

Oracle® Fusion Cloud EPM

Working with Strategic Modeling in Smart View



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Primary Author: EPM Information Development Team

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Contents

Documentation Accessibility

Documentation Feedback

1 About Strategic Modeling

Overview	1-1
About Creating Financial Models	1-1
Installing and Accessing Strategic Modeling	1-2
Prerequisites	1-2
Installing Smart View and Strategic Modeling Extension for Smart View	1-2
Configuring a Strategic Modeling Connection	1-3
Creating a connection using Shared Connections	1-4
Accessing Strategic Modeling	1-4
Strategic Modeling Basics	1-5
Strategic Modeling Ribbon and Menus	1-5
Managing Summary Information About the Current Model	1-7
Setting Preferences	1-8

2 Creating and Managing Models

About Models and Templates	2-1
Opening a Model	2-1
Creating a Model	2-2
Defining the Model Duration	2-2
Specifying the Smallest Period of Time	2-2
Creating Monthly Time Periods	2-3
Handling Extra Days in a Year Made of Weeks	2-3
Specify the Number of Months in a Year	2-4
Specifying the End of a 12 or 13 Month Fiscal Year	2-4
Setting Fiscal Year End	2-4
Assigning Weeks to Months	2-5
Assigning Months to Quarters	2-5

Extended Time Period Options	2-6
Adding Trailing Periods	2-6
Working With Templates	2-7
Customizing and Uploading Template for Use on the Web	2-8
Creating a Model by Copying Another Model	2-8
Closing Open Models	2-8
Moving a Model	2-9
Deleting a Model	2-9
Converting Models and Reports from Strategic Finance to Strategic Modeling	2-10

3 Working With Financial Accounts

About Financial Accounts	3-1
Structure	3-1
Entering Account Data	3-3
Working with Subaccounts	3-6
Adding a New Sibling Subaccount	3-8
Deleting the Subaccount	3-8
Sorting the Subaccount	3-9
Renaming Related Accounts	3-9
Account Dependencies	3-9
Using User-Defined Accounts	3-11
Creating and Displaying Account Groups	3-16
Dataviews	3-18

4 Forecasting

About Forecast Methods	4-1
------------------------	-----

5 Using Time Periods

About Time Periods	5-1
Settings the Time Periods	5-1
Creating and Distributing Period-to-Date and Trailing Periods	5-4
Managing Deal Periods	5-5
Changing the Fiscal Year End	5-6

6 Using Funding Options

About Funding Options	6-1
Funding Options Accounts	6-2
Using Funding Methods	6-3

	Types of Debt Accounts	6-5
	Types of Asset Accounts	6-7
	Funding Options Strategies	6-7
7	Using Tax and Valuation Options	
	About Tax and Valuation Options	7-1
	Modeling Valuation Accounts	7-4
	Valuation Theory	7-10
8	Using Worksheets	
	About Worksheets	8-1
	Using Worksheets	8-1
	Linking to Account Spreadsheets	8-3
9	Using Dimensions	
	About Dimensions	9-1
	Viewing Dimensional Accounts	9-3
10	Using Debt Scheduler and Value Calculators	
	About Debt Scheduler and Value Calculators	10-1
	Using Debt Scheduler	10-1
	Debt Scheduler Considerations	10-12
	Debt Scheduler Interest and Accrued Interest Calculations	10-14
	About Depreciation Scheduler	10-15
	Using Depreciation Schedules	10-15
11	Rolling Up Financial Models	
	About Scenario Rollups	11-1
	Overview of Business Case	11-4
	Running Multiple Business Case Scenario Rollups	11-4
	Setting Up Server Scenario Rollups	11-5
	Working with Business Cases in Scenario Rollups	11-6
	Working with Scenario Rollups	11-6
	Data Management	11-9
	Scenario Rollup Funding Options	11-18

12 Translating Currencies

About Currency Translator	12-1
Adding Currency Codes	12-5
Currency Translator Default Assignments	12-5
Currency Translator Calculation and Adjustment Process	12-6
Currency Translator Reports	12-12

13 Performing Advanced, What If? Analysis

About What If? Analysis	13-1
Using Scenarios	13-1
Using Sensitivity Analysis	13-5
Using Goal Seek	13-9

14 Using Provided and Freestyle Reports

About Reporting	14-1
Reviewing Reports	14-1
Customizing Reports	14-5
Using Freestyle Reports	14-5
Building Freestyle Reports	14-6
Linking Data to Freestyle Reports by Assigning Cell Attributes	14-7
Creating Charts	14-9
Using Alias Manager	14-9
Creating Aliases	14-10

15 Working with Graphs

Creating Graphs From Freestyle Reports	15-1
--	------

16 Using Freeform Formulas

Overview	16-1
Building Formulas	16-3
Functions Used in Formulas	16-5

17 Formatting

Working With Rows and Columns	17-1
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1

About Strategic Modeling

This section describes building financial models.

Overview

Strategic Modeling integrates and rolls up financial forecast models among your corporate planning, business development, treasury, and investor relation groups. This includes interaction between corporate groups, business units, and the corporate office. The result is enhanced, consistent communication within the company. Strategic Modeling reduces the time and planning costs while assuring accurate analytics. It is ideal for merger and acquisition analysis, strategic planning, equity analysis, deal underwriting, and portfolio analysis.

Strategic Modeling functionality is provided to licensed users of Oracle Financial Statement Planning option for Planning or Oracle Financial Statement Planning provided as part of Planning Modules.

Strategic Modeling enables you to centralize financial data using these enterprise-wide data management capabilities and tools:

- [Scenario Rollups](#)
- [Sensitivity Analysis](#)

Scenario Rollups

Use scenario rollups to combine models representing different business units into one model. This tool enables you to perform these tasks:

See [Rolling Up Financial Models](#).

- Roll up basic file information, methods, scenarios and time periods
- Control scenario rollup information and subaccount details

Sensitivity Analysis

Sensitivity Analysis determines how key variable changes affect results.

See [Performing Advanced, What If? Analysis](#).

Strategic Modeling Account Definitions

For more information about the Strategic Modeling account details, see [Strategic Modeling Account Definitions](#)

About Creating Financial Models

You will perform these tasks to create and evolve your financial models:

- From Oracle Smart View for Office, establish a connection and to a service instance that hosts Strategic Modeling.
- Existing users: Select existing model template.

- Create a template and model (entity) file, and define the model duration time using:
- Define access control to other models and items such as dimensions, scenarios, and reports.
- Create or use the provided accounts, and input data. See [Working With Financial Accounts](#).
- Project financial results using provided (for example, growth rate) or custom forecast method. See [Forecasting](#).
- Define funding and debt repayment options. See [Using Funding Options](#).
- Define tax and valuation options such as shareholder value, dividend discount, and economic profit. See [Using Tax and Valuation Options](#).
- Convert international currencies. See [Translating Currencies](#)
- Insert data from Microsoft Excel into your model using worksheets. See [Using Worksheets](#)
- Amalgamate multiple models. See [Rolling Up Financial Models](#).
- Analyze financial models using different scenarios and targets. See [Performing Advanced, What If? Analysis](#).
- Use graphs and reports to depict financial data in a variety of formats. See [Using Provided and Freestyle Reports](#) and [Working with Graphs](#).

Installing and Accessing Strategic Modeling

Prerequisites

For Smart View platform requirements, see the 11.1.2.x version of the [Oracle Enterprise Performance Management System Certification Matrix](#), which is posted on the Oracle Fusion Middleware Supported System Configurations page on Oracle Technology Network (OTN).

- Release 11.1.2.5.620 or newer.
The newest Oracle Smart View for Office release on the [Downloads tab on Oracle Technology Network](#) is always certified.
- Strategic Modeling Extension for Smart View
- Microsoft Office 2010, 2013, or 2016
- .NET Framework 4.5

Installing Smart View and Strategic Modeling Extension for Smart View

To install Oracle Smart View for Office and Strategic Modeling Extension for Smart View:

1. From the Windows computer where you want to install Smart View and Strategic Modeling Extension for Smart View, access a service instance.
2. On the Home page, access **Settings and Actions** by clicking your user name at the top right corner of the screen.
3. Click **Downloads**.
4. Click **Download** under Smart View for Office and save the installer (`SmartView.exe`) in a convenient location.
5. Click **Download** under Strategic Modeling Extension for Smart View and save the installer `StrategicModeling.exe` in a convenient location on a client computer.

6. Run `SmartView.exe` . Follow on-screen prompts to complete the installation, and click **Finish** when the installation is complete.
7. Run `StrategicModeling.exe` . Follow on-screen prompts to complete the installation, and click **Finish** when the installation is complete.

Troubleshooting

For help with troubleshooting Strategic Modeling Smart View extension issues, see *Fixing Strategic Modeling Issues in Oracle Enterprise Performance Management Cloud Operations Guide*.

Configuring a Strategic Modeling Connection

After installing Oracle Smart View for Office and Strategic Modeling extension, set up a private connection to a service instance.

For more information, see *Creating Private Connections in Working with Oracle Smart View for Office 21.200*.

To configure a Strategic Modeling connection in Smart View:

1. Launch Microsoft Excel.
2. Click **Smart View**, and then click **Panel**.
3. In **Smart View Home**, click **Private Connections**, and then select **Create new connection**.
4. Select **Strategic Planning Provider** as the new connection provider type.
5. In **Add Connection - URL**, enter a URL similar to the following:
Strategic Modeling: `http(s)://serviceURL/HyperionPlanning/SmartView`
For example, `http(s)://test-cloud-pln.pbcs.us1.oraclecloud.com/HyperionPlanning/SmartView`
6. Click **Next**.
7. Sign into your service instance.
 - a. In **Enter your Identity Domain**, enter identity domain and then click **Go**.
 - b. Enter your user name and Password, and then click **Sign In**.
8. In **Add Connection -- Application/Cube**, expand **Servers**, and then select an application or cube.
9. In **Add Connect - Name/Description**, enter a connection name and description, and then click **Finish**.
10. Select the application that you want to the connection, and then click **Finish**.
11. In **Shared Connections URL**, enter your service URL; for example:

```
https://test-cloud-pln.pbcs.us1.oraclecloud.com/workspace/  
SmartViewProviders
```

 **Note:**

You may also configure a private connection using a service URL such as the following:

```
https://test-cloud-pln.pbcs.us1.oraclecloud.com/HyperionPlanning/  
SmartView
```

12. Click **OK**.

Troubleshooting

For help with troubleshooting Strategic Modeling Smart View connection issues, see Fixing Strategic Modeling Smart View Connection Issues in *Oracle Enterprise Performance Management Cloud Operations Guide*.

Creating a connection using Shared Connections

You can create a connection using Shared Connections, if you know the URL.

1. To set the Shared Connection URL: From **Smart View**, then select **Options**, then select **Advanced Tab**, and then select **Shared Connections URL**: `http://<serviceURL>/workspace/SmartViewProviders`

For example: `http://myserver:9000/workspace/SmartViewProviders`
2. From the Oracle Smart View for Office ribbon, select **Panel**.
3. From the Smart View panel, select the arrow next to the **Home** button, and then select **Shared Connections**.
4. Provide the user authentication details and then using the Shared Connection drop-down list select the **EPM Cloud** connection provider.
5. Expand the Strategic Modeling service instance node.
6. Expand the Strategic Modeling application instance that you want to add to the connection and click **OK**.

Accessing Strategic Modeling

Use this procedure to access Strategic Modeling through Oracle Smart View for Office using an existing private connection.

When you access Strategic Modeling, the login screen is displayed. You must enter credentials for a service instance and identity domain to access Smart View.

To access Strategic Modeling:

1. Launch Microsoft Excel.
2. Select **Smart View**, and then **Panel**.
3. In **Smart View Home**, click **Private Connections**.
4. From the drop-down list, select a private connection that you created previously.
5. Click **→**.
6. Sign into your service instance.
 - a. In **Enter your Identity Domain**, enter identity domain and then click **Go**.

- b. Enter your user name and password, and then click **Sign In**.

Strategic Modeling Basics

- [Strategic Modeling Ribbon and Menus](#)
- [Managing Summary Information About the Current Model](#)

Strategic Modeling Ribbon and Menus

You use the Strategic Modeling ribbon in Microsoft Excel to work with models and templates. The following table describes the icons and options available on the Strategic Modeling ribbon.

Table 1-1 Menu Groups and Options

Grouping Label	Icons	Description
Start	Worksheet	A spreadsheet is a table used to store various types of data. The data is arranged in rows and columns to ease storage, organization, and analysis. You can Open, Close, Add or Delete worksheets, and Copy the worksheet link.
	Open	Enables you to open the Strategic Modeling files as *.alc extension.
	New	Enables you to open a new model file as *.alt extension.
	User Preferences	Enables you to review or change the user preferences details.
Model	Summary	Summary Information enables you to specify basic information about files such as author, company, SIC code, currency, and global assumption data, that are used in displayed reports.
	Save As	Save As enables you to save the Strategic Modeling files as *.alc extension.
	Save	Enables you to save the Strategic Modeling files as *.alc extension.
	Close	Enables you to store model information on service so that you can check in model and release lock. When you check in model, the service releases the locks, and the model become available to others users.
	Account Information	Enables you to view the required account information.
Edit	Dataviews	Dataviews filter and manipulate the amount of data displayed on the Strategic Modeling spreadsheet.

Table 1-1 (Cont.) Menu Groups and Options

Grouping Label	Icons	Description
	Paste Worksheet Link	You can perform the following options: Paste , Paste Special and Paste Worksheet Link —which creates a link between the existing worksheet and the destination worksheet, where it is pasted.
Account	Account Forecast	Enables you to view the forecast methods provided to project account values in forecast periods.
	Dimension	The dimensions are a concise, an intuitive way of organizing data. Each dimension is an attribute containing members, representing variations of the data. You can perform the following options: Maintenance, and Assign Dimensions.
	Subaccounts	Enables you to view and change the subaccounts and main account detail within the accounts spreadsheet. Subaccounts inherit attributes of main accounts in both historical and forecast periods.
	User Defined Accounts	User Defined Accounts are typically used for non-currency items such as inflation rates and price/quantity relationships.
	Account Groups	Enables you to manage accounts in bulk. For example, you can create a group containing all Income Statement accounts with data input.
	Account Input Status	Enables you to change the input status of accounts. Turn OFF accounts, which are not in use.
	Rename Related Accounts	Enables you to edit and rename the accounts description.
	Where Used	Enables you to identifying the accounts that depend on other accounts.
	Search or Find Accounts	Enables you to search for specific account numbers.
Analysis	Goal Seek	Enables you to identify a target value for an account. Strategic Modeling calculates changes to another account to reach that target. This eliminates manipulating accounts manually.
	Depreciation Scheduler	Enables you to depreciate capital assets over time in formulas.
	Scenario Manager	Enables you to create variations, or scenario, on a model, with accounts specific to that scenario.
	Sensitivity Analysis	Enables you to change values on some accounts to evaluate the effects on key metrics.

Table 1-1 (Cont.) Menu Groups and Options

Grouping Label	Icons	Description
Data	Time	Enables you to combine periods of years, weeks, months, quarters, and halves for historical and forecast data.
	Audit Trail	Enables you to drills down from the account line or the output line on the Strategic Modeling spreadsheet to see how the value is calculated.
	Funding	Funding Options enables you to pay off debt accounts with cash from surplus accounts.
	Calculate	Calculate option enables you to save data into the database and recalculate the input values for all scenarios. You can perform the following options: Calculate, and Calculate All.
	Submit Data	Enables you to save the data back to the Strategic Modeling provider.
	Tax Valuation	Enables you to configure and enter data for tax refund calculations, and use of three Strategic Modeling valuation methods.
	Debt Scheduler	Enables you to capture and manage cash flow involved in debt investments, such as debt amortization, payments, interest, and interest rates.
	Currency Translator	Currency Translator expresses the data in international currencies, while creating multinational financial models.
Reports	Free Style Reports	Enables you to customize the reports. You can create custom reports to meet other needs.
	Report List	Enables you to view the list of available reports.
	Insert	Enables you to insert the following options: Account , Text Row , Text Column , and Sheet into your spreadsheet.

Managing Summary Information About the Current Model

Generally, information about a model is set when you create it using a model template.

To manage summary information:

1. In the Strategic Modeling ribbon, click **Info**.
2. Ensure the model or template information are displaying correctly, else make the desired changes.

All fields in the summary information screen are self-explanatory. Ensure that the SIC Code (the industry classification code) and Group ID (identifier of the group performing the analysis, for example, *Marketing*) are correctly set.


3. Click **OK**.

Setting Preferences

You can, optionally, set the following preferences:

- General
- Accounts
- Reports
- Calculation
- Global Assumptions

To set preferences:

1. On the Strategic Modeling ribbon, click .
2. On the **General** tab, you can set the following:
 - **Limit currency name choices to default list** to disable adding currencies.
 - Select **Show Formula in Status Bar** to display formulas for calculated accounts.
 - **Name** to display scenario author.
 - **Data directory** specify the path to store files.
 - **Template directory** specify the path to store templates.
3. Click **Accounts** tab to specify account-related preferences such as the following:
 - **Show headers** displays row and column headers, when you open a model.
 - **Number of decimals for input display**— Number of decimal values that can be entered. This does not affect data storage.
 - **Number of decimals for output display**—The number, between 0 and 6, of decimal values to display in reports and graphs. This does not affect data storage.
4. Click **Reports** tab to specify reports-related preferences such as the following:
 - **Maximum reports on open**—The maximum number of reports that are opened with a model.
 - **Show headers**—Display standard report headers.
 - **Characters per note line**—Enter a number between 10 and 255 that is the maximum number of characters that can be used for account notes.
 - **Insert subaccounts with main account**—Include or exclude the placement of subaccounts in reports when you insert main accounts.
 - **Insert dimensional block** —Include or exclude the full dimensional block in reports when you insert main accounts.
 - **Show headers**—Display or conceal freestyle report headers.
5. Click **Calculation** tab to specify calculation-related preferences such as the following:
 - **Suppress funds flow out of balance warning**—Generate "Funds Flow Out of Balance" errors when funds flow do not balance in historical periods.
 - **Auto calculate newly selected scenario**—Enable automatic scenario calculation.
 - **Warn for deprecated functions**—Generate warnings if deprecated functions are encountered during calculations.

- **Suppress zeroes on analyze**—Exclude empty cells from calculation, analysis, and audit trail features.
6. Click **Global Assumptions** tab to specify global assumptions-related preferences such as the following:
 - **Display messages advising that file was updated by export**—Show messages when files are updated with global assumptions.
 - **Automatically accept import updates without prompting during import** — Do not notify users when global assumption changes are accepted.
 7. Click **OK**.

2

Creating and Managing Models

- [About Models and Templates](#)
- [Opening a Model](#)
- [Creating a Model](#)
- [Defining the Model Duration](#)
- [Specifying the Smallest Period of Time](#)
- [Creating Monthly Time Periods](#)
- [Handling Extra Days in a Year Made of Weeks](#)
- [Specify the Number of Months in a Year](#)
- [Specifying the End of a 12 or 13 Month Fiscal Year](#)
- [Setting Fiscal Year End](#)
- [Assigning Weeks to Months](#)
- [Assigning Months to Quarters](#)
- [Extended Time Period Options](#)
- [Adding Trailing Periods](#)
- [Working With Templates](#)
- [Customizing and Uploading Template for Use on the Web](#)
- [Creating a Model by Copying Another Model](#)
- [Closing Open Models](#)
- [Moving a Model](#)
- [Deleting a Model](#)
- [Converting Models and Reports from Strategic Finance to Strategic Modeling](#)

About Models and Templates

You can create new models (.alc files) in Strategic Modeling using templates (.alt files), which are financial model frameworks that contain predefined reporting and modeling standards. Models enable you to analyze and roll up business units and to model industry formats.

Oracle provides you with a set of standard templates, that you can use to create models.

Opening a Model

To open a model from the server:


1. In the **Smart View** panel, expand **Strategic Modeling**, and then expand **Models**.

2. Select a model, right click it, and then select **Open-Checkout**, **Open Model Version**, or **Open As Copy**.
3. If you selected **Open Model Version**, you can see any versions created for that model. Select the model version you want to open, and then click **Open as Copy**. When you open a model version as a copy, you can't save changes to the data or the model.

Additionally, in the **Open Model Version** dialog box, you can:

- Use the filter to filter the model versions as required.
- Sort the model versions based on name, creation date, and comment by using the arrows. This affects the display order in the model version list.

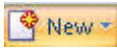
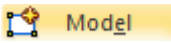
To open a model saved on a local machine:

1. Click .
2. Navigate to the directory where models are stored.
3. Click **Open**.

Creating a Model

Strategic Modeling uses models data analysis and scenario rollups. Oracle provides you with a set of standard templates that you can use to create models.

To create model:

1. On the Strategic Modeling ribbon, click , and then select .
2. In **Select Template Model**, select a model saved on local machine.
3. Click **Open**.

Defining the Model Duration

Before the wizard divides time structures into weeks or months, select the number of years and historical years in the model. After you complete the wizard, the time structure is generated and applied to the model.

To specify the model duration:

1. In **Total number of years in model**, enter the number of years in the model, including previous and forecasted years.
2. In **Number of historical years in model**, enter the number of previous years to include in the model. Specify at least one year.
3. Click **Next**.

See [Specifying the Smallest Period of Time](#).

Specifying the Smallest Period of Time

After the number of years is defined, the Initial Time Period Setup Wizard divides years into months or weeks. Selecting **Months** or **Weeks** defines the smallest native period in the model, which helps to construct the calendar for that model.

 **Caution:**

Once specified, you cannot change the type of calendar that is used by a model.

To define the smallest period of time:

1. Select an option:
 - **Months**—Enter data by month. No weekly data exists.
 - **Weeks**—Enter data by week. Monthly aggregates are calculated.
2. Click **Next** and see the appropriate topic:
 - For **Months**, see [Creating Monthly Time Periods](#).
 - For **Weeks**, see [Handling Extra Days in a Year Made of Weeks](#).

Creating Monthly Time Periods

To create monthly time periods:

1. Select an option:
 - **Calendar length**—Use the standard number of days in months.
For example, January has 31 days. February has 28 in most years, but 29 in leap years. A year has 365 or 366 days. Quarters and halves are calculated based on the aggregate months, so quarters and halves will not have equal numbers of days.
 - **Equal length**—Months consist of 30 days.
Calculated quarters and halves will have equal numbers of days. Years have 360 days.
2. In **First fiscal year in the model ends in**, define the fiscal year:
 - **Month**—Enter the last month of the fiscal year.
 - **Year**—Enter the first fiscal year.
3. Click **Next**.
See [Extended Time Period Options](#).

