	831.5	812.5	870.7	831.5
Endorsement Rate - New (Trend)	5.94%	4.46%	7.33%	6.46%	6.39%	5.41%	4.06%	4.76%	5.05%	5.75%	5.57%	5.74%	5.58%	5.15%	5.74%
Average Premium - New Cancellation (Trend)	524	457	485	496	542	535	695	693	547	514	479	475	537	567	475
Cancellation Rate - New (Trend)	0.69%	1.00%	0.88%	0.83%	2.01%	0.85%	1.21%	1.02%	1.41%	1.27%	1.10%	1.29%	1.13%	1.22%	1.29%
Average Premium - Renewal (Trend)	2,334.2	2,095.9	2,527.6	2,428.1	2,166.6	3,009.9	2,463.2	2,864.0	2,685.9	2,302.9	2,567.1	2,942.0	2,532.3	2,637.5	2,942.0
Lapse Rate - New Renewal (Trend)	12.19%	10.87%	12.72%	11.44%	11.65%	9.86%	9.31%	11.67%	11.01%	11.44%	11.06%	13.81%	11.42%	11.38%	13.81%
Lapse Rate - Renewal Renewal (Trend)	8.81%	10.43%	10.03%	9.77%	10.54%	8.90%	10.60%	9.44%	10.84%	9.07%	11.96%	9.72%	10.01%	10.27%	9.72%
Average Premium - Renewal Endorsement (Trend)	874.6	692.9	914.7	861.9	879.9	1,150.6	1,110.6	946.7	943.7	885.2	772.0	701.3	894.5	893.2	701.3
Endorsement Rate - Renewal (Trend)	9.36%	9.35%	10.91%	11.92%	12.08%	12.36%	11.27%	10.84%	10.86%	9.76%	8.85%	7.72%	10.44%	9.89%	7.72%
Average Premium - Renewal Cancellation (Trend)	634.9	822.9	726.7	703.9	1,090.8	982.4	1,011.0	940.8	1,041.6	1,215.3	806.1	833.2	900.8	974.7	833.2
Cancellation Rate - Renewal (Trend)	1.06%	1.41%	1.78%	1.29%	1.97%	1.84%	1.67%	1.04%	1.02%	0.93%	0.91%	1.36%	1.36%	1.16%	1.36%
Midterm Switch In Policies (Trend)	3	5	4	4	3	3	1	3	2	1	2	5	3	2	5
Midterm Switch Out Policies (Trend)	11	11	11	11	7	8	16	13	11	16	31	11	13	17	11
Full term Switch In Policies (Trend)	3	4	3	4	6	4	2	2	5	3	4	2	4	3	2
Full term Switch Out Policies (Trend)	3	4	6	4	2	2	5	3	3	1	3	4	3	3	4
Commission - New Rate (Trend)	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%	15.53%
Commission - Renewal Rate (Trend)	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%
DAC - Commissions / LPR (Trend)	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%	3.05%
DAC - Other Acquisition / LPR (Trend)	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%

Figure 42. Trend Analysis(hide)

Claim Trend Analysis(hide)

The Claim Trend Analysis(hide) tab (Figure 43) stores the trends used in the Current Accident Year Claims tab. Trends are based upon 12 months of actuals history. For each trended item, there are pages for:

- The past 12 months of history
- The 12-month average for the item
- The 6-month average for the item
- Storing zeros
- Storing the last known value for the item

This tab, which may be hidden, is used by the above target as the source when “looking up” the values desired by users.

Rows:		Columns:												Context:		
[New/Renewal]		[Claim Items]												[Liability (elist)]		
		[Trend Periods]												[Claims (New/Recoveries)]		
														[Working (Claim Types)]		
														[Same Period Previous Year (Trend Analysis)]		
		1	2	3	4	5	6	7	8	9	10	11	12	Average 12	Average 6	Last
	Average Claim Size (Trend)	7.6	7.7	7.8	8.0	8.1	8.2	8.4	8.5	8.6	8.8	8.9	9.0	8.3	8.7	9.0
New	Claim Frequency (Trend)	0.0796	0.0810	0.0824	0.0838	0.0852	0.0866	0.0879	0.0893	0.0907	0.0921	0.0935	0.0949	0.0873	0.0914	0.0949
	Gross Loss Ratio (Trend)	121.22%	123.33%	125.44%	127.55%	129.66%	131.77%	133.88%	135.99%	138.10%	140.21%	142.32%	144.43%	132.82%	139.15%	144.43%
	Average Claim Size (Trend)	88.5	90.0	91.6	93.1	94.6	96.2	97.7	99.3	100.8	102.3	103.9	105.4	97.0	101.6	105.4
Renewal	Claim Frequency (Trend)	0.1593	0.1620	0.1648	0.1676	0.1704	0.1731	0.1759	0.1787	0.1814	0.1842	0.1870	0.1898	0.1745	0.1828	0.1898
	Gross Loss Ratio (Trend)	10.88%	11.07%	11.26%	11.45%	11.64%	11.83%	12.02%	12.21%	12.40%	12.59%	12.77%	12.96%	11.92%	12.49%	12.96%