Handling Extra Days in a Year Made of Weeks

If you select **Weeks**, you must define how weeks aggregate, as they do not divide evenly into months, quarters and years.

To handle extra days:

1. Select an option:
 - **Adding a 53rd week as needed** to add extra weeks to the model as needed.
 - **Ignoring them so all years have 52 weeks** to discards extra days. Years in the model will contain 52 weeks.
Years contain 52 weeks/364 days.
2. Click **Next**.
See [Specify the Number of Months in a Year](#).

Specify the Number of Months in a Year

With 52-week years, you must define how months add to a year.

To select the number of months in a year:

1. Select an option:
 - **12 Months**—Use 13 weeks per quarter. Months have an unequal number of weeks.
 - **13 Months**—Use a 13-month year in which months contain the same number of weeks, and you specify the quarters that contain extra months.
2. Perform a task:
 - Click **Next** and see [Specifying the End of a 12 or 13 Month Fiscal Year](#) if you selected:
 - **Ignoring them so all years have 52 weeks** and
 - **12 Months**
 - Click **Next** and see [Specifying the End of a 12 or 13 Month Fiscal Year](#) if you selected:
 - **Ignoring them so all years have 52 weeks** and
 - **13 Months**
 - Click **Next** and see [Setting Fiscal Year End](#) if you selected:
 - **Adding a 53rd week as needed**
 - **12 Months** or **13 Months**

Specifying the End of a 12 or 13 Month Fiscal Year

To set the end of a 12 month year:

1. In **First fiscal year in the model ends in**, select:
 - **Month**—Enter the last month of the fiscal year.
 - **Year** — Enter the first fiscal year.
2. Click **Next**.
See [Assigning Weeks to Months](#).

To set the end of a 13 month year:

1. In **First fiscal year in the model ends in**, define the time period ending the year:
 - **Week**—Enter the number of the first week.
 - **Year** — Enter the first fiscal year.
2. Click **Next**.
See [Assigning Months to Quarters](#).

Setting Fiscal Year End

In a 53-week year, you must define the last day of the fiscal year, and the month and year in which the day occurs. This is used to calculate the leap year. Every year has 364 days, but the leap-week year has 371 days.

To set fiscal year end:

1. In **Day of the Week**, select the day of the week of the last day of the first fiscal year.
2. Indicate if the first fiscal year ends on the last day of the week (in a specific month) or on a day closest to the end of that month:
 - **Last occurring in the month of**—The first year ends on the last day of a month and year you choose. For example, if the year ends on Tuesday December 26, 2008, select Tuesday, Last occurring in the month of December for 2008.
 - **Closest to the end of**—The first year ends of the day of the month closest to its end. For example, selecting Tuesday, Closest to the end of: December 2007, ends the year January 2, 2008.

Required: Indicate a time:

 - In **Month**, select the month in which the first fiscal year ends or the month closest to the end.
 - In **Year**, select the first fiscal year.
3. Perform one of the following:
 - Click **Next**, and see [Assigning Weeks to Months](#) if you selected **12 Months**.
 - Click **Next**, and see [Assigning Months to Quarters](#) if you selected **13 Months**.

Assigning Weeks to Months

In **12-Month** years, months contain 4 or 5 weeks. This means the year contains at least 52 weeks. Each quarter contains 13 weeks that are divided into two 4 week months and one 5 week month. To use this configuration, define the month that contains the 5th week.

To define the 5th week:

1. From **Which month in each quarter will contain five weeks**, indicate when the 5th week occurs.

For example, if the week happens in the third month of the quarter, select **The Third Month**.

2. Click **Next**.

To add the week using the same rule that assigns weeks to years:

In **Set Fiscal Month for 53rd Week**, select **Add the extra week to Fiscal Month**, and click **Next**.

See [Extended Time Period Options](#).

Assigning Months to Quarters

A 13-month year has months that contain the same number of weeks, but it does not have an equal number of months in a quarter. In 13-month years, you must define which quarter contains the extra month.

To assign months to quarters:

1. Under **Which quarter will contain four months** indicate the quarter to contain the four months.
2. Click **Next**.

To add the week using the same rule that assigns weeks to years:

In **Set Fiscal Month for 53rd Week**, select **Add the extra week to Fiscal Month**, and click **Next**.

See [Extended Time Period Options](#).



Extended Time Period Options

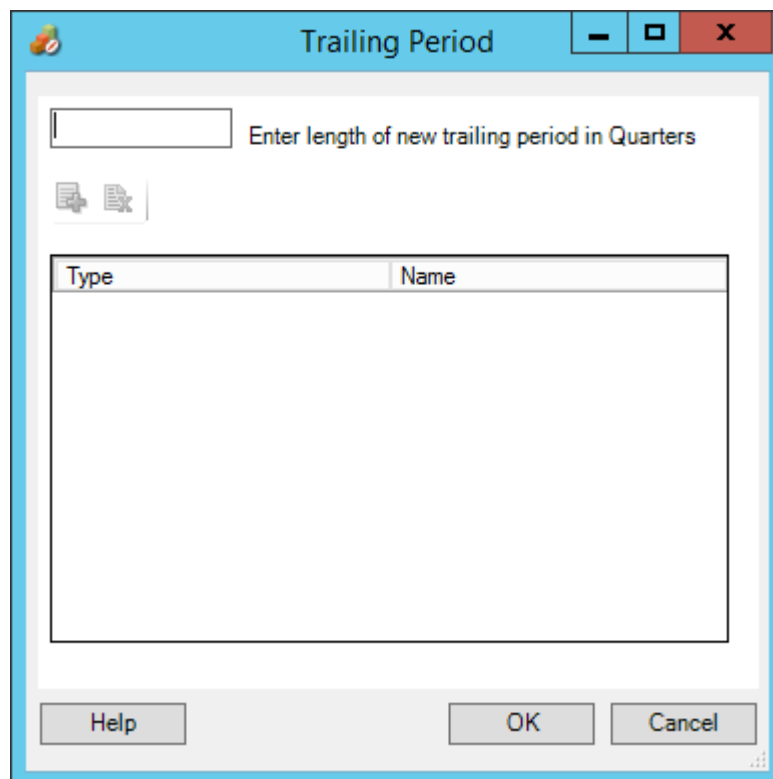
To complete the **Time Period Setup Wizard**:


1. Click **Extended Setup**, and select:
 - **Deal Periods** to create deal periods in which the balance sheet is restated to reflect merger and acquisition activity.
 - **Actual Periods** to define historical data that can be shared between scenarios.
2. Click **Finish**.

Adding Trailing Periods

To add trailing time periods:

1. In the **Strategic Modeling** ribbon, click  **Time**, and then select **Settings**.
2. In **Time Periods**, click .



3. In **Trailing Period**, enter the length of new trailing period in the box, click , and then click **OK**.


Working With Templates

When creating financial models, you select a template as the basis. Templates contain predefined financial, reporting, and modeling standards. You can customize templates to meet analysis and reporting needs. After you customize templates, use access control to restrict modifications and ensure standardization.

Saving Files as Templates

You can save any Strategic Modeling file as a template to use the modeling standards it contains in your own models.

To save files as templates:

1. Click , select the file, and then click **Open**.
2. In Strategic Modeling ribbon, click **Save As**.
3. In **File Name**, enter a name.
4. In **Save as Type**, select **Template Models (*.alt)**.
5. In **Template Name**, enter a name.

 **Note:**


Template Name is only for internal reference.

6. Click **OK**.

Customizing Templates

In templates, you can customize financial accounts, forecast methods, time periods and input values. You may want to customize account descriptions, specify input, print and group settings, and add subaccounts for additional detail. Templates also specify forecast methods, which you change to reflect user preferences and standard company or industry practice. Change time periods to represent your company's standards. There may even be cases where you want to save financial data values in a template.

To customize templates:

1. Click , select the template file, and then click **Open**.
2. In the Strategic Modeling ribbon, click **Save As**.
3. In **Save As**, enter a filename followed by `.alt`.
4. Click **Save**.
5. In **Template Name**, enter a name.

 **Note:**

Template Name is only for internal reference.

6. Click **OK**.

Customizing and Uploading Template for Use on the Web

Strategic Modeling provides you a list of pre-defined templates. Using the standard templates, you can verify the account structures that are required for your business needs, and then you can import the template and upload it for use on the Web. For *Customizing Templates*, see [Customizing Templates](#).

To upload a template for use on the Web:

1. In Oracle Smart View for Office, connect to the Strategic Modeling data source.
2. In **Smart View** panel, expand **Strategic Modeling**, and then expand **Templates**.
3. To import the template and make it available on Cloud. In **Smart View** pane, right click on the **Templates**, and then select **Import Templates**.
4. In **Source Model or Template**, navigate to the directory where models or templates are stored.
5. In **New Model Name**, enter a unique name for the model.
6. Click **OK**. By default, the model is placed at the root.

Creating a Model by Copying Another Model

To create a new model:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. Right-click **Models**, and then select **New Model**.
3. In **Copy Model From**, select an option:
 - **Model or Template in Application** to create a new model based on an existing model in the service.
 - **Local Model** to create a local model that can be checked into the service.
4. In **Source Model Templates**, browse and select a model or a template.
5. In **New Model Name**, enter a unique name for the model.
6. **Optional:** Select **Keep Source Model's Data** to allow the new model to inherit all data from the source model. If you do not select this option, the new model inherits only the account and time period structure.
7. **Optional:** Select **Place At Root** to store models at the root level. This option is used for standalone models and model structure parents only. If you do not select this option, then the model is placed as the child of another model that you select.
8. Click **OK**.

Closing Open Models

When you close an open model, you can either check in the model to save changes or discard the changes.

To close a model:

1. With a Strategic Modeling model open in Excel, select **Close** in the **Strategic Modeling** ribbon.

2. In **Close Model** select an option:
 - **Check-in**—Check in an open model that you previously checked out.
 - **Discard**—Discard changes and close the model.
 - **Cancel**—Close the **Close Model** dialog box.
3. Click **OK**.

 **Note:**

Sometimes, when a Strategic Modeling model takes a long time to calculate or check in, Excel displays a popup message, "Microsoft Excel is waiting for another application to complete an OLE action." This is expected behavior from Excel when an add in is taking a long time to complete an action. After Strategic Modeling completes its process, close the Excel message.

Moving a Model

To move models within the model structure:

1. In Oracle Smart View for Office panel, expand **Strategic Modeling**, and then **Models**.
2. Select a parent model that you want to move.
3. Right click the parent model, and then select **Edit Model Structure**.
4. In **Model Tree**, right-click the model, and then select **Move Model From Root**, and then select an option:
 - **To Parent**
 - **To Sibling**
 - **To Child**

 **Note:**

Based on your selection process the model is moved accordingly.

5. In **Move Model**, select a model that needs to be moved within the model structure, and then click **OK**.
6. Click **Close**.

Deleting a Model

Based on the permissions defined on the server, users will have access rights to delete the model.

To delete a model:

1. In the **Smart View** panel, expand **Strategic Modeling**, and then expand **Models**.
2. Select a model, right click on the model, and then select **Edit Model Structure**.

3. In the **Model Tree**, right click the model that you want to delete, and then select **Delete Model From Database**.
4. Click **Yes** to confirm the operation.

Converting Models and Reports from Strategic Finance to Strategic Modeling

You can convert models and reports from the on premise version of Oracle Hyperion Strategic Finance to Strategic Modeling for use in Oracle Smart View for Office and you can upload them for use in Strategic Modeling on the Web.

To convert a model and reports:

1. In Smart View, connect to the Strategic Modeling data source.
2. Click the Strategic Modeling tab, select **Open**, and browse to the Strategic Finance model (.alc file), select it, and then click **Open**.

The model is converted and opened in Smart View.

To convert **reports** from Strategic Finance to Strategic Modeling, in the Strategic Modeling ribbon, select **Report List**, and then click **OK**. The reports are converted and opened in Smart View.

3. On the Strategic Modeling tab, click **Save**.

In order to upload a model, you need to save it locally with a unique name.

4. To upload the model and reports and make them available on Cloud: In **Smart View** pane, right-click **Models**, and then select **New Model**.

The **Create New Model on Server** dialog is displayed.

5. In **Copy Model From**, select **Local Model**.
6. In **Source Model Templates**, browse and select a model or a template.
7. In **New Model Name**, enter a unique name for the model.
8. **Optional**: Select **Keep Source Model's Data** to allow the new model to inherit all data from the source model. If you do not select this option, the new model inherits only the account and time period structure.
9. **Optional**: Select **Place At Root** to store models at the root level. This option is used for standalone models and model structure parents only. If you do not select this option, then the model is placed as the child of another model which you select.
10. Click **OK**.

The next time you log in to your service instance, the model and any reports you updated are available.

3

Working With Financial Accounts

Related Topics

- [About Financial Accounts](#)
- [Structure](#)
- [Entering Account Data](#)
- [Working with Subaccounts](#)
- [Adding a New Sibling Subaccount](#)
- [Deleting the Subaccount](#)
- [Sorting the Subaccount](#)
- [Renaming Related Accounts](#)
- [Account Dependencies](#)
- [Using User-Defined Accounts](#)
- [Creating and Displaying Account Groups](#)
- [Dataviews](#)

About Financial Accounts

The Accounts spreadsheet displays accounts in financial models. You enter data, company and account descriptions, scenario names, time period headings, account notes, and subaccounts on the Accounts spreadsheet. Financial data consists of historical results and forecast assumptions.

With subaccounts, you can create additional accounts aggregating into total accounts, and user-defined accounts. Account groups are used to group accounts together to make them easy to find and display when doing data entry.

Structure

Input Accounts and Calculated Accounts

Strategic Modeling accounts are Input or Calculated accounts. Input accounts are for manually entering data. Calculated accounts compute values with formulas using output from other accounts. You cannot convert accounts from one type to another except for User-defined Accounts.

- [Input Accounts](#)
- [Calculated Accounts](#)

Input Accounts

You manually enter financial data into Input accounts for historical and forecast periods. In forecast periods, use forecast methods or Freeform formulas to calculate values. Forecast

methods dictate input data format in forecast periods. For example, if Sales uses the Growth Rate forecast method, you enter input data as a growth rate into the forecast periods.

Calculated Accounts

You cannot alter formulas in calculated accounts—they are fixed to retain accounting integrity. For example, the formula for the calculated account Net Income is modeled into Strategic Modeling; you cannot change it. Net Income is calculated using data entered into other Income Statement accounts.

Balance Sheet Related Accounts

Accounts relating to the balance sheet:

- [Funds Flow Accounts](#)
- [Non-Cash Adjustment Accounts](#)
- [Interest and Funding Accounts](#)

Funds Flow Accounts

All Balance Sheet accounts.

vxxxx.01.xxx

- Increase in Accounts Receivable
- Additions to Land

Non-Cash Adjustment Accounts

Selected Balance Sheet accounts only.

vxxxx.03.xxx

- Fixed Asset Retirements
- Amortization
- Non-Cash Interest

Interest and Funding Accounts

Interest bearing accounts only.

vxxxx.05.xxx and vxxxx.06.xxx

Interest on Marketable Securities

Minimum Balance on Long Term Debt

Funds Flow

All balance sheet accounts have at least one related account — Funds Flow (.01).

Funds Flow accounts measures change in the related Balance Sheet account from one period to the next. Funds Flow accounts drive the Cash Flow Reports and the Funds Flow Statement.

Related Funds Flow accounts are automatically calculated in historical periods by subtracting the Balance Sheet amount in the prior period from the current period.

Account	Activity	Value Change
v2020.00.000	Accounts Receivable (current)	\$675
v2020.00.000	Accounts Receivable (prior)	minus (-) 525
v2020.01.000	Change in Accounts Receivable	= \$150

In forecast periods, you may forecast the ending Balance Sheet amount (.0 account) or the Funds Flow amount (.1 account). Whichever you select, the other is calculated based on the forecasted account's output.

Adjustment Accounts

Some Balance Sheet accounts contain .03 adjustment accounts for increasing or decreasing the primary balance sheet account value by non-cash amounts (that is, Amortization of Intangibles decreases the Intangibles account balance).

Non-cash adjustment accounts in Strategic Modeling include amortization and retirement accounts. For example, Intangibles (2410.00.000) is a Balance Sheet account containing a related Funds Flow account, Additions to Intangibles (2410.01.000), and an adjustment account, Amortization of Intangibles (2410.03.000). When forecasting the Additions to Intangibles, the Intangibles balance increases in the forecast periods, and the balance for Intangibles decreases in the forecast periods by the amount in the adjustment account, Amortization of Intangibles.

Intangibles	v2410.00	main account
Additions to Intangibles	v2410.01	related Funds Flow account
Amortization of Intangibles	v2410.03	related Non-Cash adjustment

In some templates, asset and liability accounts have related *Acquired* cash flow accounts (v2XXX.02), representing balance sheet account changes caused by special investing transactions (For example, acquisition or mergers.)

Interest / Funding

Interest-bearing and funding accounts have related accounts for interest associated with Balance Sheet account and funding minimums.

Notes Payable	v2520.00	Main Account
Increase in Notes Payable	v2520.01	Funds Flow Account
Interest on Notes Payable	v2520.05	Interest Expense Account
Minimum Notes Payable	v2520.06	Minimum Funding Account

Entering Account Data

You enter account data (historical values, project forecast assumptions, and estimate valuation assumptions) in the Accounts spreadsheet or reports. You customize financial accounts to match financial statements you are analyzing, add account detail, change the order in which accounts display, and select accounts for display in reports. To enter negative values, start the value with a minus sign (-).

Changing Account Names

In Strategic Modeling, financial accounts have standard names. You can modify them to reflect descriptions in your analysis by entering names over those in the Accounts spreadsheet. Name changes appear in all reports.

Data Formats

Strategic Modeling reliably stores and manipulates numbers containing up to 16 significant digits, before and/or after the decimal point. You can change the number of decimal places displayed.

Entering '#' or '##' Overrides


On the Strategic Modeling spreadsheet, you can enter '#' or '##' into a cell to override current values.

Note:

The '#' and '##' overrides are not valid for use within historical time periods unless those periods are calculated using Freeform Formulas.

Overriding Missing Cell Values With Zero

To override missing cell values with zeros during overrides:

1. In Oracle Smart View for Office ensure that you are on the **Smart View** tab.
2. Click , and then select **Data options**.
3. From **#NoData/Missing Label**, select **#NumericZero**.
4. Select **Submit Zero**, and then click **OK**.

Submitting Data

From the **Data** grouping label, click **Submit Data** to save the data back to the Strategic Modeling provider.

Note:

You can click **Calculate** to save the data.

Note:

Data are not permanently saved until the models are checked-in to the database.

Finding and Replacing Data

To use **Find and Replace**:

1. From any Strategic Modeling view, select the **Accounts** view.
2. Select **Edit**, and then **Find & Replace**.
3. In **Search For text**, enter a term, which can be words, numbers, or a combination of words and numbers.
4. Select one:
 - **Find**—Locates the term.
 - **Replace With**—Locates and replaces the term with another.
5. Under **Search**, select either:
 - **All**—Search the entire model.
 - **Range**—Search part of the model.
6. **Optional:** Select **Match case** to make the action case-sensitive.
7. Click **OK**.
8. Perform an action:
 - Click **Replace** to replace one instance of the term.
 - Click **Replace All** to replace all instances of the term.
 - Click **Find Next** to skip an instance.
 - Click **Close**.

Deleting Cell Text

To delete notes:

1. Select **Accounts**.
2. Select cells or accounts containing notes.
3. Select **Accounts**, then **Cell Text**, and then **Delete**.

Protecting Account Input Status

You can change the input status of accounts. Turn **OFF** accounts that are not in use.

 **Note:**

To maintain accounting integrity, Strategic Modeling does not enable you to turn 6 input accounts off. These accounts are on: Gain on Sale of Assets (1170), Unrealized Tax Benefit of Losses (1620), Excess Marketable Securities (2015), L-T Debt: Excess (2690), Unrealized Benefit of Tax Loss (3242), and Proceeds from Asset Sales (4000).

To write protect accounts:

To turn **OFF** accounts are not in use or turn **ON** the account input status:

1. From the Strategic Modeling spreadsheet, select **Account Input Status**.
2. Select the **Accounts** tab.
3. Change the input status of accounts:

- **Input enabled**
To enable input, select accounts in the list.
 - Turn **OFF** accounts
You can change the input status of an account by not selecting the accounts from the list. However, by doing this, you can turn **OFF** accounts are not in use.
4. **Optional:** To find accounts, enter text or numbers to search.
 5. **Optional:** Select **Show selected accounts only** to view the selected accounts list.
 6. **Optional:** To change historical averages, see [Changing the Historical Averages of Accounts](#).
 7. Click **OK**.

Changing the Historical Averages of Accounts

To change historical averages of accounts:

1. From the Strategic Modeling spreadsheet, select **Account Input Status**.
2. Select the **Historical Average** tab.
3. In the **Accounts** column, locate the account row.
4. In the **Historical Average** column, select an option for the account row:
 - **Default**
The default historical average is taken from the **Years for Historical Average** setting in **Time Periods**. That is applied to all accounts in the model, unless overwritten here.
 - **All**
Includes all time periods in the model in the historical average.
 - **Any number**
There is a number for each time period in the model. Select one, and the historical average includes periods from the beginning up to that number.
5. Click **OK**.

Working with Subaccounts

You create subaccounts for additional input detail in main accounts. For example, you can add subaccount SG & A Expense (1080) to display two different expense categories: SG & A Expenses (1080.00.010) and Research & Development (1080.00.020). Subaccounts inherit attributes of main accounts in both historical and forecast periods.

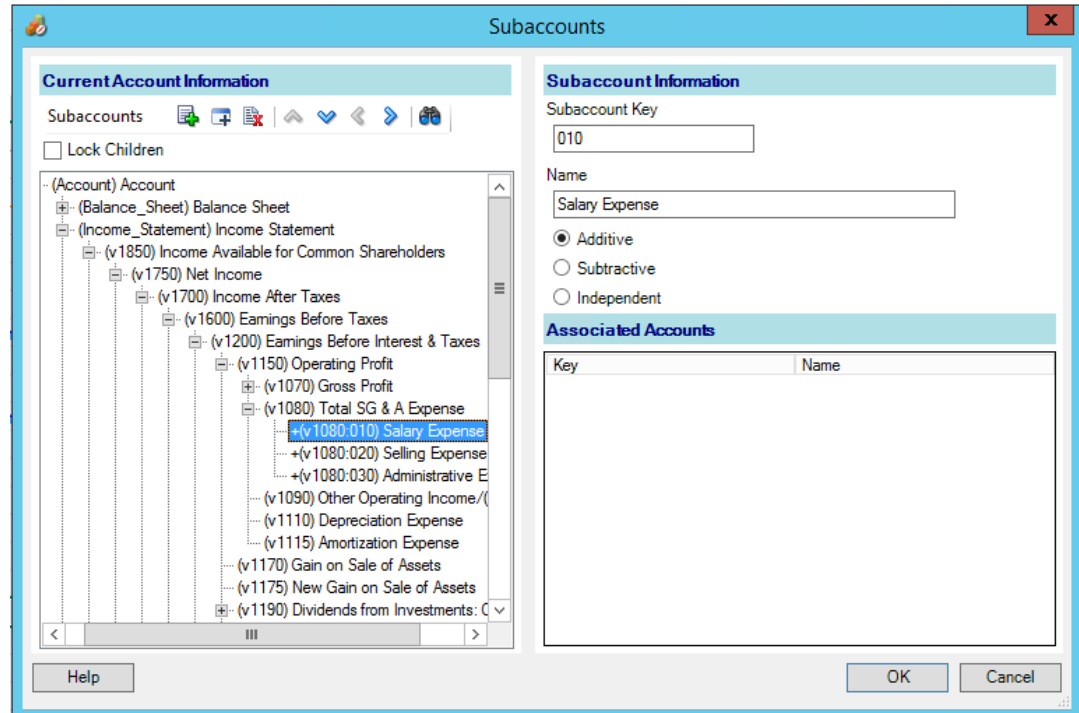
Adding and Maintaining Subaccounts

When you divide Income Statement accounts, you produce one subaccount. When subaccounting Balance Sheet accounts (2000 level), related accounts are automatically subaccounted.


Subaccounts add detail to the standard financial accounts. Each subaccount appears in the Accounts spreadsheet and in respective financial statements. When you subaccount a financial account that has related accounts, all of the related accounts are subaccounted automatically.


To add subaccount:


1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. Select an **Account** by placing your cursor on an account. For example, select **Salary Expense** account in the account view or a standard report.
3. From the **Account** grouping label, click **Subaccounts**. The subaccount dialog displays the **Salary Expense** account information.



4. In **Current Account Information**, select a main account.

List of all available main accounts are displayed. Click  to search accounts. In **Search for**, enter the first few characters of the account name or enter account ID.

5. In **Current Account Information**, you can add an account by selecting any descendant account member, and then click .

The newly created subaccount is based on the current active account selection in the account list. New Sibling subaccount  is enabled when active account is a subaccount. Upon creating a new subaccount, you can add a new sibling subaccount for the current active subaccount selection in the list. See [Adding a New Sibling Subaccount](#)

6. In **Subaccount Information**, enter a **Subaccount Key**.

Keys can contain alphanumeric characters only.

7. In **Subaccount Information**, enter a subaccount name or description.

You can modify individual subaccount name or description, later the modified name or description is displayed in the account view.

8. Select an account type: **Additive**, **Subtractive**, or **Independent**.

9. **Optional:** Select **Lock Children** option, which enables you to avoid further addition of subaccounts to calculated account hierarchy list, and then click **OK**.

Modifying Subaccount Descriptions

You can edit subaccount descriptions.


To modify subaccount descriptions:

1. From the **Account** grouping label, and then select **Subaccounts**.
2. In **Subaccounts**, select a subaccount.
3. In **Subaccount Information**, enter a new subaccount name or description.
4. Click **OK**.

Modifying the Subaccount Key


If the **Subaccount Key** is changed then all data associated to the subaccount is maintained with the new key. Most of the subaccount data such as: account descriptions, forecast methods input values, UDA attributes, custom settings, funding options settings, scenarios, graphing, dimensions, report information, and formula references will change accordingly to maintain the new key.

Adding a New Sibling Subaccount

After creating a new subaccount, you can add a new sibling subaccount for the current active subaccount selection in the list. The New Sibling subaccount  icon gets enabled when the active account is a subaccount.

The newly created sibling subaccount are based on the current active subaccount selection in the account list.

To add new sibling subaccount:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. From the **Account** grouping label, select **Subaccounts**.
3. From the account list, select an active subaccount, click .
4. In **Subaccount Information**, enter a **Subaccount Key**.

Keys can contain alphanumeric characters only. The key must be unique.

5. In **Subaccount Information**, enter a subaccount name or description.

In **Subaccount** dialog, you can modify individual subaccount name or description. Later, the modified name or description is displayed in the account view.

6. Select an account type: **Additive**, **Subtractive**, or **Independent**.
7. **Optional:** Select **Lock Children** option, which enables you to avoid further addition of subaccounts to calculated account hierarchy list, and then click **OK**.

Deleting the Subaccount

To delete subaccount:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. From the **Account** grouping label, select **Subaccounts**.
3. In **Subaccounts**, select the subaccount that you want to delete.





 **Note:**

If you delete the subaccount, all of the child accounts under that subaccount hierarchy will be deleted.

4. Click .


Sorting the Subaccount

To reorder subaccounts:

1. Access the Strategic Modeling ribbon in Microsoft Excel
2. From the **Account** grouping label, and then select **Subaccounts**.
3. In **Subaccounts**, select the **Subaccount** that you want to move. Perform an action:
 - a. Click  to move the subaccount upwards.
 - b. Click  to move the subaccount downwards.
 - c. Click  to move the subaccount inwards.
 - d. Click  to move the subaccount outwards.

Renaming Related Accounts

To rename related accounts:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. From the **Accounts** view, select an **Account**, and then click .
3. In **Find what**, enter an account name to rename.
 - a. Click **Find Next** to find the account.
 - b. **Match whole word only**—Displays the exact word or phrase.
 - c. **Match case**—Makes the task case-sensitive.
4. In **Replace with**, enter an account name.
5. Perform an action:
 - a. Click **Replace** to replace the only account name currently shown.
 - b. Click **Replace All** to replace account name instances with the new name.
6. Click **OK**.

Account Dependencies

Using Analyze

Analyze drills down from the account line or the output line on the **Accounts** spreadsheet to see how the value is calculated. The heading displays the model name and current scenario as follows:

Analyze <model or file name>(<scenario name>)

To use Analyze:

1. From the **Data** grouping label, click **Audit Trail**.
2. Highlight an account or value.
3. Double-click the cell.

 **Note:**

By default, if you do not click **New or Current** button, and then double-click on the value within the cell. The information display within the current dialog.

If you click **New or Current** button, and then double-click on the value within the cell. The information display in a new analyze dialog.

4. **Optional:** Click a toolbar button to analyze different account elements:
 - **Forecast**—Access **Forecast Method**—See [Accessing Forecast Methods](#).
 - **User-Defined Accounts**—Access **User-Defined Accounts**—See [Using User-Defined Accounts](#).
 - **Optional:** Click **Back** to revert the changes performed on the **Analyze** dialog box.
 - **Optional:** Click **New/Current** to view the data in a separate dialog box.
 - **Optional:** Click **Close All** to exit the **Analyze** dialog box.
 - **Optional:** To find accounts, click **Find Accounts**.

 **Note:**

When you drill down to **Account Input**, you can change historical and forecast values. Be sure to recalculate for input changes and save to retain the data.

 **Note:**

Valid values in conditional statements are highlighted.

5. Close the initial **Analyze** dialog box.


Using Where Used

Where Used is a forward audit trail, identifying the accounts that depend on other accounts. You select accounts and calculate all scenarios, and Where Used tracks the accounts using the selected accounts.

To use Where Used to identify account dependencies:

1. From the **Accounts** spreadsheet, select **Accounts**, and then **Where Used**.
2. **Optional:** To list only financial accounts in **Available Accounts**, select **Show Accounts Only**.

If this option is not selected, informational accounts such as Company Name and Default Currency are displayed.

3. In **Available Accounts**, select an account and click .
4. **Optional:** To limit the calculation to only the scenario currently selected in the model, select **Calculate Current Scenario Only**.
5. Click **Run**.
6. In **Where Used**, view dependent accounts.
7. **Optional:** To store the results as a .txt file, click **Save**.

Using User-Defined Accounts

Three types of user-defined accounts add flexibility to your analysis:

- Memo Accounts—Create additional detail in the financial accounts. See [Using Memo Accounts](#)
- The Custom Ratio—Create additional ratios for your analysis. See [Using Custom Ratio Accounts](#).
- Debt Covenant—Define measures within Custom Ratios testing against performance standards (debt covenants). See [Using Debt Covenant Accounts](#).

Using Memo Accounts

Memo Accounts calculate and store data for formulas other accounts. There are 20,000 possible memo accounts in Strategic Modeling—(300.00.000, 305.00.000... 395.00.000). You assign relationships between Memo Accounts and other accounts as needed—they initially have no account relationships.

For example, you could use two Memo Accounts to model annual sales based on a price vs. quantity relationship. You enter the price of the item in one Memo Account, and the quantity sold in the second. To see the result of this relationship, you create a Freeform Formula in the Sales Account (v1000) multiplying the two Memo Accounts.

Each of the 20 Memo Accounts can be subaccounted 999 times, for a total of 19,980 possible Memo Accounts containing additional account details necessary to complete your analysis.

Memo Accounts and their subaccounts both enable:

- Changing account descriptions
- Entering data
- Changing forecast methods
- Attaching account notes

You can turn the display of Memo Accounts on and off from **Account Input Status**. Memo accounts are not used in calculations on financial statements unless you reference them in a forecast method or historical formula.

To use Memo Accounts:

1. Select **Accounts**, and then select **User Defined Accounts**.
2. In **Select Account**, select **Memo**.
3. From the drop-down, select an account.

To add Memo Accounts or change their names, do so from the Subaccounts dialog box.

4. Select the **Output Type**:

- **Currency**
- **Items**
- **Percent**
- **Ratio**

 **Note:**

When you select **Calculated in formula in all periods**, all Output Types are available. If you select Input in history, the Output Types are limited to Currency and Items.

5. **Optional:** If the **Output Type** is **Currency** or **Items**, the account output values can be shown in a denomination other than the Default Currency Units.

Override the default setting by selecting an **Output Units** option:

- Ones
- Tens
- Thousands
- Millions
- Billions
- Trillions

6. In **Value**, specify how to enter data values. For example, select **Calculated in formula in all periods** to input formulas.

7. Specify the **Aggregate Period Value** option:

- **Last interim period value** (such as Balance Sheet)
- **Sum of interim periods** (such as Income Statement)
- **Weighted average** based on the financial account that you select from the account drop-down list. (such as Discount Rate)
- **None** applies the formula in aggregate periods. (such as Ratios)

 **Note:**

These rules also apply to the calculation of dimensional parents.

8. Select the **Output Type**:

- **Currency**
- **Items**
- **Percent**
- **Ratio**

 **Note:**

When you select **Calculated in formula in all periods**, all Output Types are available. If you select Input in history, the Output Types are limited to Currency and Items.

9. **Optional:** If the **Output Type** is **Currency** or **Items**, the account output values can be shown in a denomination other than the Default Currency Units.

Override the default setting by selecting an **Output Units** option:

- Ones
- Tens
- Thousands
- Millions
- Billions
- Trillions

10. Click **OK**.

Using Custom Ratio Accounts

Strategic Modeling automatically calculates 34 ratios. You can also use 10 Custom Ratio accounts (6400.00.000 through 6445.00.000) for customized calculations. Use Custom Ratio accounts to enter formulas that are used to calculate your own ratios. Custom Ratio accounts can be subaccounted 999 times to create additional Custom Ratios.

The Financial Ratios report displays all ratios calculated in an analysis. Custom Ratio accounts are displayed at the bottom, enabling you to distinguish between ratios defined by Strategic Modeling and your individual ratios.

Formulas that you can use to create Custom Ratios are similar to the Freeform Formula forecast method. You can use constant numbers or values from other accounts in Custom Ratio formulas. You can also use different functions in the formula.

To use Custom Ratio accounts:

1. From the **Account** grouping label, select **User Defined Account**.
2. In **User Defined Account**, select **Ratio**.
3. From the drop-down list, select a ratio account.

To add ratio accounts or change descriptions, access the **Accounts** view spreadsheet or **Subaccount Options** dialog box.

4. Select the **Output Type**:
 - **Currency**
 - **Items**
 - **Percent**
 - **Ratio**

 **Note:**

When you select **Calculated in formula in all periods**, all Output Types are available. When you select **Input in history**, Output Types are limited to **Currency** and **Items**.

5. **Optional:** If the **Output Type** is **Currency** or **Items**, the output value of the account can be shown in a denomination other than the Default Currency Units.
Override the default setting by selecting an **Output Units** option.
6. In **Value**, select **Calculated in formula in all periods** to input formulas, using **Accounts** and **Functions** tabs.
7. Specify the **Aggregate Period Value** as an option:
 - **Last interim period value** (such as Balance Sheet)
 - **Sum of interim periods** (such as Income Statement)
 - **Weighted average** based on the financial account you select from the account drop-down list. (such as Discount Rate)
 - **None** applies the formula in aggregate periods.
8. Click **OK**.

Using Debt Covenant Accounts

In Strategic Modeling, you can establish measures testing a model's ability to meet performance standards. Use user-defined Debt Covenant accounts to enter your debt covenant requirements for testing models.

Each of the five Debt Covenant accounts (v6500, v6505, v6510, v6515 and v6520) can have up to 999 subaccounts to accommodate all the covenants in your analysis.

To accommodate the required inputs and outputs for covenant tests, each Debt Covenant account has two related accounts, for a total of three related accounts:

- **Test** (.00): Accommodates the covenant test parameter.
- **Actual** (.01): Accommodates the actual performance equation.
- **Result** (.02): Accommodates the difference between the test parameter and the actual performance equation.

When you subaccount Debt Covenant accounts, all related accounts also receive subaccounts, enabling you to automatically create additional Debt Covenant Test Parameter accounts, actual performance equation accounts, and result accounts.

Debt Covenant accounts are accessible from the User Defined Accounts dialog box, so that the output type and units can be selected (for example, currency in millions). Debt Covenant accounts are displayed on the bottom of the Funding Analysis Report. You can insert the Debt Covenant accounts on reports by using the Edit, Insert command.

- [Covenant Test Parameter Account](#)
- [Actual Performance Equation](#)
- [Covenant Result Account](#)
- [Entering Covenant Test Parameters](#)
- [Entering Covenant Actual Performance Equations or Result Formulas](#)

Covenant Test Parameter Account

This input account is accessible from the Accounts Spreadsheet view or the Account Input dialog box. Enter a test parameter amount for each period in the file (such as Working Capital of \$200 million in 1995, \$250 million in 1996, and so on). You can enter different test parameters from period to period. In the User Defined Account dialog box, you can select the output type and units.

Actual Performance Equation

This account is accessible from the User Defined Accounts dialog box. Enter formulas measuring the actual performance of the analysis. (For example, Working Capital = Current Assets - Current Liabilities, using the formula v2100 - v2600). Select the output type and units.

Covenant Result Account

This account, accessible from the User Defined Accounts dialog box, calculates the difference between the test parameter and actual performance results. It measures the result of how the model performs relative to the covenant test. To model a minimum test (for example, Minimum Working Capital), enter a formula that requests the *Actual-Test* accounts:

(v65xx.01 - v65xx.00).

Results are displayed as a negative numbers if covenants are not met (the actual is less than the test parameter).

To model maximum tests (for example, Minimum Debt/Equity), enter formulas representing, the *Test-Actual* accounts:

(v65xx.00 - v65xx.01).

Results are displayed as negative numbers if covenants are not met, (the and actual is greater than the test parameter).

Entering Covenant Test Parameters

To enter covenant test parameters:

1. On **Accounts**, select the Covenant Test accounts (v6500.00 - v6520.00).
2. Change the account name to match your analysis.
In this example, change the name to *Working Capital Test* and change the two related account names to *Working Capital Actual* and *Working Capital Result*.
3. Using **Account Forecast**, change the forecast method to reflect the test parameter data format.
In the example, enter or forecast working capital in **Specified Currency**.
4. Enter the test parameter data in all periods.
In the example with four years, enter 100, 150, 200, and 250, respectively.
5. Select **Accounts**, and then **User Defined Accounts**.
6. In **User Defined Accounts**, select **Covenant**, and then select **Working Capital Test**.
7. Select the **Output Type (currency)**, and then select **Output Units**.

Entering Covenant Actual Performance Equations or Result Formulas

To enter covenant actual performance equations or result formulas:

1. Select **Accounts**, and then select **User Defined Accounts**.
2. In **User Defined Accounts**, select **Covenant**, and then select **Working Capital Actual**.
3. In **Value is**, leave the setting at **Calculated by formula in all periods**.
4. Enter a formula for the covenant under **Formula** tab, using the same formula format as in **Custom Ratios**.


You can also enter ratio accounts in formulas. For this example, enter this formula: v2100 - v2600.
5. Select **Output Type (currency)** and **Output Units**.

Creating and Displaying Account Groups

Use Account Groups to manage accounts in bulk. For example, you can create a group containing all Income Statement accounts with data input. You also use Account Groups to select which accounts currently display on the **Accounts** view.

Creating Account Groups

To create account groups:

1. On Strategic Modeling ribbon, select **Account Groups**.
2. In **Account Groups**, select **General** tab.
3. Click .
4. In **Type of New Group**, enter a **Name**, and select an option:
 - **List of Accounts**—Creates groups of accounts.
 - **List of Groups**—Creates groups of account groups.
 - **Separator**—Creates a line to separate groups in a list.
5. Click **OK** to exit.
6. **Optional:** To change the group display order in **Available Groups**, select a group and click the up and down arrows.
7. In **Default Dataview**, select the dataview for display by default when accessing the group.
8. **Optional:** Click **Hide Group from Filter List in Accounts View** to hide the group on the **Accounts** view.
9. Click **OK**.

Adding Accounts to Account Groups

To add accounts to account list:

1. Create an account group.
See [Creating Account Groups](#).
2. On Strategic Modeling ribbon, select **Account Groups**, and then select **Account List** tab.
3. In **Group**, select a group.
4. **Optional:** You use permission groups to allow an administrator to set access permissions for all accounts in the group, select **Permission Group**.

Assign the account group to the user group.

5. In **Available Accounts**, select and add accounts to the group in **Selected Accounts**.

 **Note:**

This box lists accounts belonging to groups. Accounts appear on the **Accounts** view in the order they appear in this list.

Add accounts as follows:

- In **Available Accounts**, double-click on accounts.
 - In Find Account, enter text or numbers to search.
6. **Optional:** Reorder selected accounts as they display in the **Accounts** view by selecting accounts in **Selected Accounts**, and clicking the up and down arrows.
 7. **Optional:** Specify how to display subaccounts by selecting the following options:
 - **None**—Displays only main accounts.
 - **All Input Accounts**—Displays only input subaccounts, not main accounts or subtotaled subaccounts.
 - **All Input and Main Accounts**—Displays input subaccounts and main accounts, not subtotaled subaccounts.
 - **All**—Displays input subaccounts, main accounts, and subtotaled subaccounts.
 8. **Optional:** Specify dimension display from **Dimensions**:

Dimensions determine the display of dimensions when adding main accounts. Available only when **All** subaccounts are selected in **Subaccounts**:

 - **None**—Displays no dimensions.
 - **All Input Accounts**—Displays input dimensions, not main dimensional accounts or subtotaled dimensional subaccounts.
 - **All input and Main Accounts**—Displays input dimensions and main dimensional accounts, not dimensional subtotaled subaccount.
 - **All**—Displays input dimensions, main dimensional accounts, and subtotaled dimensional subaccount.
 9. **Optional:** Select **Include subaccounts for user-defined accounts** to add the subaccounts of user-defined accounts.
 10. **Optional:** Select **Include accounts that have been turned off** to add inactive accounts.
 11. Click **OK**.

Creating Groups of Accounts

To create groups of account groups:

1. Create an account group.
See [Creating Account Groups](#).
2. On the Strategic Modeling ribbon, select **Account Groups**.
3. From **Account Groups**, select **Groups Containing Groups** tab.
4. In **Group**, select the name of the new group.

5. In **Available Groups** select and add accounts to the group in **Selected Accounts**.
6. Click **OK**.

Displaying Account Groups

After you create account groups, they are available in the **Accounts** view.

To display account groups, from the POV bar, select **Account Groups**, and then click **Refresh**.

Dataviews

Dataviews filter and manipulate the amount of data displayed on the **Accounts** view, and you select them from **Dataview**.

There are three dataviews:


- **Standard**—displays standard accounts.
- **Input Only**—displays input accounts.
- **Output Only**—displays output accounts.


You can create custom dataviews displaying data according to your needs.

Creating and Maintaining Dataviews

You modify and create dataviews in **Create Dataview**.

To create and maintain dataviews:

1. From the **Edit** grouping label, click **Dataviews**.
2. To create dataviews, click .
3. Select **Display Group Header as Titles** to display Account Group headings.
4. Select **Hide Input Row if a Calc Account** to conceal input rows of calculated accounts.
5. Select **Hide Forecast Row if a Calc Account** to conceal forecast methods of calculated accounts.
6. Select **Hide Calculated Time Period Column** to conceal the calculated time period details.
7. Select account attributes:
 - **Available Account**

Select attributes in the **Available Account** column, and then click  to include it in the dataview.

 - **Output Row**—Display outputs
 - **Input Row** —Display inputs
 - **Selected Account Attributes**—Display or remove account attributes
8. Select time periods to be displayed:
 - **All Time Periods**
 - **Only History**
 - **Only Forecast**

- **Set Time Range**


Displays periods in a specified range:

- In **Beginning Boundary**, enter a formula to set the first period in the range.
- In **Ending Boundary**, enter a formula to set the last period in the range.

9. Click **OK**.

Renaming Dataviews

To rename dataviews:

1. From the **Edit** grouping label, click **Dataviews**.
2. In **Dataview**, click , enter a name in the **New Name** field, and then click **OK**.

4

Forecasting

Related Topics

- [About Forecast Methods](#)

About Forecast Methods

You can create your own, or use the forecast methods provided to project account values in forecast periods.

Accessing Forecast Methods

To access **Forecast Method**:

1. Select an **Account**, and place your cursor on an account.
2. From the **Account** grouping label, click **Account Forecast**.

Entering Data for Predefined Forecast Methods

As An Actual Value

Enter data as the actual value as defined by the default currency units.

Growth Rate

You can enter an annual or a periodic growth rate. For example, for Sales growth of 10% per year, enter a 10 for the forecast period input.