Figure 43. Claim Trend Analysis(hide)

Claim Type Ratios

The Claim Type Ratios tab is used to calculate the ratio between the Perils used in the Profit and Loss tab. The basis for the ratios is Cost of Current Year Claims from Current Accident Year Claims. The Profit and Loss tab uses these ratios to break down:

- Gross Incurred Claims
- Net Incurred Claims, Current Year Claims
- Gross Loss Ratio
- Net Loss Ratio
- ULAE(UnAllocated Loss Adjustment Expense) Ratio into the Peril component parts.

The tab is not displayed in the application.

Currency Choice

The Currency Choice tab, a hidden tab in the *Blueprint*, is where the user's local currency information is stored. The model assumes they are working in their Local Currency and then converts the Local Currency to the Corporate Standard where appropriate.

Exchange Rates(hide)

The Exchange Rates(hide) tab (*Figure 44*) in the model is where an administrator would load Exchange Rates. This tab requires no user input and can be hidden in the application.



	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Fiscal	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09
USD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
HKD	1.4047	1.4047	1.4047	1.4047	1.4047	1.4047	1.4047	1.4047	1.4047	1.4047	1.4047	1.3906	1.3906	1.3906	1.3906	1.3906
EURO	0.6146	0.6146	0.6146	0.6146	0.6146	0.6146	0.6146	0.6146	0.6146	0.6146	0.6146	0.6054	0.6054	0.6054	0.6054	0.6054
AUD	0.7207	0.7207	0.7207	0.7207	0.7207	0.7207	0.7207	0.7207	0.7207	0.7207	0.7207	0.7279	0.7279	0.7279	0.7279	0.7279
CAN	0.8711	0.8711	0.8711	0.8711	0.8711	0.8711	0.8711	0.8711	0.8711	0.8711	0.8711	0.8973	0.8973	0.8973	0.8973	0.8973

Figure 44. Exchange Rates(hide) tab

Exchange Rate Lookup

The Exchange Rate Lookup tab is also hidden in this *Blueprint*. It links in currency from the Currency Choice tab. Based upon that choice, it then looks up the appropriate exchange rate in the Exchange Rates tab. The default, if no currency choice is made, is to use the Standard Currency. This tab requires no input from the user and should be hidden within the application.

The Exchange Rate Lookup tab links into the Balance Sheet and Profit and Loss tabs. These two tabs are viewable therefore in the Local Currency or the Corporate Standard.

Time Calc(hide)

The Time Calc(hide) tab (Figure 45) enables an automated rolling forecast, requires no user input and may be hidden at the discretion of the administrator. It is used as an allocation table in a number of the links in the model. Some links require that actual month's data be used, others forecast months and still others need to link over the 12 previous months. Time Calc stores and automatically updates a great deal of information used throughout the modeling process. It is a data source for Incurred Claims, Prior Accident Year Claims, Balance Sheet and Revenue. It is used in eleven other links as an allocation table.

Rows:	Columns:												Context:											
[Time Calc]	[Timescale Full - Time Calc]																							
	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09
Actual Months Indicator (hide)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Actual Months	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08								
Forecast Months																	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09
Current Month (hide)																	1							
Prior Claims Start Month																	1							
Month (IID)(hide)	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09
Act/Fcst	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Foreca:							
Lag 1					Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09
Lag 1 Feed	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Lag 1 Act	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08								
Lag 6					Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09
Lag 6 Feed	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Lag 12					Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08
Lag 12 Feed	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Forecast Lag 1																	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	
Actual Months Cumm (hide)	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	30	30	30	30	30	30	30	30
Current Month IID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31	31	31	31	31	31
Current	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0
Last 12					Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08								
Last 12 Plus Forecast					Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09
Last 6										Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08									
Trend Period				1	2	3	4	5	6	7	8	9	10	11	12									
Trend to Forecast Months																	1	2	3	4	5	6	7	8
Last Month																	Actual							

Figure 45. Time Calc(hide) tab

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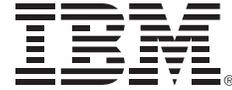
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September 2009
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