Growth Rate (Year over Year)

Enter data as a growth rate over the same period one year prior. For example, if January 2003 Sales are to be 5% higher than January 2002 Sales, enter 5 in January 2003.

Percent of Another Account

Enter data for one account as a percent of another account (Associated Account) in the same period. For example, for Cost of Goods Sold as 46% of Sales, enter 46 for the forecast period input.

If you select this option, you must specify the Associated Account specified in the Forecast Method dialog.

Caution:

When calculating an account, you may get a message that says you can not use the Associated Account specified because it is calculated after the main account. For example, to enter Cash as a percentage of Total Assets, you must use the forecast method called Percent of Prior Period Account.

Days

Enter data for an account as the number of days (typically of sales or cost of goods sold) that this item represents. It is most commonly used for working capital balances, such as receivables and payables forecasting.



Note:

When forecasting using the Days method, do not select **Increase in method** on the Account Forecast dialog.

If you select this option, you must specify the Associated Account, which you select in the Associated Account section of the Account Forecast dialog. The Annualize Associated Account option is automatically turned on and the **Input is...** section is set to Annual. Strategic Modeling uses the correct time period handling in this calculation (That is, monthly A/R is calculated based on annualized sales, and so on.).

So, if you elect to forecast Accounts Receivable in Days of Sales, your Accounts Receivable balance is calculated as follows in each forecast period:

$(\text{Input for Days} / \text{No. of Days in Period}) * \text{Sales} = \text{Accts. Receivable Balance}$

Turns

Enter data for an account as the number of turns (how often the balance turns over) this item represents. This method is most commonly applied to inventory forecasting.



Note:

When forecasting using the Turns method, do not select the Increase in method in the Forecast section in the Forecast Method dialog.

If you select this option, you must specify the Associated Account, which you select in the Associated Account section of the Forecast Method dialog. The Input is... section is automatically set to Periodic. If you select this option, you must specify the Associated Account, which you select in the Associated Account section of the Forecast Method dialog.

If you choose to forecast Inventories using the Turns method and you select Cost of Goods Sold as the Associated Account calculation, your Inventories balance is calculated as follows in each forecast period:

$\text{Annualized Value of Cost of Goods Sold} / \text{Input for Turns}$

Absolute Multiple of Another Account

Enter data for one account as an absolute multiple of another account (Associated Account) in the same period. This method is primarily used for price/quantity forecasting. For example, you might forecast unit volume (100 million units) in a Memo Account (v300) and calculate revenue as a unit price of \$50 (absolute multiple) times unit volume in the Memo Account (v300).

If you select this option, you must specify the Associated Account, which you select in the **Associated Account** section of the **Forecast Method** dialog.

Default Multiple of Another Account

Enter data for one account as a default currency unit multiple of another account (Associated Account) in the same period. This method is also primarily used for price/quantity forecasting. For example, you might forecast unit volume (10 units) in a Memo Account (v300) and calculate revenue as a unit price of \$20 million (default multiple) times unit volume in the Memo Account(v300).

If you select this option, you must specify the Associated Account, which you select in the Associated Account section of the Forecast Method dialog.

Selecting Predefined Forecast Methods

See [Accessing Forecast Methods](#).

To select predefined forecast methods:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. Select an **Account** by placing your cursor on an account.
3. From the **Account** grouping label, click **Account Forecast**.
4. On the **Forecast Method**, under **Forecast type** select **Standard** from the drop-down.



Note:

Ensure that you select **Freeform** type to apply the Freeform formula. See [Using Freeform Formulas](#).

5. In **Forecast Method**, select a method to determine the format of your input data.
See [Entering Data for Predefined Forecast Methods](#).
6. **Optional:** Select **Input** if the account being forecast is **Annual** or **Periodic**. This input is useful when forecasting items such as interest rates.
7. **Optional:** Select an **Associated Account** to select the value to use for the Associated Account output.
8. In **Take Associated Account's output value from**, select the value to use for the Associated Account.
9. Select **Match Dimensions** to match the dimension of the associated account with the dimension of the account being forecast.

For example, to forecast Cost of Goods Sold/Product XX/Region YY as a percent of Sales/Product XX/Region YY, choose Sales as the associated account and select Match Dimensions.
10. **Optional:** Select **Lag to Prior Input Period** if you are forecasting a balance account. You can forecast the ending balance or the change in the ending balance from the prior period.
11. **Optional:** Select an **Associate Account Value is** option.
12. **Optional:** Select a **Forecast input period values are** option.

 **Note:**

If you select **Equal to the historical average**, you do not need to enter a value.

13. **Optional:** Select **Using Grid Pricing**, and then click **Edit Grid** to indicate that the input for this field varies, enabling you to increment or decrement a contract interest rate based on selected criteria. See [Using Grid Pricing](#).
14. **Optional:** Select **Spread Over Another Account**, and then select the **Spread Account** to add the input value to another account's output value to compute the final input value.
15. Click **OK**.

Entering Forecast Methods as Freeform Formulas

To enter a Freeform Formula:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. Select an **Account** by placing your cursor on an account.
3. From the **Account** grouping label, click **Account Forecast**.
4. On the **Forecast Method**, under **Forecast type** select **Freeform** from the drop-down.
See [Accessing Forecast Methods](#).
5. In **Formula**, enter Freeform formulas to calculate the output values for the selected account. Using the account and function tabs, you can create Freeform Formulas using standard math operators.
See [Using Freeform Formulas](#).
6. In **Method Description**, enter formula descriptions for display.
7. **Optional:** In **Input** select the format of the input data. Input data used in the Freeform formula is entered in the Accounts view or in the Account Input dialog:
 - **Currency**
Enter input data using the option set in the **Currency**.
 - **Items**
Enter input data using option set in the **Units**.
 - **Percent**
Enter input data as a percentage. Useful for tax rate formulas.
 - **Ratio**
Enter input data as a ratio.
 - **Days**
Enter input data as a number of days. When this input type is chosen, the input must be multiplied by another account to produce the output value.
 - **Turns**
Enter the input data as the number of turns. The input must be multiplied by another account to produce the output value.
8. **Optional:** Select the data **Units** specifications such as, Thousands or Millions.
9. Select **Use in History** to use Freeform formulas in historical periods.

For example, you may select **Use in History** to calculate Sales as Price x Quantity in both history and forecast.

If this option is not selected, the Freeform formula is used only in forecast periods and historical data must be input separately.

10. Select **Allow Overrides** to enable currency overrides in input fields.

In input periods, the selected input method can be overridden to enable input of that period's value as Default Currency/Items. To override the input method, enter a pound sign (#) before or after the number.

11. Click **Apply to...** to display the Forecast Method Options dialog.

 **Note:**

Displays the subaccounts and dimensional children.

12. Select the required accounts, which will contain the new freeform formula to be applied on it.

 **Note:**

- If a subaccount is selected, and if you click **Select Children**, all children of the main account and the selected subaccounts are selected. The children of each subaccount is handled strictly based on whether that subaccount is selected.
- For all subaccounts selected, you can act upon their children by performing **Select Children** and **Deselect Children** options.
- Both **Select All Subaccounts** and **Select Children** buttons are mutually exclusive.

13. Click **OK** to apply changes to the selected accounts.

 **Note:**


- After you click **OK** on the Forecast Method Options dialog the changes cannot be reverted.
- Selecting **Cancel** on the Forecast Method dialog will only cancel changes to the account that was selected when the dialog was instantiated.

Using Grid Pricing

Grid Pricing enables you to model varying interest rates over time by incrementing or decrementing rates based on company performance against a metric.

To use grid pricing:

1. Select an account and select **Account Forecast**.
2. From **Forecast Method**, select **Standard**.

3. Select **Use Grid Pricing**.
4. Click **Edit Grid**.
5. In **Base Grid Pricing on**, select a criteria account.
This account becomes the metric for measure.
6. In **Comparison to use**, select how to compare to the criteria account.
7. In **Adjust by**, select an adjustment type.
8. In **Reprice**, select the frequency of calculation. The system adjusts rates at the beginning periods.
9. In the **Grid Pricing** table, click  to create rows. Then enter values:
 - **Criterion in Millions of Dollars** in this column, enter the value of the criteria in the same scale as the account.
 - **Adjustment in Percent** in this column is the effect on the rate, as a decimal. For example, if the rate increases a quarter of a point, enter .25.
 - To delete, select a row and click **Delete**.
 - To reorder, select a row and click the up and down arrows.
10. Click **OK**.

5

Using Time Periods

Related Topics

- [About Time Periods](#)
- [Settings the Time Periods](#)
- [Creating and Distributing Period-to-Date and Trailing Periods](#)
- [Managing Deal Periods](#)
- [Changing the Fiscal Year End](#)

About Time Periods


You create time periods with detail required by financial models. You can combine periods of years, weeks, months, quarters, and halves for historical and forecast data. You can create period-to-date, trailing periods, transactions reporting, deal periods and subperiods.

Using Time Periods dialog you can modify time period structure and settings. You can select last historical periods, add or delete periods, change time details, change period labels, select periods to display, and insert periods-to-date or subperiods.

Settings the Time Periods

When you create Strategic Modeling models, you define the number and type of time periods such as: weeks, months, quarters, halves, and years. Later, you can modify and add time periods, to enhance financial models.

To define time periods:



1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. In the **Strategic Modeling** ribbon, click  **Time** ▾, and then select **Settings**.
3. In **Time Periods**, perform these tasks:
 - Add Years—See [Adding Years](#)
 - Delete Years—See [Deleting Time Periods](#)
 - Edit Years—See [Changing Time Period Details](#)
 - Period To Date—See [Creating Period-to-Date Subperiods](#)
 - Sub Period—See [Adding Sub Period](#)
 - Trailing Period—See [Adding Trailing Time Periods](#)
4. The **Period** list displays this information:
 - **Period**—Name of the period when displayed on the **Accounts** view and in reports.
 - **ID**—Code name internally used to reference the period.
 - **Display**—If status is provided in reports.
 - **Input**—If users can enter data for trailing periods.

5. In **Last Historical Period**, you select a year to be the last historical year of the model.
6. In **Years For Historical Average**, you enter a number to define the number of historical years in the model.
7. In **Base Period**, you select a year to be the base period of the model.
8. Click **OK**.

Adding Years

You can add years to the beginning or end of the model, and you can select the detail of the years.



To add years to time periods:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. In the **Strategic Modeling** ribbon, click  **Time** ▾, and then select **Settings**.
3. On **Time Periods**, click .
4. In **Number of Years**, enter a year from 1950 to 2100.
5. Select a **Where** option, and indicate whether you are adding years at the **Beginning** or **End** of your model.
6. In **Details**, define the level of time to use to model the year. For example, to model using six months, select Halves. To model using financial quarters, select Quarters.
7. Click **OK**.

Changing Time Period Details

When you generate time periods for a financial model, all periods share detail level, which you define in the **Time Period Setup Wizard**. You detail level for years in **Detail in Year**.



To change time period level detail:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. In the **Strategic Modeling** ribbon, click  **Time** ▾, and then select **Settings**.
3. On **Time Periods**, select a period, and then click .
4. In **Detail**, select a period that determines aggregate periods. For example, you can select Months without selecting Quarters or Halves—resulting in 12 months and the annual period. You can add the aggregate periods later; however, the annual period are not automatically created.
5. Click **OK**.

Deleting Time Periods

You can delete years from the beginning or end of financial model timelines.




To delete time periods:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. In the **Strategic Modeling** ribbon, click  **Time** ▾, and then select **Settings**.
3. On **Time Periods**, select a period, and then click .

4. In **Number of Years**, enter a number.
5. In **Where**, select **Beginning** or **End**.
6. Click **OK** to exit.



Adding Trailing Time Periods

To add trailing time periods:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. In the **Strategic Modeling** ribbon, click  **Time** ▾, and then select **Settings**.
3. In **Time Periods**, select a period, and then click .
4. In **Trailing Period**, enter the length of new trailing period in the box, click , and then click **OK**.

Creating Period-to-Date Subperiods




To create Period-to-Date subperiods:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. In the **Strategic Modeling** ribbon, click  **Time** ▾, and then select **Settings**.
3. In **Time Periods**, select a period, and then click .
4. **Optional:** Select **Active** options to add more periods-to-dates to selected periods.
5. **Optional:** Select **Display** options to identify period to dates to present in reports.
6. Click **OK**.

Adding Sub Period

Define sub-periods for periods when transactions such as acquisitions or leveraged buyouts occur. For example, for a leveraged buyout that took place on April 15, the sub-period length is 105 days.

To create sub-periods:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. In the **Strategic Modeling** ribbon, click  **Time** ▾, and then select **Settings**.
3. In **Time Periods**, select a period, and then click .
4. In **Sub Period**, click .
5. In **Period** column, enter a name.
6. In **Days** column, enter a length of time.


 **Note:**

Sub-periods must be at least one day long.
Create more sub-periods and allocate days until `Unallocated Days` is zero.

7. Click **OK**.

Editing Last Actual Time Periods

To change the last actual period:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. In the **Strategic Modeling** ribbon, click  **Time**, select **Time Period**, and then select **Actuals**.
3. In **Last Actual Period**, select a time period.
4. **Optional:** Select **Use current scenario's data** to use the scenario currently selected when adjusting the actual time period.
5. Click **OK**.

Recalculating Values for Changed Periods

When you change time periods, Strategic Modeling prompts to recalculate when changes require backsolving.

To calculate input values for changed periods:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. In the **Strategic Modeling** ribbon, click **Calculate**, and then select an option:
 - **Calculate (Inputs for Current Scenario Only)**
Calculate input values for the current scenario only.
 - **Calc All Scenarios**
Calculate input values for all scenarios.
3. Click **OK**.

Creating and Distributing Period-to-Date and Trailing Periods

About Period-to-Date and Trailing Periods

Use period-to-date to create year-to-date, half-to-date, quarter-to-date, or month-to-date periods. To preserve the integrity of an analysis, *to-date* periods are not included in the Cash Flow Statements.

- A Year-to-Date Total sums all preceding semi-annual, quarterly, monthly, or weekly periods into a previous annual period.
- A Quarter-to-Date Total sums all preceding weekly or monthly periods into a previous quarterly period.
- Period To Date, Sub Period, and Trailing Period—See [Settings the Time Periods](#).


All financial accounts in period-to-date periods are calculated by default. You can view new **Beginning Balance Period** in the Accounts spreadsheet or in Reports.

Managing Deal Periods

Creating Deal Periods

For analyses with transactions, you can create zero-length deal periods for re-levering the Balance Sheet with no time elapsing, so the Income Statement is empty, for use as restatement periods.

To create Deal Periods:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. In the **Strategic Modeling** ribbon, click  **Time**, and then **Deal Period**, and then select **Add**.
3. In **Add deal at end of**, select a time period when the deal should occur.
4. Click **OK**.

A deal period is added to the end of the time period selected.


Note:

When you add a deal period, Strategic Modeling automatically renames the time period to *(Time Period):Closing* before adding the deal period. All data from the initial time period remains in the closing period.

Moving Deal Periods

Strategic Modeling enables you to move deal periods. You can also delete the deal period created and choose to keep or delete its data.

To move deal periods:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. In the **Strategic Modeling** ribbon, click  **Time**, and then **Deal Period**, and then select **Move**.

If the model has a deal period, **Move Deal Period** displays.

3. In **Move deal to the end of**, select a time period.
4. Click **OK**.


The deal period changes.

Deleting Deal Periods

When you delete deal periods, you can delete or retain the results.

To delete deal periods:

1. Access the Strategic Modeling ribbon in Microsoft Excel.

2. In the **Strategic Modeling** ribbon, click  **Time** ▼, and then select **Deal Period**, and then select **Remove**.

If the model has a deal period, **Delete Deal Period** displays.


3. In **Delete Deal Period**, select an option:
 - **Delete Deal**
Deletes the deal period and all associated values.
 - **Delete Deal, but Keep Results of Adjustment**
Deletes the deal period but retains the combined results of the Closing and Deal Periods as the ending balance of the time period.
4. Click **OK**.

Changing the Fiscal Year End

Change the fiscal year end to specify the end of the fiscal year in models.

- Changing the fiscal year end results in partial years at the beginning and end of the model. Partial-year data is discarded during conversion. To retain the data, add a year at the end and/or beginning of the model.
- To retain historical and forecast data in the years, define the years before and after the historical boundary in monthly detail.
- To ensure accuracy for years containing aggregate values like year-to-date or trailing periods, make sure there is enough time detail in each year.

To change the fiscal year end:

1. Access the Strategic Modeling ribbon in Microsoft Excel, and then open a model.
2. In the **Strategic Modeling** ribbon, click  **Time** ▼, select **Time Period**, and then select **Fiscal Year End**.
3. In **New Fiscal Year End Month**, select a month.
4. Click **OK**.

6

Using Funding Options

Related Topics

- [About Funding Options](#)
- [Funding Options Accounts](#)
- [Using Funding Methods](#)
- [Types of Debt Accounts](#)
- [Types of Asset Accounts](#)
- [Funding Options Strategies](#)

About Funding Options

Funding Options enables you to pay off debt accounts with cash from surplus accounts. You specify which surplus accounts go to which debt accounts, and the order they should be repaid. You can specify fund sources the company should borrow from in paying deficits. You can identify affordable dividends, handling of common and preferred stocks, and issuance or repurchase of shares.

Account Types

Account type refers to the revolver or term settings of Notes Payable and Long-Term Debt: Scheduled, and equity accounts such as preferred, common, contra-equity, and dividends. It is listed in the Type column for each account on every tab of the Funding Options dialog.

You cannot change account types of asset accounts (Marketable Securities, Excess Marketable Securities, and Long-Term Funding Asset) or Long-Term Debt: Excess. The remaining debt accounts can be specified as revolving or term accounts. To change account type, click the Type cell next to the account. These accounts may be defined as revolving or term accounts:

- Notes Payable (Short-Term Debt) (v2520.00) or its subaccounts
- Long-Term Debt: Scheduled (v2660.00) or its subaccounts

Surplus and Deficit Settings

Use the Surplus or Deficit columns to specify whether accounts are used for cash surpluses or deficits. Select the Surplus column to use cash surpluses to repay a revolving debt facility, prepay a term debt facility, or to accumulate in asset accounts. Select the Deficit column to use a debt instrument or funding asset account to fund a cash deficit.

Note:

You cannot change the two cash balancing accounts (Excess Marketable Securities and Long-Term Debt: Excess) surplus/deficit settings—both function as sources or uses in the case of a cash surplus or deficit in your model.

Order of Repayment and Funding

In the Funding Options dialog, use "Apply Cash Surplus to" and "Fund Cash Deficit with" to specify the order of account use, in the event of cash surpluses or deficits. To reorder, click and drag accounts to different positions in the list.

Order	Apply Cash Surplus to...	Order	Fund Cash Deficits with...
First	L-T Debt: Excess	First	Excess Marketable Securities
Next	Other Selected Surplus Accounts	Next	Other Selected Deficit Accounts
Last	Excess Marketable Securities	Last	L-T Debt: Excess

With a cash surplus, by default, Long-Term Debt: Excess is reduced first if a balance exists. Funds remaining, after reducing other surplus accounts selected, accumulate in Excess Marketable Securities. With a cash deficit, by default, Excess Marketable Securities is used as funding first. If there is still cash deficit after other selected funding accounts are used up to their forecasted limits. Long-Term Debt: Excess funds the remaining cash deficit in its entirety.



Note:

Excess Marketable Securities is last in the Apply Cash Surplus to... order and by default is first in the Fund Cash Deficit with... order. Long-Term Debt: Excess is by default first in the Apply Cash Surplus to... order and last in the Fund Cash Deficits with ... order.

When do Funding Options Balance?

Funding Options never attempt to balance funding during historical or actual periods, so you may see non-zero values in Net Funds Flow Source (Use) (v3040) in historical or actual periods.

Funding Options balance all input periods that are neither historical nor actual periods. These are typically called input forecast periods, but actual periods may occur in what are typically forecast periods.

When there is a forecast leaf period (a non-aggregate period) that is not an input period because its values are interpolated using inputs from a period-to-date or trailing period, Funding Options balance that period unless it is the last period before the input period-to-date or trailing period that is driving its values.

Funding Options Accounts

Long-Term Debt: Scheduled (v2660.00) and Notes Payable (v2520.00)

These debt accounts can be specified as revolving or term debt instruments. They can be repaid early in case of a cash surplus. If you repay a term debt facility with cash surpluses, the model reduces the debt instrument by its forecasted principal payments. If a debt account is a revolver, it can be used as a funding source with a specified maximum or cap, and a minimum

balance to be maintained. These accounts can have subaccounts, which appear in Funding Options.

Marketable Securities (v2010.00), Long-Term Funding Asset (v2460.00), Preferred Stock (v2820.00), Common Shares Issued (Year End) (v3460.00), and Treasury Shares (v3470.00)

These are asset accounts that can be used for funding cash deficits and accumulating cash surpluses. They can have subaccounts, which appear in Funding Options.

Excess Marketable Securities (v2015.00), and Long-Term Debt: Excess (v2690.00)

These are cash-balancing accounts with permanent Funding Option settings—unlimited maximums, fixed surpluses, and deficit orders (the accounts are first and last in each area), and subaccounting is disabled.

- Excess Marketable Securities (v2015.00) accumulates cash surpluses, and can be used as a funding source.
- Long-Term Debt: Excess (v2690.00) acts as an unlimited long-term revolving facility funding cash deficits not covered by other debt facilities.

Using Funding Methods

You can use the standard funding method or the target capital structure funding method—both require you to configure common attributes for funding accounts.

Accessing Funding Options

To access funding options, perform the following: From the **Data** grouping label, click **Funding**.

- See [Setting Common Attributes for Funding Accounts](#)
- See [Using the Standard Funding Method](#)
- See [Using the Target Capital Structure Funding Method](#)

Setting Common Attributes for Funding Accounts

Use common attributes to identify funding account information before creating a Standard or Target Capital Structure Funding Method. You can identify certain advanced funding account attributes if the account is zero-based, or has an unlimited maximum, a minimum funding requirement (specify minimum), or a minimum change amount.

To set the Funding Option common attributes:

1. Access **Funding Options**.
See [Accessing Funding Options](#).
2. In **Funding Options**, select **Common** tab.
3. In **Funding Method to use**, select **Standard** or **Target Capital Structure**.
4. **Optional:** Select **Actual Override Defeats Funding** to determine how '##' overrides function during data entry:
 - Deselected—'##' overrides the account maximum.
 - Selected—'##' overrides the account balance.
5. **Optional:** In **Type**, click the cell to change the account type for related debt accounts:
 - Term

- Revolving Debt
6. **Optional:** Select **Zero Based** for an account to be set to zero before the funding sequence begins.
 7. **Optional:** Select **No Maximum** for an account to accept or fund with no cap or maximum.
 8. **Optional:** Select **Specify Minimum** if an account to requires a time series of assumptions when the balance of the funding account should not go below. For example, certain compensating balances might be required by a lender in cash or securities.
 9. **Optional:** In **Minimum change**, enter a minimum amount that the account must change to be part of the funding.

If the minimum change is not met, the account is not utilized funding surplus or deficit. The value that you enter should reflect the default currency of the file. For example, if the file is in Thousands of Dollars, a 10 reflects a minimum change of \$10,000.
 10. Depending on the **Funding Method to Use** option, perform an action:
 - For **Standard**, see [Using the Standard Funding Method](#).
 - For **Target Capital Structure**, see [Using the Target Capital Structure Funding Method](#).
 11. Click **OK**.

Using the Standard Funding Method

The Standard funding method applies cash surpluses and funds cash deficits for funding accounts regardless of funding category (debt, preferred equity, or common equity) providing a unified funding priority plan across all funding account categories. You identify additional funding account characteristics and the funding of deficits or receiving cash surpluses.

Use the Funding Analysis Report, a summary of the study's capital structure, to review the results of your funding strategy.

To enter standard funding information:

1. Access **Funding Options**.

See [Accessing Funding Options](#).

Ensure that **Common** information exists and Standard is selected in the **Funding Method to Use** field. See [Setting Common Attributes for Funding Accounts](#).

2. In **Funding Options**, select **Standard** tab.
3. In **Surplus** column, select accounts providing cash. In **Deficit** column, select accounts receiving cash.

Note:

Some account settings may not be changed. For example, **Excess Marketable Securities** funds cash deficits to balance the forecast periods.

Apply Cash Surplus to and **Fund Cash Deficit with** columns display the order in which these accounts are processed. See Order of Repayment and Funding section.

4. **Optional:** Drag account names to reorder them.
5. Click **OK**.

Using the Target Capital Structure Funding Method

The Target Capital Structure Funding Method applies cash surpluses by funding accounts category: debt, equity, and preferred. You can create target level and prioritize the order of funding categories (for example, target debt-to-total capital). Strategic Modeling calculates each category target level and applies surpluses to deficits in each category based on priority.

To enter Target Capital Structures:

1. Access **Funding Options**.

See [Accessing Funding Options](#).

Ensure that **Common** information exists and Target Capital Structure is selected in the **Funding Method to Use** field. See [Setting Common Attributes for Funding Accounts](#).

2. In **Funding Options**, select **Target Capital Structure** tab.
3. Select a funding account **Category: Debt, Equity, or Preferred**.

Note:

The **Preferred** option is not available unless you select the **Allocate Preferred Separately** option from **Treatment of Preferred Stock**.

4. In **Treatment of Preferred Stock**, select a method:
 - **Allocate Preferred as Debt**—All preferred accounts are debt. Preferred is unavailable.
 - **Allocate Preferred as Equity**—All preferred accounts are equity. Preferred is unavailable.
 - **Allocate Preferred Separately, Overflow to Debt**—Preferred accounts are independent of Debt and Equity accounts.
 - **Allocate Preferred Separately, Overflow to Equity**—Preferred accounts are independent of Debt and Equity accounts.

Notice that the funding accounts for the category you selected are listed with the account number and type.
5. In **Surplus** column, select accounts providing cash. In **Deficit** column, select accounts receiving cash.

Some accounts may not be included in the funding lists. For example, **Term Debt** cannot be used in the funding lists as a source of funding.
6. **Optional:** Drag the account names to reorder them.

Apply Surplus in Category to and **Fund Deficit in Category with** columns display the order in which these accounts are processed. See Order of Repayment and Funding section.
7. Click **OK**.

Types of Debt Accounts

There are three types of available debt facilities:

- Revolving

- Term
- Long Term Debt: Excess

Notes Payable and Long-Term Debt: Scheduled can be modeled as a term or revolver account. Long-Term Debt: Excess is a revolver or cash balancing account. All three debt accounts can be modeled with respective interest expense.

Revolving Debt Accounts

Revolver accounts have ceilings—the outstanding balance in a given period may be below or equal to that ceiling. In Funding Options, you can designate revolver accounts as cash deficit and/or cash surplus accounts. You can repay each account up to the balance, or use it to fund a deficit up to its ceiling.

- If you do not apply a cash surplus to a revolver account and do not to use the account to fund deficits, the balance in each period equals the lesser of the prior period's balance or the specified ceiling.
- If you repay a revolver account early, Funding Options first makes payments required under scheduled revolver ceiling reductions. After meeting the ceiling reduction for all accounts, Funding Options uses surplus cash to reduce the balance of those revolver accounts in **Apply Cash Surplus to...**
- If you use a revolver account to fund cash deficits, Funding Options draws cash from this account as a source of funds. The amount of funding available is a function of the prior balance for that account and the ceiling specified for that revolver account.
- If you apply a cash surplus to a revolving account and use that account to fund cash deficits, Funding Options may lower the balance of the account in one period because of excess funds. In the next period you can borrow that money to fund shortfalls, depending on the cash requirements.

Term Debt Accounts

Term debt represents a fixed outstanding loan obligation. By default, term debt is not affected by cash surplus/deficit balances. You can pay some or all loans early, ahead of amortization schedules, when excess cash is available after meeting the required amortization. Term debt cannot be used as a source of funds.

When an account is a term loan, the input data represents the balance of that loan in each period or the amortization schedule, depending on how you forecast the account.

If you repay a term account early, Funding Options repays the account with the early amortization coming off of the back end of the account—it pays the scheduled amortization until paid in full, and only after that are additional amounts paid. Even if early payments are made, Funding Options continues to make all scheduled amortization payments until the balance of the facility is zero.

Long-Term Debt: Excess Accounts

Long-Term Debt: Excess is the last source of funds in the case of a cash deficit. When all sources of funding are exhausted (that is, revolvers and funding assets), Funding Options borrow from Long-Term Debt: Excess. It is a revolving account with an infinite ceiling that is, by default, repaid first in the event of a cash surplus. You can not specify a minimum balance or change the Surplus/Deficit order.

Types of Asset Accounts

Of the three asset accounts in Funding Options, Marketable Securities (v2010.00) and Excess Marketable Securities (v2015.00) are short term investments, while Long-Term Funding Asset (v2460.00) is a long-term funding instrument. Both investment accounts can be modeled with respective interest income amounts.

Marketable Securities

You can designate Marketable Securities as a funding source (deficit account). The account is used, with unused internally generated funds, to repay debt early. Marketable Securities can accumulate excess funds, (cash surplus account). Set Marketable Securities to a Surplus and/or Deficit account by clicking in the **Surplus** and/or **Deficit** columns. Select the funding source and order of use in the **Apply Cash Surplus to...** and **Fund Cash Deficit with...** sections.

Excess Marketable Securities

Excess Marketable Securities is the last use of funds in case of cash surplus. When all funding instruments are reduced and there are funds remaining, Excess Marketable Securities accumulates excess funds. This account also acts as the first funding source under the default setting in case of cash deficit.

Similar to Long-Term Debt: Excess, most attributes related to this account are unchangeable. Excess Marketable Securities cannot be subaccounted. It has an unlimited maximum. A minimum balance cannot be specified and the **Apply Cash Surplus to...** and **Fund Deficit with...** orders cannot be changed.

Long-Term Funding Asset

The Long-Term Funding Asset account can be used to model intercompany funding or a long-term asset that might be liquidated for funding purposes. Long-Term Funding Asset can be a Surplus and/or Deficit account by clicking in the respective **Surplus** and/or **Deficit** columns. Select the funding source and order of use in the **Apply Cash Surplus to...** and **Fund Cash Deficit with...** sections.

Funding Options Strategies

In funding plans, you must establish expectations for cash sources and use of excess funds from the firm's operating strategies. Funding plans might include external sources such as debt, preferred equity, common equity, or reinvestment of internal funds. It may include uses like dividends and share repurchases to treasury stock, retirement of debt or preferred equity, or investments in marketable securities.

Factors in funding activities include:

- Dividend Payout Rate
- Operating Profit margin and Net Income/Sales
- Investment in fixed and working capital required to support sales growth
- Incomes taxes
- Target Debt Capacity

Two funding methods are useful in these situations:

- Using the standard method, you may specify sources and use priority orders for funding accounts.
- Using the target capital structure method, you specify sources and uses within funding categories such as debt, preferred equity and common equity. This establishes a funding policy that manages your model's capital structure.

Each method is useful for different funding states:

- [The Standard Method with a Surplus](#)
- [The Standard Method with a Deficit](#)
- [The Target Capital Structure Method Priorities](#)[Target Capital Method with a Surplus](#)
- [Target Capital Method with a Deficit](#)

The Standard Method with a Surplus

Using the standard method with forecasts resulting in cash surplus before funding, Strategic Modeling distributes the surplus using the order and priority in the Apply Cash Surplus to... list of the Standard tab. Funding accounts not in the funding lists may be forecasted like all other balance sheet accounts.

Enter accounts in the Apply Cash Surplus to... list to achieve:

- **Increasing Marketable Securities**
To retain excess cash, include marketable securities in the list. You can retain funds for future investments.
- **Repayment of Debt**
To pay down term debt early, include term debt in the list. This repays debt beyond the forecasted decline if surplus cash is available.
- **Reduction in Revolving Balances**
To reduce outstanding balance on revolving debt, include the revolving account in the list.
- **Retirement of Preferred Stock**
To apply cash to early retirement of preferred stock, include it in the list.
- **Acquisition of Treasury Stock (Common Shares and New Common Shares)**
To repurchase the firm's treasury shares, include it in the list.

The Standard Method with a Deficit

When the standard method and your forecasts result in cash deficits before funding, the deficit is funded according to the order on the Fund Cash Deficits with... list of the Standard tab.

Enter accounts in the Apply Cash Surplus to... list to achieve:

- **Decreasing Marketable Securities**
To use excess cash, include marketable securities in the list. Minimum requirements are honored if you select *specify minimum* and enter a non-zero value in the forecast for minimum marketable securities.
- **Increase in Revolving Balances**
To include as a source of cash the possibility of increasing the outstanding balance on revolving debt, include the revolving account in the list.
- **Issuance of Preferred Stock**

To fund deficits with Preferred equity, include the account in the list.

- **Issuance of Common Stock**

If the common shares issued account is in the list, Strategic Modeling issues the number of shares at the Transaction Price for Common Shares to raise cash. The maximum number of shares authorized for sale is established in the Common Shares Issued (Year-End) account in all forecast periods.

- **Sale of Treasury Stock**

Another source of corporate cash flow is the sale of treasury stock. Like issuance of common stock, the cash available from sale is determined by the number of shares available for sale and the Transaction Price for Common Shares. If you are accounting for additional paid in capital separately, enter a Par Value per Common Share of Treasury Stock.

The Target Capital Structure Method Priorities

The target capital structure method manages the priority of the category surpluses and deficits in each of up to three funding categories. When using the target capital structure, you specify a target debt capacity and, if needed, a target preferred capacity for your planning model.

Funding options enable you to specify the order of funding accounts to achieve target category levels. For example, borrowing or repayments on a revolver to meet the targeted debt capacity. Based on these forecasts and based on available funds in the forecast, Strategic Modeling applies surpluses and funds deficits in the funding category based on your funding category priorities.

Example:

Sample Company has had a successful year. Cash flow from Operations was \$220 million. The total capital has increased from \$1.4 billion to \$1.5 billion. To maintain approximately 35% debt-to-total capital ratio, you increase debt by \$35 million. If there are no forecasted increases in the debt accounts, this amount represents a deficit in the debt-funding category. It is funded according to the entries in the **Fund Cash Deficits with...** list.

Target Capital Method with a Surplus

If you use the Target Capital Structure method and your forecast results in a category surplus before funding, Strategic Modeling distributes the category surplus based on your funding order. Some examples:

- **Affordable Dividend** Affordable dividend may be used to dividend excess equity, lowering retained equity in line with the forecasted time series of debt (and preferred, if specified) capacity. This is like an increase in regular dividends or declaration and payment of special dividends to shareholders.

 **Note:**

In the Target Capital Structure - Equity category, Affordable Dividend is the default balancing account in *Apply Surplus* and *Fund Deficit*.

- **Repurchase of Capital Stock**

Another option when you experience an equity category surplus is to repurchase your stock from your shareholders. Shares are repurchased at the Transaction Price for

Common Shares. The number of shares authorized for repurchase is established in the Treasury Shares (Year-End) account.

Target Capital Method with a Deficit

If you use the Target Capital Structure method and your forecast result in a category deficit before funding, Strategic Modeling funds the category deficit based on your funding order. Few examples:

- **Issuing New Shares - Issuance of Common Stock**

To fund deficits in the equity category, you include the common shares issued account in the funding list. Strategic Modeling issues the required number of shares at the Transaction Price for Common Shares to raise equity. The maximum number of shares authorized for sale is established in the Common Shares Issued (Year-End) account in all forecast periods.

- **Sale of Treasury Stock**

Another source of equity funds is the sale of treasury stock. Like issuance of common stock, the number of shares available for sale determines the equity raised from the re-issuance at the Transaction Price for Common Shares. If you are accounting for additional paid in capital separately, enter a Par Value per Common Share.

7


Using Tax and Valuation Options

Related Topics

- [About Tax and Valuation Options](#)
- [Modeling Valuation Accounts](#)
- [Valuation Theory](#)

About Tax and Valuation Options

Tax and valuation options enable you to configure and enter data for tax refund calculations, and use of three Strategic Modeling valuation methods. Tax and valuation options cover taxes, shareholder value, dividend discount, economic profit, and other valuations. You can also calculate tax effects and define the number of years for Net Operating Loss carryback and carryforward.

To access **Tax and Valuation Options**, perform the following: From the **Data** grouping label, click .

Calculating the Tax Effect of Operating Losses

Use Tax and Valuation Options to calculate tax effects, which appear in Calc Tax Refund (v1640.00). Without this option, you can manually enter a Net Operating Loss (NOL)-related tax refund in Additional Tax Refund (v1635.00)—see [Net Operating Loss Calculations](#). Enter NOL-related inputs in the remainder of the dialog.

To automatically calculate tax effect of losses:

1. Access **Tax and Valuation Options**.

See [About Tax and Valuation Options](#).

2. In **Tax and Valuation Options**, select **Taxes** tab.
3. Select **Calculate Tax Effects Automatically**.

With this option, the model automatically calculates tax refunds by carrying back and/or forward NOLs by the number of years specified in these input boxes. The inputs apply only with this option.

4. In **Years for Loss Carryback**, enter a number of years to carry back NOLs.

In the United States, the Internal Revenue Code currently dictates losses can be carried back 2 years.

5. In **Years for Loss Carryforward**, enter a number of years to carry forward NOLs.

In the United States, the Internal Revenue Code currently dictates that losses can be carried forward 20 years.

6. Click **OK**.

Example 7-1 Net Operating Loss Calculations

When total expenses exceed total income, a Net Operating Loss (NOL) occurs. In Strategic Modeling, you have an NOL when Taxable Income (v3140.00) is negative. NOLs impact the results of other years.

Example 7-2 NOL Carryback and Carryforward

NOLs can carry backward to generate tax refunds paid in previous years, or carried forward to offset future incomes. You can perform these calculations automatically or manually.

Strategic Modeling defaults the carryback period to 2 years, which reflects current U.S. tax law. You can change the length for your analysis. NOLs apply first to the earliest year in the carryback period.

If the current year NOL exceeds the taxable income in the earliest year, NOL applies to the second earliest year, and so on. To manage income and associated taxes from the year before your analysis, enter limits for the amount of income and taxes for a carryback to reach.

Strategic Modeling assumes the income and taxes occurred in the year before the first historical year. Losses during the carryback period could generate refunds of taxes paid before the analysis starts if the carryback period goes back that far.

If you carry back all the possible NOLs and still have not used up the current year NOL (or if the carryback period is 0), Strategic Modeling carries forward the NOLs to the extent of the carryforward period. Strategic Modeling defaults the carryforward period to 20 years, which reflecting current U.S. tax law. You can change the length if for your model.

If an NOL exists in the year prior to the analysis start, you can enter and carry it forward. Strategic Modeling assumes the loss occurred in the year before the first historical year.

Refunds are calculated once annually using annual results. If an NOL carries back to a year detailed in quarters (negative annual taxable income), the refund appears in the last quarter. If an NOL carries forward into a year detailed in quarters (annual taxable income is positive), the refund only displays in the last quarter.

Example 7-3 NOL Carryback Accounts

Six accounts illustrate the NOL carryback:

- [Tax Refund Due to Loss Carryback \(v3160.00\)](#)
- [Maximum Carryback \(v3160.01\)](#)
- [Tax Losses Offset \(v3160.02\)](#)
- [Tax Gains Pool \(v3160.03\)](#)
- [Tax Gains Pool Used \(v3160.04\)](#)
- [Tax Pool \(v3160.05\)](#)

Example 7-4 Tax Refund Due to Loss Carryback (v3160.00)

The refund generated for carrying back current year losses back to previous years.

Example 7-5 Maximum Carryback (v3160.01)

At the period beginning, this is the largest loss that could be sustained in the current period and still be fully carried back. It is determined by adding the tax gains pool for each year during the carryback period and subtracting gains previously used.

Example 7-6 Tax Losses Offset (v3160.02)

In a period with a loss, this is the amount of loss actually carried back. It is the lesser of the amount of the loss and the maximum carryback.

Example 7-7 Tax Gains Pool (v3160.03)

This is taxable income net of amounts carried forward into the current period. These gains are the basis for carrybacks since future losses are carried back against them.

Example 7-8 Tax Gains Pool Used (v3160.04)

During the carryback period, this represents the amount of gains used by other losses.

Example 7-9 Tax Pool (v3160.05)

The current provision for income taxes net of refunds due to loss carryforwards. Similar to Tax Gains Pool (v3160.03) since this account holds the taxes made refundable by carrybacks.

Example 7-10 NOL Carryforward Accounts

Five accounts illustrate the NOL carryforward:

- [Tax Refund Due to Loss Carryforward \(v3150.00\)](#)
- [Maximum Carryforward \(v3150.01\)](#)
- [Tax Gains Offset \(v3150.02\)](#)
- [Tax Loss Pool \(v3150.03\)](#)
- [Tax Loss Pool Used \(v3150.04\)](#)
- [Total Taxes on Operations \(v3280.00\)](#)

Example 7-11 Tax Refund Due to Loss Carryforward (v3150.00)

Calculates refunds when losses from prior years carry forward into a gain year.

Example 7-12 Maximum Carryforward (v3150.01)

At the beginning of the period, this is the largest prior loss that could offset gains in the current period. Calculated by taking all the losses that occurred during the carryforward period and subtracting those previously used to offset gains.

Example 7-13 Tax Gains Offset (v3150.02)

In a period with a gain, the amount carried forward to offset it. It is the lesser of taxable income for the current period and the maximum carryforward.

Example 7-14 Tax Loss Pool (v3150.03)

Taxable loss for the current period net of amounts used for carrybacks. These are the losses carried forward.

Example 7-15 Tax Loss Pool Used (v3150.04)

During the carryforward period, the amount of losses used by carryforwards.

Example 7-16 Total Taxes on Operations (v3280.00)

Strategic Modeling performs the same calculations for NOL in determining Total Taxes on Operations (v3280.00) as it does in determining the current provision. The differences are that it uses Taxable Operating Profit (v3210.00) as the measure of income instead of Taxable Income (v31400.00) and that it uses 3250.xx and 3260.xx instead of 3150.xx and 3160.xx.

Modeling Valuation Accounts

Use the Tax and Valuation Options dialog to access Shareholder Value (a Free Cash Flow method), Dividend Discount (a Free Cash Flow method) and Economic Profit options.

Entering Data for Shareholder Value Method Accounts

The Shareholder Value Method measures future free cash flows (from operations) less investments in fixed and working capital. It is not one period measure, but rather a measure of multiple year future free cash flows, discounted at the weighted average cost of capital. This approach is used by public companies to compare management's expectations to current market price of their stock and by private companies or divisions of large public companies, to obtain a proxy of the market value of their businesses.

For a more detailed explanation of these items, see [Valuation Theory](#).

To enter data for Shareholder Value Method Accounts (SVA):

1. Access **Tax and Valuation Options**.
See [About Tax and Valuation Options](#).
2. In **Tax and Valuation Options**, select **SVA** tab.
3. From the drop-down list, select either **Cost of Capital** or **Long-Term Cost of Capital** option.
 - If you select **Cost of Capital** from the drop-down list, and then enter the account values in the associated grid. The **Cost of Capital** is the weighted average costs of debt and equity. The rate should be entered as a percentage, not a decimal (5.57% is input at 5.57, not .0557). Oracle recommends that you use one rate for all periods.
 - If you select **Long-Term Cost of Capital** from the drop-down list, and then enter the account values in the associated grid. The **Long-Term Cost of Capital** is used to calculate the residual value. The rate should be entered as a percentage, not a decimal.
4. In **Method to Use**, select a method.
There are six different residual value methods:
 - Perpetuity Method
 - Growth in Perpetuity
 - Value Growth Duration
 - Price/Earnings Ratio
 - Market-to-Book Ratio
 - Liquidation Value
5. In **Residual Value Tax Rate (%)**, enter a rate.
The residual value income tax rate is applied during the years following the forecast period.
6. In **Perpetuity Growth Rate (%)**, enter a rate.
Enter the perpetuity growth rate when using the **Growth in Perpetuity** method to calculate residual value.
7. In **Value Growth Duration (years)**, enter the number of years.

Enter the value growth duration when using the **Value Growth Duration** method to calculate residual value.

8. From the drop-down list, select the **Normalized Operating Profit Adjustment**, and then enter the account values in the associated grid.

You can use this item to change or *normalize*, for valuation purposes of the period-by-period values for Taxable Operating Profit that you consider to be abnormally high or low due to prevailing industry or economic conditions that you do not expect to continue.

If you enter adjustments for periods, the amount is added to Taxable Operating Profit for each period entered and used in calculating Residual Value. While it affects the valuation, it does not change Operating Profit as it appears on the Income Statement.

 **Note:**

This adjustment is only appropriate if you are using one of these residual value methods that use a perpetuity cash flow in its calculation: Perpetuity Method, Growth in Perpetuity and Value Growth Duration.

9. From the drop-down list, select the **Market-to-Book Ratio**, and then enter the account values in the associated grid.

Enter the Market-to-Book Ratio when using the **Market-to-Book Ratio** method to calculate Residual Value.

10. From the drop-down list, select the **Price / Earnings Ratio**, and then enter the account values in the associated grid.

Enter the Price/Earnings Ratio when using the Price/Earnings method to calculate Residual Value.

11. From the drop-down list, select the **Debt Discount / (Premium) (%)**, and then enter the account values in the associated grid.

The **Debt Discount/(Premium)** is used in the calculation of the Market-To-Book Residual Value and Price/Earnings Residual Value. The Debt Discount/(Premium) is used to adjust the book value of Debt and/or Preferred Stock to market values.

12. From the drop-down list, select the **Normalized Earnings Adjustment**, and then enter the account values in the associated grid.

You can use this to change or *normalize*, for valuation purposes of the period-by-period values for Income Available for Common Shareholders that you consider to be abnormally high or low due to prevailing industry or economic conditions in that year which are not expected to continue.

If you enter adjustments for periods, the amount is added to Income Available for Common Shareholders used in calculating the Price/Earnings Residual Value for valuation. It does not change Income Available for Common Shareholders as it appears on the Income Statement.

13. From the drop-down list, select the **Liquidation Residual Value**, and then enter the account values in the associated grid.

This item represents your estimate, in future value currency, of what the *price tag* of the business is in each year of the forecast period, based on your expectations of prevailing conditions in that period. You must incorporate the costs of liquidation, including such items as transaction cost and recapture tax in this value.

14. Click **OK**.

Entering Data for Dividend Discount Method Accounts

The Dividend Discount Method (DDM) measures the value of a company's assets by estimating the expected future cash flows to investors, (that is, dividends) and discounting those future flows by the investors' required rate of return to determine the present value of the future cash stream.

See [Valuation Theory](#).

Entering Data for Dividend Discount Method Accounts:

1. Access Tax and Valuation Options.

See [About Tax and Valuation Options](#).

2. In Tax and Valuation Options, select the DDM tab.

3. From the drop-down list, select either Cost of Capital or Long-Term Cost of Capital option.

- If you select **Cost of Capital** from the drop-down list, and then enter the account values in the associated grid. The **Cost of Capital** is the weighted average costs of debt and equity. The rate should be entered as a percentage, not a decimal (5.57% is input at 5.57, not .0557). Oracle recommends that you use one rate for all periods.
- If you select **Long-Term Cost of Capital** from the drop-down list, and then enter the account values in the associated grid. The **Long-Term Cost of Capital** is used to calculate the residual value. The rate should be entered as a percentage, not a decimal.

4. In Method to Use, select an option from the drop-down list.

When performing a valuation using the Free Cash Flow method, you can select from six different residual value methods:

- Perpetuity Method
- Growth in Perpetuity
- Value Growth Duration
- Price/Earnings Ratio
- Market-to-Book Ratio
- Liquidation Value

5. In Long-Term Return on Book Equity (%), enter a value.

Enter the Long-Term Return on Book Equity which is used to compute the Perpetuity Affordable Dividend.

6. In Target Leverage Ratio (%), enter a value.

Enter the **Target Leverage Ratio (%)** when using the **Perpetuity, Growth in Perpetuity** or **Value Growth Duration** methods to calculate residual value.

7. In Perpetuity Growth Rate (%), enter a value.

Enter the **Perpetuity Growth Rate (%)** when using the **Growth in Perpetuity** Method to calculate residual value.

8. In Value Growth Duration (years), enter a value.

Enter the Value Growth Duration (years) when using the Value Growth Duration Method to calculate residual value.

9. From the drop-down list, select the **Market-to-Book Equity Ratio**, and then enter the account values in the associated grid.

Enter the Market-to-Book Ratio which is used in the calculation of Market-to-Book Equity Residual Value.
10. From the drop-down list, select the **Price / Earnings Equity Ratio**, and then enter the account values in the associated grid.

Enter the Price/Earnings Equity Ratio which is used in the calculation of Price/Earnings Equity Residual Value.
11. From the drop-down list, select the **Normalized Earnings Adjustment**, and then enter the account values in the associated grid.

You can use this item to change or *normalize*, for valuation purposes of the period-by-period values for Income Available for Common Shareholders that you consider to be abnormally high or low due to prevailing industry or economic conditions in that year which are not expected to continue.

If you enter adjustments for periods, the amount is added to Income Available for Common Shareholders used in calculating the Price/Earnings Equity Residual Value for valuation. It will not change Income Available for Common Shareholders as it appears on the Income Statement.
12. From the drop-down list, select the **Equity Liquidation Value**, and then enter the account values in the associated grid.

This item represents your estimate, in future value currency, of what the *price tag* of the business is in each year of the forecast period, based on your expectations of prevailing conditions in that period. You must incorporate the costs of liquidation, including such items as transaction cost and recapture tax in this value.
13. Click **OK**.

Entering Data for Economic Profit Method Accounts

The Economic Profit (EP) method assumes that a company's value equals the amount of invested capital plus a premium equal to the present value of the economic profit in each forecast year. Economic Profit equals the spread between the rate of return on invested capital and the rate of return on required capital, multiplied by the invested capital.

See [Valuation Theory](#).

Entering Data for Economic Profit Method Accounts:

1. Access **Tax and Valuation Options**.
See [About Tax and Valuation Options](#).
2. In **Tax and Valuation Options**, select **EP** tab.
3. From the drop-down list, select either **Economic Profit** or **Long Term Required Return** option.
 - If you select the **Economic Profit** from the drop-down list, and then enter the account values in the associated grid. The **Economic Profit** is the discount rate used to determine the discount factor which is used to calculate the present value of economic profit. The rate should be entered as a percentage, not as a decimal.
 - If you select the **Long Term Required Return** from the drop-down list, and then enter the account values in the associated grid. The **Long Term Required Return** is the rate used to discount the residual value of the economic profit. The rate should be entered as a percentage, not as a decimal.

4. In **Residual Value Tax Rate (%)**, enter a value.
Enter the Residual Value Tax Rate which is applied during the years following the forecast period.
5. In **Residual NOPAT Adjustment**, enter a value.
Enter adjustments to NOPAT for the residual period.
6. From the drop-down list, select the **Economic Profit Adjustment to NOPAT**, and then enter the account values in the associated grid.
Enter adjustments to NOPAT.
7. From the drop-down list, select the **Economic Profit Adjustment to Assets**, and then enter the account values in the associated grid.
Enter the Asset Adjustment which is used to adjust Book Value.
8. From the drop-down list, select the **Economic Profit Adjustment to Liabilities**, and then enter the account values in the associated grid.
Enter the Liabilities Adjustment which is used to adjust Book Value.
9. Click **OK**.

Entering Data for Other Valuation Accounts

On the Other Valuations tab, select to have your cash flows discounted at mid-period or end-of-period. Mid-period discounting assumes that cash flows arrive (on average) at the mid-point of a period; end-of-period discounting assumes that the cash flows all arrive at the end of a period. You can enter some other adjustments to each of the three valuation methods used in Strategic Modeling.

See [Valuation Theory](#).

Entering Data for Other Valuation Accounts:

1. Access **Tax and Valuation Options**.
See [About Tax and Valuation Options](#).
2. In **Tax and Valuation Options**, select **Other Valuation** tab.
3. In **Current Stock Price**, enter a value.

Enter the stock price as of the last day in history. This value can be compared to the Shareholder Value per Share, Equity Value Per Share and Economic Profit Shareholder Value per Share to see if the market seems to be undervaluing or overvaluing the stock.

Note:

Enter the current stock price for the company you are modeling to use for comparison to the Shareholder Value per Share on the valuation reports. This amount appears at the bottom of the reports with the Shareholder Value per share. The Premium/Discount Over/Under Market (%) account calculates and display the percent that the Shareholder Value per Share is over or under the current stock price.

4. In **Market Value of Debt**, enter a value.
Enter the Market Value of Debt which is calculated using the yield to maturity of all debt instruments in a company's debt portfolio. The Market Value of Debt must be deducted

from Corporate Value or Economic Profit Corporate Value to arrive at Shareholder Value or Economic Profit Shareholder Value.

5. In Underfunded Pension Liabilities, enter a value.

Enter Underfunded Pension Liabilities which must be deducted from Corporate Value or Economic Profit Corporate Value to arrive at Shareholder Value or Economic Profit Shareholder Value.

6. In Market Value of Other Obligations, enter a value.

Enter the Market Value of Other Obligations which represents the market value of other obligations not included in Market Value of Debt or Underfunded Pension Liabilities. Market Value of Other Obligations must be deducted from Corporate Value or Economic Profit Corporate Value to arrive at Shareholder Value or Economic Profit Shareholder Value.

7. In Investments in Stocks and Bonds, enter a value.

Enter the Investments in Stocks and Bonds which represents the market value of the company's current portfolio of long-term investments in stocks and bonds. Investments in Stocks and Bonds are included in Corporate Value.

8. In Cost/Equity Adjustment, enter a value.

Enter the adjustment to be added to Corporate Value for an investment using the Cost or Equity method of rollup. This adjustment should be the ownership % * Shareholder Value of the investment.

This adjustment calculates if the investment is rolled up into the current Strategic Modeling file using the Cost or Equity method of rollup.

9. In Minority Interest Adjustment, enter a value.

Enter the adjustment to be subtracted from Shareholder Value for an investment using the Minority Interest method of rollup. This adjustment should be the ownership % * Shareholder Value of the investment.

This adjustment is automatically calculated if the investment is rolled up into the current Strategic Modeling file using the Minority Interest Method of rollup.

10. In Market Value of Other Liabilities, enter a value.

Enter the Market Value of Other Liabilities - DDM which is deducted from the Estimated Equity Value.

11. In Market Value of Other Assets, enter a value.

Enter the Market Value of Other Assets - DDM which is added to the Estimated Equity Value.

12. In Cost/Equity Adjustment, enter a value.

Enter the adjustment to be added to Economic Profit Corporate Value for an investment using the Cost or Equity method of rollup. This adjustment should be the ownership % * Economic Profit Shareholder Value of the investment.

This adjustment is automatically calculated if the investment is rolled up into the current Strategic Modeling file using the Cost or Equity method of rollup.

13. In Minority Interest Adjustment, enter a value.

Enter the adjustment to be subtracted from Economic Profit Shareholder Value for an investment using the Minority Interest method of rollup. This adjustment should be the ownership % * Economic Profit Shareholder Value of the investment.

This adjustment is automatically calculated if the investment is rolled up into the current Strategic Modeling file using the Minority Interest Method of rollup.

14. Select a **Calculate Discount Factor** as option.
 - **End-of Period** Select the End-of-Period Discount Factor if discounting is to be done at the end of a period.
 - **Mid-Period** Select the Mid-Period Discount Factor if discounting is to be done at the mid-point of a period.
15. Click **OK**.

Valuation Theory

Strategic Modeling supports three methods of valuation. The Shareholder Value and Dividend Discount models are cash flow methods that provide information about the sources of value creation, the duration of the value creation period, and the discounted value of the future stream of cash flows. One of the limitations in traditional dividend discount models is that they typically relate cash dividends to earnings, an accrual accounting flow, which can mask capital structure and funding effects. The dividends a company can afford to pay depend upon the cash consequences of its planned sales growth, cash margins on sales, cash taxes, required working and fixed capital investments, constrained by its target capital structure. Strategic Modeling captures these constraints and opportunities explicitly, providing support for your valuation assumptions.

The Economic Profit model is a mixed model (mixing cash flow and book value concepts) often called the Economic Profit Model. This approach discounts an expected cash flow in excess of a capital charge (cost-of-capital multiplied by the previous period's adjusted book value).

All three methods can compute identical equity values, given certain assumptions (that is, keeping the ratio of market debt to market equity constant). In practice, the results of the models are often different, because the required assumptions have been ignored. Experienced practitioners not only can explain the differences (small, in most cases), but often gain insights by comparing the results from the different approaches.

Free Cash Flow Methods

The free cash flow methods, Shareholder Value and Dividend Discount, measure the value of a business based on its ability to generate returns on investments in excess of its weighted average cost of capital.

Excess funds can be reinvested by the business or paid to the shareholders as dividends. In the first case, the business might invest in such areas as plant & equipment, additional working capital, or acquisitions, expecting to receive returns in excess of the cost of capital for the selected strategy.

Alternatively, the shareholders can reinvest their dividends in a capital market to earn risk-adjusted rates of return.

Shareholder Value Method

In simplest terms, the value of a company or business equals the combined values of its debt plus its equity. In Strategic Modeling, the value of the whole firm to both debt and equity holders is called corporate value; the value of the equity portion is called shareholder value.

In general: this is

$$(\text{Corporate Value}) = \text{"Debt"} + \text{Equity}$$

The debt portion of corporate value refers to the current value of the firm's total obligations, which include:

1. Market value of all debt
2. Underfunded Pension Liabilities
3. Other Obligations - preferred stock (market value), golden parachutes, contingent liabilities, etc.

 **Note:**

You should use the market value rather than the book value of debt because during periods of rising interest rates, market values fall below book values. Using book values overstates the value of the liabilities, thus understates shareholder value. The reverse is true when interest rates are falling.

Corporate Value = Debt + Shareholder Value

where: Debt = Market Value of Debt + Underfunded liabilities + Market value of other obligations

Rearranging the corporate value equation to solve for Shareholder Value:

Shareholder Value = Corporate value - Debt

To determine shareholder value, you first calculate the corporate value, the value of the total firm or business unit.

- [Corporate Value Components](#)
- [Value Drivers: Key Factors Affecting Corporate Value](#)

Corporate Value Components

Corporate value, the economic value of the business or strategy, consists of:

- The present value of all expected cash flow from operations during the forecast period, known as discounted cash flows.
- The value of the firm beyond the forecast period, known as residual value.

The cash flows are discounted by the firm's cost of capital, or required rate of return, which takes into account the firm's level of both business and financial risk.

There is a third component, the value of investments in assets not involved in operations (passive investments). Their value can be added as a plugged number or separately modeled and added to Corporate value.

In general, then: Corporate Value = Value created during the Forecast Period (discounted cash flows) + Value after the Forecast Period (residual value).

Discounted Cash Flows Component

The discounted cash flows (or, more precisely, the cumulative present value of cash flows) represent the expected net cash inflows to the business, independent of the firm's financing or dividend policies:

In general, then:

Cash Flow from Operations = Actual dollar inflows + Out of Pocket Dollars

In Strategic Modeling, after you've determined the cash flow from operations for each year in the forecast period, those flows are discounted back to present-value terms, using a discount factor based on the cost of capital.

Residual Value Component

Only a small portion of a company's market value can be reasonably attributed to its estimated cash flows during a forecast period of 5 or 10 years. The remaining portion, called the residual value, typically represents well over 50% (and usually closer to 80%) of the total corporate value. There are several different ways to measure this value.

Passive Investments Component

For a precise estimation of corporate value, a third component must also be included - the current market value of investment holdings. Examples include: marketable securities, investments in stocks and bonds, investments in un-rolled up subsidiaries, an overfunded pension plan, and liquid non-operating assets. These items are not accounted for in the cash flows, but they have a value to the firm, so their value must be added to the other two components.

 **Note:**

The reason that marketable securities are not included in the working capital requirements used in estimating cash flow is that they represent cash holdings beyond those necessary for operating the business. Note also that debt (specifically, the current portion of long-term debt) is not included. Debt holders and equity holders hold the claims to the net cash flows generated by the firm. They are part of the capital structure and to include them in the investment requirements is double counting.

To summarize, Corporate value has three components: Cash flows, residual value and investments

Value Drivers: Key Factors Affecting Corporate Value

There are six key macro variables affecting values of discounted stream of cash flow from operations:

- Sales Growth Rate (g)
- Operating Profit Margin (p)
- Cash Taxes on Operating Profit (t)
- Fixed Capital Investment (f)
- Incremental Working Capital Investment (w)
- Cost of Capital (K)

These variables, or value drivers, determine each year's cash flow from operations. After each year's cash flow from operations is calculated, those flows are each discounted based on the cost of capital (K).

Because these value drivers determine the expected cash flow from operations, you can evaluate these factors to determine which ones have the greatest impact on corporate shareholder value.

To learn the value drivers, use scratch pad to estimate corporate value, so you can focus on key valuation variables.

The inputs are:

1. Number of Forecast Periods
2. Sales (Last Historical Period)
3. Sales Growth Rate (G)
4. Operating Profit Margin (P)
5. Incremental Fixed Capital Investment (F)
6. Incremental Working Capital Investment (W)
7. Tax Rate on Operating Profit (Tc)
8. Residual Value Income Tax Rate (Tr)
9. Cost of Capital (K)
10. Marketable Securities and Other Investments
11. Debt and Other Obligations
12. No. of Common Shares

After completing your scratchpad analysis, which holds each of these variables constant throughout the forecast period, you can use a more explicit model in Strategic Modeling to evaluate these variables in greater detail and changing over time. Using the Scenario Manager, you can determine the impact on shareholder value of changing variables contributing to value drivers.

Dividend Discount Method

The Dividend Discount Model calculates the value of the equity of a firm directly from the expected cash flows received by the shareholders—the Dividends. These flows are discounted at the cost of equity. The advantage of this method is that it enables you to compute Shareholder Value directly from the flows that the shareholders are actually forecast to receive.

Dividend Discount Model has disadvantages:

- If a firm adopts a fixed dividend policy, that firm's leverage may drift from the target leverage. If a firm is accumulating and investing cash in the form of marketable securities, leverage falls as does the Cost of Equity used to discount the dividend flows. If a firm is taking on debt to maintain its dividend policy, leverage and the Cost of Equity rise. Because the Cost of Equity is sensitive to changes in leverage, it needs to be adjusted for these changes in leverage to produce an accurate valuation.
- If a firm is accumulating cash or debt, sooner or later it needs to adjust the flows to shareholders to account for this. Strategic Modeling assumes that, if such an adjustment is required, it can be done at the end of the forecast period.
- If a firm is accumulating cash, it is de-levering and its Cost of Equity is being reduced. Consider the firm as engaging in two businesses: the normal business of the firm, and the business of investment (which you would expect to be less risky than the normal business of the firm).

If a firm adjusts its dividend policy to maintain a constant leverage, it is paying what Strategic Modeling refers to as the Affordable Dividend. This eliminates the problems with changes in leverage, but few firms are expected to pay their Affordable Dividend in each year. Thus, you would no longer be forecasting the expected real flows to shareholders.

See [Mid-Period versus End-of-Period Discounting](#)

Mid-Period versus End-of-Period Discounting

Consider when a firm is expected to pay its dividends. Most firms pay dividends on a quarterly or semi-annual basis. Mid-period discounting should be used here. If a firm paid only annual dividends, end-of-period discounting is appropriate.

Economic Profit Method

Although this method mixes cash and book items, it can lead to correct equity valuations if applied carefully. There are many ways to formulate this model, the most common being: $EP = \text{Net Operating Profit} - \text{Capital Charge}$

where: $\text{Capital Charge} = \text{Cost of Capital} * \text{Adjusted Book Value in Previous Period}$

The EP is calculated each period and discounted at the Cost of Capital to get a present value (PVEP). Adjusted Book Value is increased by the total incremental net investment for each period, so in general, a growing firm increases Capital charge over time. Then: $\text{Corporate Value} = \text{PVEP} + \text{Beginning Adjusted Book Value}$

which should be the same as the Corporate Value computed using the Shareholder Value Method. The Equity Value can be computed by the usual method of subtracting the market value of debt and other obligations and adding back the market value of investments.

If the Adjusted Book Value is a proxy for the owner investment in the business, the Capital Charge is the hurdle that must be reached to provide a break-even return on that investment. The Adjustments (on both the asset and liability side of the equation) that are made to Book Value make it a more reasonable proxy for owner investment in the firm, whether in the form of cash or as foregone dividends. The Economic Profit Model focuses management's attention on obtaining returns greater than the floor imposed by the Capital Charge.

The problems with the Economic Profit approach are:

- Beginning Adjusted Book Value is used as a proxy for the investment in the firm, but this number requires you to decide on the adjustments necessary to obtain the actual economic value of the firm. If the Adjusted Book Value is higher than the actual economic value, Economic Profit in the forecast period appears to be lower than it actually is—possibly causing a firm that is actually creating value to appear to be destroying value. For firms whose economic value can be measured in market terms, requiring historical, albeit adjusted, book values as part of the model is an unnecessary complication.
- Economic Profit is a short-term measure which may cause management to focus on the wrong targets, leading to dysfunctional behavior. Many value-creating projects don't return the cost of capital in their first or second year, although the long-term cash flows easily make up for the investment required in the early years of the project. A manager measured on EP may not propose such a project because of the negative Economic Profit impact in the short-term.
- The Economic Profit Model usually assumes that a firm can generate excess returns indefinitely, which runs counter to the idea that a firm creates value due to a competitive advantage that can only be maintained for a limited number of years.

Cost of Capital for Free Cash Flow Methods

The Cost of Capital (K) represents the weighted average costs of debt and equity, in proportion to the levels specified by the company's debt/equity ratio (based on market rather than book values).

The cost refers to the fact that suppliers of capital demand a return on their investment, and that return represents a cost to the recipient (that is, the firm).

The Cost of Debt is less than the Cost of Equity to the borrower for these reasons:

1. The interest portion of the return to debtholders is tax deductible.
2. Debtholders usually require a lower return because:
 - a. Debtholders' claims have a higher priority than stockholders' claims in the event of liquidation.
 - b. Debt has a fixed rate of return, whereas the return on stock depends on company performance.

The returns demanded by debtholders and stockholders are both important because the Shareholder Value Method discounts after-tax, pre-interest cash flows—cash flows on which both debtholders and shareholders have claims. The cost of capital, therefore, incorporates the claims of both these groups in proportion to their relative capital contribution. The cash flows discounted by the cost of capital yields corporate value. The market value of debt is subtracted from the corporate value to obtain shareholder value (the value of the equity).

By establishing a cost of capital, you are estimating a minimum acceptable rate of return. Returns above that rate create value for shareholders.

Most firms are comprised of different business units, each with a different exposure to macro-economic events. Not only should these units be analyzed as businesses, but each may well have a different cost of capital.

- [Recommendation to Use a Constant Cost of Capital](#)
- [Cost of Debt](#)
- [Cost of Preferred](#)
- [Cost of Equity](#)
- [Risk-Free Rate](#)
- [Beta of Equity](#)
- [Market Risk Premium](#)

Recommendation to Use a Constant Cost of Capital

From a practical matter, you should use a cost of capital that is constant over time in Strategic Modeling. In other words, the cost of capital for each forecast period should be the same as the long-term cost of capital. Think of this cost of capital as being a yield to maturity concept. The alternative is to forecast a term structure. Except in very special situations, the value of attempting these forecasts is minimal. Another factor to consider is that the first few years of expected cash flows only contribute a small fraction of the firm's total value, and that is when most of the potential capital structure changes occur. Consequently, even if you could estimate these changes, it would not change the firm's calculated value.

Analysts occasionally claim, for a variety of reasons, that the cost of capital for a company changes over time and they want to change the cost of capital used in future periods. Here are two frequently cited reasons given for wanting to change the cost of capital, with the rationale for why the rate should remain constant:

1. Claim: Interest rates are changing in the future, so our cost of capital should also be changing.

Response: Long-Term interest rates incorporate the market's expectations of average future interest rates. Although future interest rates change, people cannot consistently outguess the real market changes.

2. Claim: Although I feel reasonably confident about my forecast for next year, I'm less certain about the forecasts five years from now. Therefore I should use a higher cost of capital in later periods to discount those less certain cash flows.

Response: The discounting approach, in which cash flows are discounted by 1 divided by $(1+K)^n$, compounds the risk and reflects the assumption that the further into the future you project, the riskier the estimates are.

 **Note:**

There are occasionally situations when the cost of capital during the forecast period is not the same as the long-term cost of capital, usually when the capital structure is expected to change dramatically over time. (that is, the case of a typical LBO)

Cost of Debt

The Cost of Debt represents the after-tax cost of debt capital to a company. It can be determined in The Cost of Capital Calculator based on the rates you enter for the Yield to Maturity (YTM) and the Marginal Tax Rate.

It is important that the rate you enter is the current yield to maturity rather than the nominal cost of debt. The nominal or coupon rate (which is based on the face amount of the debt) determines the interest payment, but it does not necessarily reflect the actual cost of the corporation's debt today. As required returns change (because of changing expectations about future inflation levels and economic conditions), the price of a debt issue changes so that the actual interest payments (the nominal rate multiplied by the face amount) and anticipated proceeds at maturity yield the investors their revised required return. The yield to maturity, not the nominal rate, fully reflects the current return demanded by debtholders and the rate at which debt should be replaced.

In estimating the Cost of Debt (yield to maturity), be sure to use a long-term rate. Short-term interest rates do not incorporate long-term expectations about inflation. In projecting financial data for 5 to 10 years into the future, you should use a cost of capital that is consistent with the long-term time horizon of the forecast. Also, even if a company routinely rolls over short-term debt as permanent financing, the long-term rate is still a better approximation of the future Cost of Debt because interest rates on long-term debt incorporate the expected cost of repeated short-term borrowing.

The Cost of Debt represents the future cost of debt over a long period. Use the yield to maturity on long-term debt.

Cost of Preferred

The Cost of Preferred represents the expected return to preferred stockholders. Like debt, you must enter the yield to maturity on preferred stock, but without the tax shielding.

Cost of Equity

The return expected by investors for an individual stock - referred to in Strategic Modeling as the Cost of Equity - equals the Risk-Free Rate (RF) plus the Market Risk Premium multiplied by the stock's beta (β):

Risk-Free Rate

The Risk-Free Rate (RF) is the rate of return investors expect from holding safe investments such as long-term U.S. government securities, which are considered virtually free of risk of

default because of the stability of the U.S. government. The return demanded by investors consists of two elements: the pure or real interest rate (compensation for making the investment) and the compensation for expected inflation.

Risk-Free Rate = "Real" Interest Rate + Expected Inflation Rate

The rate of return on common stock (from dividends and stock price appreciation) is less certain (that is, riskier) than the relatively predictable returns available from U.S. government bonds. As compensation for the higher risk involved in owning common stock, investors demand a rate of return on stocks that is greater than the Risk-Free Rate. Therefore the rate of return on stock equals the Risk-Free Rate plus a risk premium for holding that stock rather than holding U.S. government bonds.

For the Risk-Free Rate, it is wise to use the current rate on long-term government bonds, which is quoted daily in publications such as the Wall Street Journal and the Financial Times. The use of short-term rates such as the current rates on Treasury bills is not recommended because they incorporate expectations about only short-term (that is, less than 90 days) inflation. Using the longest term Risk-Free Rate available incorporates expectations for inflation and interest rate fluctuations.

Beta of Equity

Individual stocks tend to be more or less risky than the overall market. The riskiness of a stock, measured by the variance of its return relative to the market's return is indicated by an index called beta (β).

- If $\beta = 1$, the stock's return fluctuates identically with the market's return.
- If β , then 1, the stock's return varies more than the market's return, and therefore its risk exceeds that of the market as a whole.
- If $\beta < 1$, the stock's return varies less than the market's return, and therefore its risk is less than that of the market as a whole.

For example, if a stock's return normally moves up or down 1.2% when the market moves up or down only 1%, the stock has a beta of 1.2. The beta is used to calculate the Cost of Equity (the return expected by stockholders) as follows:

Cost of Equity = Risk Free + Beta * Market Risk Premium

Public Companies

Beta estimates are published by a number of brokerage and advisory services, including Value Line and Merrill Lynch. Check the beta listed in one of these services as a measure of the company's past riskiness.

Private Companies

Check the betas listed in the preceding services for public companies that might be expected to share degree of market risk.

Beta is a past measure of riskiness. When making future projections, you should consider anticipated changes in the company's business or financial risk profile.

 **Note:**

If the company's Target Debt Capacity changes or you estimate a beta based on the beta of another company, you may need to adjust the beta for difference in financial risk. This is known as unlevering and relevering the beta.

Market Risk Premium

The market risk premium is the additional rate of return that must be paid over the risk-free rate to persuade investors to hold investments with systematic risk equal to the market portfolio.

The market risk premium is calculated by subtracting the expected long-term risk-free rate from the expected market return. These figures should model future market conditions closely. There are two approaches:

- Historical or ex-post risk premium approach, which claims that past market returns are the best estimator of future market returns. See [Historical \(Ex-Post\) Risk Premium](#).
- Forecast or ex-ante risk premium approach, which claims that current market information can be used to improve the accuracy of historically based estimates. See [Forecast \(Ex-Ante\) Risk Premium](#).

Historical (Ex-Post) Risk Premium

The historical approach relies on the assumption that the market risk premium is basically stable over time. It uses an arithmetic average of past risk premium to estimate future risk premium. Because it relies on actual historical information, this method can be considered an objective measure of the long-term expected market risk premium.

However, those who use this method must decide subjectively how many historical periods to use in the average. Some people believe that using the longest available data period is most objective. Since market statistics have been monitored since 1926, this period is from 1926 until today. Other people select milestones such as World War II, on the assumption that the risk premium is more stable since that time.

Forecast (Ex-Ante) Risk Premium

Other financial professionals believe that information besides historical data can be useful in predicting future market risk premium. They believe that there may have been structural changes in investment markets that affect the market risk premium and therefore historical estimates should be modified by or replaced altogether with, present expectations of future market conditions. This approach is called forecast, ex-ante or future risk premium determination.

To calculate a forecast risk premium, a forecasted risk-free rate is subtracted from a forecasted market return. The current yield curve is a valuable source of information about forecasted risk-free rates. It is composed of the current yields to maturity of risk-free bonds of various maturities. Because future rates can be locked in today and realized later, many people believe that these rates offer accurate estimates of future rates. Therefore, they use these rates as a proxy for future risk-free rates in calculating forecast risk premium.

There is much less agreement on how to forecast future market returns. In fact, the main problem with the forecast approach is that it requires a great deal of subjective judgment by the person doing the calculation. Which forecast estimates for the expected market return should be used? Should historical information be used at all? If so, what time period or periods is used and how should they be weighted with forecast estimates?

Methods of forecasting future market conditions are as varied as the assumptions on which they are based. A desirable forecast risk premium takes full advantage of the information currently available in the yield curve, includes structural changes in the risk premium, but involves a minimum amount of subjective judgment.

Residual Value for Free Cash Flow Methods

- [Perpetuity for Shareholder Value Method](#)
- [Growth in Perpetuity for Shareholder Value Method](#)
- [Value Growth Duration for Shareholder Value Method](#)
- [Price/Earnings Ratio for Shareholder Value Method](#)
- [Liquidation Value for Shareholder Value Method](#)
- [Market-to-Book Ratio for Shareholder Value Method](#)

Perpetuity for Shareholder Value Method

The Perpetuity Method measures Residual Value by assuming that the firm provides a level stream of cash flows to its stakeholders forever. This assumption seems counter-intuitive. You expect that your firm continues to grow.

But, you can use a simple Perpetuity to compute Residual Value. Strategic Modeling computes the perpetuity using a pre-investment cash flow stream. Because this stream doesn't include investment, the issue of future growth can be simplified by assuming that future investments earn exactly at the firm's Long-Term Cost of Capital rate—in other words, the Net Present Value of new investment after the forecast period is zero. (Another way to look at it is that the Internal Rate of Return on new investment equal the Long-Term Cost of Capital.)

Next it is necessary to determine which flows accrue to your firm in Perpetuity. Strategic Modeling uses the after-tax value of Operating Profit, which includes Depreciation. (Depreciation represents the amount of investment needed to replace physical assets that wear out or become obsolete.) You can adjust this value if you believe that the last forecast period's Operating Profit is not representative of the on-going Operating Profit for the firm -- similar to the adjustment to Earnings in the P/E Ratio Method.

The formula for Perpetuity in Arrears (that is, when the payment occurs at the end of the period) is as follows:

$(\text{Operating Profit} + \text{Operating Profit Adj.}) * (1 - \text{RV Tax Rate}) / \text{Long-Term Cost of Capital}$

where:

Operating Profit	(v1150)	Taxable Operating Profit
Operating Profit Adj.	(v5110)	Normalized Operating Profit Adj.
RV Tax Rate	(v4.00.560)	Residual Value Tax Rate
L-T Cost of Capital	(v5005)	Long-Term Cost of Capital

Growth in Perpetuity for Shareholder Value Method

This variation of the Perpetuity Method assumes that the cash flows grow (or decay) at a compound rate of g forever. This method, usually referred to as the Gordon Model, is characterized by the $K - g$ term in the denominator and next year's cash flow in the numerator.

The main limitation to this approach is that it may not fully recognize the cash outflows for additional investments that are likely to be required for continued growth. Also, it ignores capital structure: the growing cash flows can often lead to severe changes in capital structure

(that is, high debt/equity ratios) that are undesirable or economically unrealistic. Finally, the method makes no assumption about the economic return on the investment required for the growth. Thus, the net present value of the growth in perpetuity can yield a value less than, equal to or greater than that of the Perpetuity Method (where the economic assumption of growth yielding NPV = 0 is invoked).

 **Note:**

As perpetuity growth rates approach the long-term cost of capital, the residual value rises toward infinity - because the denominator in the formula below goes toward zero - which is clearly not a reasonable assumption.

Value Growth Duration for Shareholder Value Method

The Value Growth Duration Method enables you to assume that the post-investment cash flows that the stakeholders receive increase at a specified growth rate for a specified number of years. Thus, it explicitly assumes that value creation occurs after the forecast period but not indefinitely -- an assumption many investors consider reasonable. What is unclear for this method is how to estimate that growth rate, especially given that it needs to take investment into account, and the length of time horizon for value-creating growth.

The Value Growth Duration Method starts with the formula for a Growing Perpetuity of one dollar in Arrears: $(1 + g) / (K - g)$

where:

g	=	(v4.00.520)	Perpetuity growth rate
K	=	(v5005)	Long-Term Cost of Capital

However, Strategic Modeling assumes the time horizon is limited to a fixed number of years. Thus, in the Nth year, at the end of the Value Growth Duration, Strategic Modeling converts from a Growing Perpetuity to a simple Perpetuity.

Price/Earnings Ratio for Shareholder Value Method

This is one of the two common rule-of-thumb techniques supported by Strategic Modeling (the similar Market / Book Ratio method follows). The P/E Ratio method multiplies an estimate for a future P/E ratio by the Net Income in the last period to determine an equity value.

To calculate the Residual Value using the Price/Earnings Ratio Method, Strategic Modeling uses Income Available for Common as earnings, which is net of Preferred Dividends. In addition, because there is the possibility that the final forecast period's earnings are atypical and not representative of what the firm would earn going forward, Strategic Modeling includes a Normalized Earnings Adjustment variable to enable you to adjust the earnings accordingly.

Finally, because this method estimates an equity value, Strategic Modeling adds back the future market value of the debt to get the corporate value. Strategic Modeling enables you to determine the book value of the debt and enables you to input a Debt Discount factor to adjust the book value of the debt to market value.

The formula for the Price/Earnings Ratio Residual Value Method (v5200) is:

$P/E * (Earnings + Earnings Adj.) + Book Value of Debt - Debt Discount$

where:

P/E	(v5130) User-supplied P/E Ratio
Earnings	(v1850) Income Available for Common
Earnings Adj.	(v5140) Normalized Earnings Adjustment
Book Value of Debt	(v3510) Total Debt and Preferred Stock
Debt Premium	(v5150) Debt Discount/(Premium)

Liquidation Value for Shareholder Value Method

The simplest of the supported methods for determining Residual Value is the Liquidation Value method. Using this method, you enter the estimate worth of the company at the end of the forecast period. That amount should include the cash required to retire all the debt of the firm.

You can enter Liquidation Residual Value in v5180. This can include a formula based on key financial accounts in your analysis.

Market-to-Book Ratio for Shareholder Value Method

The Market-to-Book Ratio method for calculating Residual Value is similar to the Price/Earnings Ratio method. It uses a rule-of-thumb for determining the equity value of a company and, like the P/E method, must be adjusted by adding back the value of the debt to obtain corporate value.

The Market-to-Book Residual Value (v5190) is calculated as follows:

$M/B * \text{Common Equity} + \text{Value of Debt} - \text{Debt Discount}$

where:

M/B Ratio	(v5120) User-supplied Market-to-Book Ratio
Common Equity	(v2890) Common Equity
Book Value of Debt	(v3510) Total Debt and Preferred Stock
Debt Discount	(v5150) Debt Discount/(Premium)

8

Using Worksheets

Related Topics

- [About Worksheets](#)
- [Using Worksheets](#)
- [Linking to Account Spreadsheets](#)

About Worksheets

Worksheets are spreadsheets for entering and calculating data outside the main financial model. You can use them to detail information that feeds into the model, but does not need be expressed directly in the model. You can enter Worksheet data manually, from Excel, or use formulas to calculate values. Once data is in a Worksheet, you can link it into the financial model on the Accounts spreadsheet. Each Strategic Modeling file comes with a built-in worksheet. It can be accessed by selecting the Worksheet tab to the left of the Accounts tab.

Using Worksheets

Guidelines

- When you copy a range of cells on the Worksheet and to paste on the Account Spreadsheet:
 - Highlight a range of target cells with a number of rows and columns equal to the size of those copied, or
 - Highlight only the upper-left corner cell of the target, and the paste fills accordingly.
- Ensure that data linked to the Account Spreadsheet corresponds with the chosen forecast method. For example, if you are linking growth percentages, the forecast method should use a growth rate

Opening Worksheets

To open the worksheet from the Strategic Modeling spreadsheet.

1. From **Start** grouping label, click **WorkSheet**, and then select **Open**.
2. A new worksheet is displayed at the bottom of the **Sheet** tab.

Closing Worksheets

To close the worksheet from the Strategic Modeling spreadsheet.

From **Start** grouping label, click **WorkSheet**, and then select **Close**.

Adding Worksheets

To add the worksheet from the Strategic Modeling spreadsheet.

To add worksheets:

1. To access the worksheet. See [Opening Worksheets](#)

 **Note:**

You cannot add the worksheet from **Account View** at the bottom of the **Sheet** tab. You must open the worksheet. See [Opening Worksheets](#)

2. From **Start** grouping label, click **WorkSheet**, and then select **Add Sheet**.
A new worksheet is added at the bottom of the **Sheet** tab.

Deleting Worksheets

To delete the worksheet from the Strategic Modeling spreadsheet.

To delete worksheets:

1. Select the worksheet that you want to delete.
2. From **Start** grouping label, click **WorkSheet**, and then select **Delete Sheet**.
The worksheet is deleted from the **Sheet** tab.

 **Note:**

You cannot delete the last model worksheet.

Manually Entering Data into Worksheets

To manually data into worksheets:

1. Click on a cell.
2. Enter data.

Copying and Pasting Data into Worksheets

You can copy and paste data into a worksheet from other applications.

To paste data from another source into the worksheet:

1. Open the source application, highlight the data and copy.
2. In the worksheet, highlight the cell or range and select **Edit, then Paste**.

Creating Formulas in Worksheets

You can create formulas in worksheet cells. Formulas are stored until deleted from the cell.

To create formulas within cells:

1. In the worksheet, click a cell.
2. Enter a formula.

Begin with an equal sign and proceed with the formula. For example:

```
=SUM(B5:B18)
```

To reference a cell in your calculation, click that cell following a mathematical operator.

Linking to Account Spreadsheets

You can link data in worksheet cells directly to the Account spreadsheet for use in financial models. When you are viewing the cells on the Account Spreadsheet, cells that include data linked from a worksheet are highlighted in green.

To link data from worksheet to the Account spreadsheet:

1. Select a worksheet.
2. In the worksheet, highlight a cell or range of cells.
3. From **Start** grouping label, click **WorkSheet**, then **Copy Worksheet Link**.
4. Select the **Account** spreadsheet.
5. In the Account spreadsheet, highlight a cell or range of cells.
6. Select **Edit**, then **Paste Worksheet Link**.

9

Using Dimensions

Related Topics

- [About Dimensions](#)
- [Viewing Dimensional Accounts](#)

About Dimensions

Dimensions are a concise, intuitive way of organizing data. Each dimension is an attribute containing members, representing variations of the data. For example, the Region dimension might include the members North, South, East and West.

A dimension member is a part of a dimension—a dimension within a dimension. For example:

- January 2005 or 1Qtr05 are members of the dimension Time.
- Wholesale and Retail are members of the dimension Distribution Channel.
- Base, Optimistic, and Pessimistic are members the dimension Scenario.

Account instances are unique intersections of dimension members within accounts where values are stored. For example, Sales of Radios/Retail Stores, or Sales of Clothes/Retail Stores might be instances of the account Sales.

Creating User-Defined Dimensional Structures

Caution:

When dimensional accounts contain data, adding child members deletes all data in the parent member.

Use these rules when naming dimension or members:

- Dimension names are validated against other dimensions.
- Member names must be unique—even across dimensions.
- Members are not case sensitive (South=souTh=SOUTH).
- Member cannot share names with dimensions.
- Dimension and member names can contain alphanumeric characters, spaces, hyphens, slashes, periods, commas, and colons.

To create user-defined dimensional structures:

1. Select **Accounts**, then **Dimension**, and then **Maintenance**.
2. **Option:** To create dimensions, click **Add Sibling** and enter a name.
3. **Option:** To create members, select a dimension, click **Add Child**, and then enter a member name.

4. **Option:** To create nested members, select a member, click **Add Child**, and then enter a member name.
5. Click **OK**.

Deleting Dimensions or Members

Caution:

When dimensional accounts contain data, deleting child members deletes all data in the parent member.

To delete dimension or members:

1. Select **Accounts**, then **Dimension**, and then **Maintenance**.
2. Select a dimension or member.
Dimension and member children are also deleted.
3. Click **Delete**.
4. Click **OK**.

Assigning Dimensions to Accounts

When you assign a dimension to an account, those dimensions become another way of storing detailed information within the account.

To add one or more dimensions to accounts:

1. On the **Accounts** spreadsheet, select an account.
2. Select **Accounts**, then **Dimension**, and then **Assign Dimension**.
3. In **Available Dimensions**, select one or more dimension and click **Add**.
Selected dimensions move from **Available Dimensions** to **Assigned Dimensions**.
4. **Optional:** Select a dimension in **Assigned Dimensions**, and click **Remove** to remove dimensional assignments.
5. Click **OK**.

Strategic Modeling adds an instance of that account for each member. In the example following, the account Other Operating Expenses (v1090) is assigned to the dimension Time, and displays instances for each member: Year, Month, and Week. See [Viewing Dimensional Accounts](#).

Allocating Aggregate Amounts to Lower-Level Values

When data is entered in dimensional accounts and outputs are calculated, you can enter aggregate amounts at top or mid-level accounts and allocate them to the lower-level members in proportion to the lower-level values. These outputs are backsolved for inputs for the lower-level members.

To allocate dimensional accounts:

1. On the **Accounts** spreadsheet, select an aggregate dimensional account.
For example: Sales/Stereos

2. Select **Accounts**, then **Dimension**, and then **Account Allocation**.
3. In **New Amount**, enter the amount of the aggregate account.
4. Click **OK**.

Strategic Modeling allocate amounts to each year in proportion to the outputs for the **Current Amount** value. For example, you could change the allocation of the aggregate for 2001 by entering the **New Amount** of 40. Strategic Modeling backs into dimensional data. For example, the **New Amount** of 40 is divided equally into each account dimension combination for 2001.

Time Period	Current Amount	New Amount
2001	20	40
2002	40	80
2003	10	20
2004	50	40
2005	30	10

Viewing Dimensional Accounts

After dimensions are assigned accounts, you select which dimensional accounts to display from the drop-down list in the upper-left corner, and clicking **Apply**.

- [Dimensional Input View](#)
- [Dimensional Report View](#)

Dimensional Input View

When dimensions are first assigned to accounts, Strategic Modeling automatically creates account instances according to the dimensional structure. These accounts are both input and calculated for aggregate values.

For example:

Non-dimensional:

Account	Type
Sales	Input

Dimensional:

Account	Type
Sales	Calc
Sales/North	Calc
Sales/Illinois	Calc
Sales/Illinois/Stereos	Input
Sales/Illinois/Televisions	Input
Sales/Michigan	Calc
Sales/Michigan/Stereos	Input

Account	Type
Sales/Michigan/Televisions	Input
Sales/South	Calc
Sales/Florida	Calc
Sales/Florida/Stereos	Input
Sales/Florida/Televisions	Input
Sales/Georgia	Calc
Sales/Georgia/Stereos	Input
Sales/Georgia/Televisions	Input

- [Dimension Order](#)
- [Dimension Level of Detail](#)
- [Selecting Specific Dimension Members](#)

Dimension Order

To reorder the dimension list:

1. From the **Accounts** grouping label, and select **Dimension**, and then **Maintenance**.
2. **Option:** From the list, select the member and then click **Up Arrow** button to move the selected dimension up the order.
3. **Option:** From the list, select the member and then click **Down Arrow** button to move the selected dimension down the order.

Accounts display in this order:

Account	Type
Sales	Calc
Sales/Stereos	Calc
Sales/Stereos/North	Calc
Sales/Stereos/Illinois	Input
Sales/Stereos/Michigan	Input
Sales/Stereos/South	Calc
Sales/Stereos/Florida	Input
Sales/Stereos/Georgia	Input
Sales/Televisions	Calc
Sales/Televisions/North	Calc
Sales/Televisions/Illinois	Input
Sales/Televisions/Michigan	Input
Sales/Televisions/South	Calc
Sales/Televisions/Florida	Input
Sales/Televisions/Georgia	Input



Note:

Data for input accounts remains the same, regardless of order.

Dimension Level of Detail

Use dimension settings to display varying levels of detail such as member names, or only specific members. See [Selecting Specific Dimension Members](#).

Account	Type
Sales/Illinois	Calc
Sales/Illinois/Stereos	Input
Sales/Illinois/Radios	Input
Sales/Illinois/Televisions	Input

Selecting Specific Dimension Members

If you select <Selected Members>, the Dimension dialog enables you to display multiple members—for example, select North, Illinois, and Michigan, and click Apply to display:

Account	Type
Sales/North	Calc
Sales/Illinois	Calc
Sales/Illinois/Stereos	Input
Sales/Illinois/Radios	Input
Sales/Illinois/Televisions	Input
Sales/Michigan	Calc
Sales/Michigan/Stereos	Input
Sales/Michigan/Radios	Input
Sales/Michigan/Televisions	Input

Dimensional Report View

In report, dimensional children display above aggregate account values, separated by subtotal lines. With *All Members* of both dimensions showing, the Income Statement appears as follows:

Sales Dimension	1999
Sales/Illinois/Stereos	0.00
Sales/Illinois/Radios	0.00
Sales/Illinois/Televisions	0.00

Sales/Illinois	0.00
Sales/Michigan/Stereos	0.00
Sales/Michigan/Radios	0.00

Sales Dimension	1999
Sales/Michigan/Televisions	0.00

Sales/Michigan	0.00

Sales/North	0.00
Sales/Florida/Stereos	0.00
Sales/Florida/Radios	0.00
Sales/Florida/Televisions	0.00

Sales/Florida	0.00
Sales/Georgia/Stereos	0.00
Sales/Georgia/Radios	0.00
Sales/Georgia/Televisions	0.00

Sales/Georgia	0.00

Sales/South	0.00

Sales	0.00

- [Display Order](#)
- [No Detail Display](#)
- [Non-Selected Member Display](#)
- [Selected Member Display](#)

Display Order

As on the **Accounts** spreadsheet, reports enable you to reorder the dimensional structure—for example, switch Product with Region and the report appears as follows:

Sales/Stereos/Illinois	0.00
Sales/Stereos/Michigan	0.00
Sales/Stereos/North	0.00
Sales/Stereos/Florida	0.00
Sales/Stereos/Georgia	0.00

Sales/Stereos/South	0.00

Sales/Stereos	0.00
Sales/Radios/Illinois	0.00
Sales/Radios/Michigan	0.00

Sales/Stereos/Illinois	0.00
Sales/Radios/North	0.00
Sales/Radios/Florida	0.00
Sales/Radios/Georgia	0.00

Sales/Radios/South	0.00

Sales/Radios	0.00
Sales/Televisions/Illinois	0.00
Sales/Televisions/Michigan	0.00

Sales/Televisions/North	0.00
Sales/Televisions/Florida	0.00
Sales/Televisions/Georgia	0.00

Sales/Televisions/South	0.00

Sales/Televisions	0.00

Sales	0.00

No Detail Display

You can show no detail on reports—for example, choose *Product* and *Region* and the report displays as follows:

Sale	1999	2000	2001	2002	2003	2004	2005
Sales	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Non-Selected Member Display

Unlike on the **Accounts** spreadsheet, non-selected dimensional members must be aggregated into the account *Other* to reconcile the report properly—for example, selecting *Illinois* in the *Region* dimension, the report displays as follows:

Sales/Stereos/Illinois	12.00
Sales/Radios/Illinois	6.00
Sales/Televisions/Illinois	18.00
Sales/Other	26.00
Sales	62.00

Selected Member Display

If you select <Selected Members>, the Dimension dialog enables you to display multiple members—for example, if you select *Illinois* and *Michigan*, the report displays as follows:

Sales/Stereos/Illinois	12.00
Sales/Stereos/Michigan	4.00
Sales/Stereos/North	16.00
Sales/Radios/Illinois	6.00
Sales/Radios/Michigan	2.00

Sales/Radios/North	8.00
Sales/Televisions/Illinois	18.00
Sales/Televisions/Michigan	7.00

Sales/Televisions/North	25.00
Sales/Other	13.00

Sales	62.00

All selected members appear in the *Sales/Other* account to reconcile to Sales.

10

Using Debt Scheduler and Value Calculators

Related Topics

- [About Debt Scheduler and Value Calculators](#)
- [Using Debt Scheduler](#)
- [Debt Scheduler Considerations](#)
- [Debt Scheduler Interest and Accrued Interest Calculations](#)
- [About Depreciation Scheduler](#)
- [Using Depreciation Schedules](#)

About Debt Scheduler and Value Calculators

Strategic Modeling provides tools designed with built-in corporate finance theory for calculating valuation assumptions.

- Debt Scheduler—Calculates debt amortization information.
- Depreciation Scheduler—Creates time periods for calculating depreciation of assets.

Using Debt Scheduler

Debt Scheduler helps you capture and manage cash flow associated with debt instruments, such as debt amortization, payments, interest, and interest rates:

- In setting the term (time) of the debt, you decide the number of years to repay. You can define debt as acquisition-related, to issue debt that is associated with an acquisition as opposed to existing business operations.
- In setting the principal, you define the money borrowed, premiums or discounts, and one-time costs incurred at the time of debt issuance.
- In scheduling payments, you can have recurring payments or payments of specific amounts on specific dates.
- In setting interest rates, you can define rates with macroeconomic variables, calculate interest rates as percentages of spread accounts, calculate interest rate changes with grid pricing to model company performance in a given time period, or add payment-in-kind (PIK) interest to the principal.
- In setting the debt recapture, you apply performance-based excess cash flow to the debt.
- In setting inheritance, you can define parameters inherited by other scenarios from debt schedules belonging to parent scenarios.

If using Debt Scheduler, you attach a debt schedule to one of the following debt accounts or their subaccounts:

- New Senior Notes (v2652)
- New Senior Subordinated Notes (v2654)

- Total Long Term Debt (v2660)

You must select one of these debt accounts or a related account to create a debt schedule.

Debt schedules are scenario-specific. When you create debt schedules, ensure you are in the correct scenario. You cannot create debt schedules in Actual, Business Case, or currency translated scenarios.

Debt Schedule Guidelines

With debt schedules, use these guidelines:

- Time structures of financial models must be in calendar time before creating debt schedules. Non-calendar time structures, such as years in which each month has exactly 30 days, cannot handle debt schedules.
- Calculate all inputs for time periods before running debt schedules to produce outputs. For example, PIK Interest Rate is an input to the calculation and cannot be forecast using Cash Interest Rate after Repricing, which is an output of the calculation—a circular reference may result.
- It is not good practice to create a debt schedule attached to a subaccount that contains unrelated debt values.

Manually Modeling Debt Recapture Without Debt Scheduler

To model debt recapture without using Debt Scheduler, you define the recapture in debt accounts (v2652, v2654, or v2660).

Caution:

Do not manually model recapture in debt accounts when some periods are covered by Debt Scheduler and others are covered manually, because the methods used to calculate recapture in these two cases are incompatible.

To manually model debt recapture:

- So that the debt recapture affects the debt balance, set the forecast method for the balance account (.00) of the debt schedule to **Forecast as...** using the **Change In** method, instead of directly forecasting the debt balance. Then, set the forecast method to **As Actual Value** and use a **Constant Input** value of 0.
- So that the debt balance cannot go negative due to recapture, cap the forecasted maximum recapture account (.17) against the trial debt balance before recapture. For example, you can use a Freeform Formula for the .17 account such as:

```
@min(@max( X, 0 ), @sub(v2660 (@inputpd(-1)) +@sub(v2660.03) +@sub(v2660.35)
+@sub(v2660.04) +@sub(v2660.13) -@sub(v2660.15) +@sub(v2660.09) )
```

where X represents the formula used to calculate the maximum recapture amount available. The recapture must be at least 0, but no larger than the anticipated debt balance.

 **Caution:**

If you use Freeform Formulas when debt balances are forecast directly (not as the related funds flow account), circular references occur—no debt is recaptured and the calculation fails.

Defining Debt Schedules

You can access Debt Scheduler from the Accounts spreadsheet, Freestyle reports, or non-debt accounts. When you access Debt Scheduler from accounts that are not long term debt, you must select a long-term debt account. Create debt schedules for these long-term debt accounts:

- New Senior Notes (v2652)
- New Senior Subordinated Notes (v2654)
- Total Long Term Debt (v2660)

Before creating a debt schedule in one of these accounts, access the Funding Options dialog, select **Common**, and then select **Term Debt** in the Type column for the account.

See [Account Types](#) and [Setting Common Attributes for Funding Accounts](#).

To define debt schedules:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. From the **Data** grouping label, and select **Debt Schedule**, and then **New/Edit**.
3. **Optional:** On **Debt Scheduler**, select a scenario from **Scenario**.
 - For creating debt schedules, this scenario contains the debt schedule.
 - For editing debt schedules, select the name of the scenario containing the debt schedule.
4. **Optional:** To create debt schedules, in **Create new Debt Schedules**, select an account and click **OK**.
5. **Optional:** To edit debt schedules, in **Edit existing Debt Schedules**, select an account and click **OK**.
6. Set parameters:
 - Term—see [Setting the Term of Debt Schedules](#).
 - Principal—see [Setting the Principal of Debt Schedules](#).
 - Payments—see [Setting the Payments of Debt Schedules](#).
 - Interest—see [Setting the Interest of Debt Schedules](#).
 - Recapture—see [Setting the Recapture of Debt Schedules](#).
 - Inheritance Rules—see [Setting the Inheritance of Debt Schedules](#).
7. Click **OK**.

Deleting Debt Schedules

To delete Debt Schedule:

1. Access the Strategic Modeling ribbon in Microsoft Excel.

2. From the **Data** grouping label, and select **Debt Schedule**, and then **Delete**.
3. **Optional:** On **Delete debt schedule**, select a **Scenario** from drop-down list, and then click **OK**.

Setting the Term of Debt Schedules

The term is the time duration over which debts are paid. Use **Debt Scheduler—Term** to set the issue date and maturity date of the debt schedule.

To set the debt schedule term:

1. Access **Debt Scheduler**.
See [Defining Debt Schedules](#).
2. In **Debt Scheduler**, select **Term** tab.
3. In **Issue Date**, enter the date that debt is incurred.

Default: current date

Click the down arrow to display a calendar—select a date. The debt is issued at the end of that day. For a period ending on the issue date, the balance sheet shows debt, but calculates no interest. However, see **Dated Date**, in step 6.

Note:

The financial model must be in calendar time. For information, see [Debt Schedule Guidelines](#).

4. In **Maturity Date**, select a date by which the debt should be paid in full.
Default: current date
Click the down arrow to display a calendar—select a date. Outstanding debt balance is paid at the end of that day.
Term (years and days) updates to display the length of the debt schedule according to the issue and maturity dates you enter.
5. In **Dated Date**, enter the date on which you first pay interest. If you want to pay interest on the **Issue date**, set **Dated date** to the day prior to the **Issue date**.
6. In **Day Count Convention**, select the day count convention you want Debt Scheduler to use to calculate interest in months of varying lengths. The following conventions are available:
 - Actual/Actual (ISDA)
 - 30/360 (US)
 - 30/360 (ISDA)
 - 30E/360
 - 30E/360 (ISDA)
 - 30E+/360
 - Actual/360
 - Actual/365
 - Actual/365L

- Actual/365NL

To learn more about day count conventions, see <https://www.iso20022.org/15022/uhb/mt565-16-field-22f.htm>

7. **Optional:** Select **Debt Issued in Deal Period** to set **Maturity Date** to the deal period of the financial model.

Available only when the model contains a Deal Period. The .02 accounts for debt aggregate to a separate account in the Financing section of the FAS95 cash flow statement.

Automatically selects **Acquisition Related Debt**.

8. **Optional:** Select **Acquisition Related Debt** to set cash flows related to the issuance as acquisition flows instead of investing flows.

You can have acquisition-related debt that does not start in a deal period.

Setting the Principal of Debt Schedules

Use **Principal** to enter the loan amount, which is the principal.

To set debt schedule principal:

1. Access **Debt Scheduler**.

See [Defining Debt Schedules](#).

2. In **Debt Scheduler**, select **Principal** tab.

3. In **Principal**, enter a value in the default currency/units of your model (for example, **Millions of US Dollar**).

This is the loan amount—it must be greater than zero. For example, if an account is in millions, the value 100 equals 100,000,000.

4. In **Premium/Discount - in percent**, enter a value.

If the loan is issued at a premium or discount, enter the percentage. Calculated as a percent of the principal.

- Enter a premium as a positive number.
- Enter a discount as a negative number.

5. In **Issue Costs - in percent**, enter a value.

If there are issuing costs, enter the value. This value represents a percentage of the principal.

6. **Optional:** Select **Amortization follows principal** to have any amortized costs follow the principal loan amount as it is paid down. If it is not selected, then changes in principal don't cause additional amortization to occur, unless the loan is repaid in full.

7. **Optional:** Select **Expense issue costs as incurred** to expense the issue costs.

Issue costs are usually capitalized and amortized over the life of the debt. Select this option so issue costs are calculated and shown on the income statement in the period when the debt is issued.

8. **Optional:** Select **Calculate current portion of long-term debt** to calculate the current portion of long-term debt by determining the payments scheduled to be made over the next 12 months.

Setting the Payments of Debt Schedules

Payments are reductions of principal. Use **Payments** to schedule payments to the principal. You can schedule payments at intervals or set dates and amounts. You can set payments as currency values or as percentages of the principal.

To set debt schedule payments:

1. Access **Debt Scheduler**.

See [Defining Debt Schedules](#).

2. In **Debt Scheduler**, select **Payments** tab.

3. In **Frequency**, select an option to define the frequency of payments:

- **Balloon**

The amount is paid on the last day of the debt schedule.

- **Annual, Semi-Annual, Quarterly, Monthly**

These options define periodic payments.

- **Schedule**

Use the **Scheduled Payments** grid to define payment dates and amounts.

4. In **Payments are in**, select an option to define payments:

- **Currency**

Payments are calculated and displayed as currency values.

- **Percent**

Payments are calculated and displayed as a percentage of the principal.

5. In **Total Payments** and **Amount Remaining**, verify the number of payments.

Displays the number of payments and the amount of the principal paid, and the amount remaining unpaid.

 **Note:**

You need not schedule all payments in a debt schedule, as the remaining balance is paid on the last day of the loan.

6. In **Recurring Payments**, define the amount and day of each debt payment.

- In **Amount**, enter a value for the amount of the recurring payment.

This is the amount of money paid on the specified dates or time intervals. The value here is determined by the **Payments are in** option.

- **Currency**

If **Currency** is selected in **Payments are in**, the text below **Amount** displays the scale of the currency, and values are in currency.

- **Percent**


If **Percent** is selected in **Payments are in**, the text below **Amount** reads 'Percent', and values are as a percentage.

- Select the **Date of first payment**. This option and the associated **Is last day of month** checkbox are available only when the payment frequency is neither **Balloon** nor **Schedule**.
 - The date of the first payment must be greater than the **Issue Date** and less than the **Maturity Date** for the instrument.
 - Select **Last Day of the Month** if you want all debt payments occur on the last day of the month.
7. **Optional:** Click **Create matching schedule** to create payment dates and amounts.

 **Note:**

If you select **Schedule** in **Frequency**, you must define the date and amount of those payments in the **Scheduled Payments** grid.

To create the **Scheduled Payments** grid:

- Click .
- In the **Date** column, enter a date.
You enter values directly from the keyboard, click the scroll arrows, or click the down arrow to use the calendar tool
- In the **Amount** column, enter a payment amount.
- To delete a payment, select a row and click delete.
- To reorder a payment, select the row and click the up or down arrow.

Setting the Interest of Debt Schedules

You manage interest on the debt on **Interest**.

To set debt schedule interest:

1. Access **Debt Scheduler**.
See [Defining Debt Schedules](#).
2. In **Debt Scheduler**, select **Interest** tab.
3. In **Date of first interest payment**, select the date of the first interest payment.
Select **Is last day of month** if all interest payments occur on the last day of the month.
4. In **Cash Interest**, define how cash interest is handled:
 - In **Frequency of Interest Payment**, select the frequency of interest payments.
Debt Scheduler calculates interest expense on a daily basis, but you define when interest payments occur. Each option has a different effect on overall cash flow:
 - **Annual, Monthly, Quarterly, Semi-Annual**
Calculate interest at the selected interval.
 - **Daily**
If interest payments occur on any day except the last of the month, interest accrues at the end of every reporting period. With **Daily**, interest is paid as it is incurred, so the cash flow of the interest matches the expense, and no interest accrues.

- **Balloon**

Use **Balloon** to calculate zero interest payments through the life of the debt, but pay all interest in one lump sum at the end of the schedule.
- **Never**

Calculates no interest.
- Select **Interest Rate Input Is** to define variable or constant interest rates for each period. Applies only to simple interest—does not include compounding.
 - **Variable in each period**

Enter interest rates on **Accounts**.
 - **Constant for all periods**

Use the same rate throughout the loan term.

With **Constant for all periods**, enter a value in **Interest Rate** to define the constant interest rate.
- **Optional: Select Spread over another account** for loans affected by macroeconomic variable.

Default = off


Some loans interest rates depend on macroeconomic variables. With **Spread over another account**, Debt Scheduler calculate interest by combining the rate in **Interest Rate Input Is** combined with output values from an account you select in **Spread Account** as the macroeconomic variable.
- **Optional: In Use Grid Pricing** you can define rules changing interest rates according to criteria over time.

To use grid pricing, select **Use**, and then click **Edit**.

Default = off

Use grid pricing to define rules changing the interest rate according to company performance in time periods.

Enter a date when the grid pricing rule takes effect in **Date to start** repricing, and click **Edit** to create rules.
- In **Base Grid Pricing on**, select a criteria account.

This account becomes the metric for measure.
- In **Comparison to use**, select how to compare to the criteria account.
- In **Adjust by**, select an adjustment type.
- In **Reprice**, select the frequency of calculation. The system adjusts rates at the beginning periods.
- In the **Grid Pricing** table, click  to create rows. Then enter values:
 - **Criterion in Millions of Dollars** in this column, enter the value of the criteria in the same scale as the account.
 - **Adjustment in Percent** in this column is the effect on the rate, as a decimal. For example, if the rate increases a quarter of a point, enter .25.
 - To delete, select a row and click **Delete**.
 - To reorder, select a row and click the up and down arrows.

- Click **OK** to exit the **Grid Pricing** dialog.
5. **Optional: In PIK Interest**, define payment-in-kind (PIK) interest:
- In **Added to Principal**, define how often interest is added back into principal:
 - **Never**
Calculate no interest.
 - **Daily**
Calculates interest daily.
 - **Monthly**
Calculates interest monthly.
 - **Quarterly**
Calculates interest quarterly.
 - **Semi-Annually**
Calculates interest semi-annually.
 - **Annually**
Calculates interest annually.
 - In **Date of first PIK interest payment**, select the date of the first PIK interest payment.
 - **PIK Interest Rate** displays the rate of payment-in-kind interest. The PIK interest rate account (v16xx.65) must be forecast as constant in all periods. Varying PIK interest rates cannot be forecast here.

Payment-in-kind interest is non-cash interest, so it is added back to the principal. You define how often to add interest back into the principal. As interest is calculated on a daily basis, subsequent interest calculations are increased depending on how often interest is added back into the principal.

Setting the Recapture of Debt Schedules

Recapture uses excess cash flow based on performance and to make additional payments on principal.

To set debt schedule recapture:

1. Access **Debt Scheduler**.
See [Defining Debt Schedules](#).
2. In **Debt Scheduler**, select **Recapture** tab.
3. In **Recapture as**, select an option:
 - **None**
 - **Independent Item**
Recapture is stored as a line item.
4. In **Date of First Annual Recapture Payment**, select a date.

Setting the Inheritance of Debt Schedules

Using **Inheritance**, define which parent scenario debt schedule attributes are inherited by all scenarios. If there is no parent scenario to inherit from, items on this tab are not available.

- When selected, each attribute is disabled on the corresponding tab, showing the parent scenario's schedule value.
- When not selected, the attribute is available.

To set debt schedule inheritance:

1. Access **Debt Scheduler**.
See [Defining Debt Schedules](#).
2. In **Debt Scheduler**, select **Inheritance** tab.
3. **Optional:** In **Term**, select **Term**.
4. **Optional:** In **Principal**, select inherited parameters:
 - **Principal**
 - **Premium/Discount**
 - **Issue Costs**
 - **Expense Issue Costs**
 - **Calculate Current Portion of LTD**
5. **Optional:** In **Payments**, select inherited parameters:
 - **Payment Frequency**
 - **Payment Type**
 - **Payment Amount**
 - **Payment Date**
 - **Payment Schedule**
6. **Optional:** In **Cash Interest**, select inherited parameters:
 - **Interest Frequency**
 - **Single Interest Rate**
 - **Interest Spread**
 - **Repricing**
7. **Optional:** In **PIK Interest**, select inherited parameters:
 - **PIK Frequency**
 - **PIK Interest Rate**

Debt Schedule Related Accounts

You create debt schedules under three main accounts:

- New Senior Notes (v2652.00)
- New Senior Subordinated Notes (v2654.00)
- Total Long Term Debt (v2660.00)

After you create a debt schedule in one of these accounts, it includes these debt-schedule-related accounts:

- (.02)
- (.03)

- (.06)
Defines the minimal amount of debt and constrains debt payments.
- (.11)
The issuance of non-acquisition debt. If you enter a value for the principal and the debt is not acquisition related, the value is added to debt in the main account.
- (.13)
Total issuances—the sum of all acquisition-related and non-acquisition-related debt issuances.
- (.14)
- (.15)
Payments that have actually been paid. This may deviate from scheduled payments in the form of recapture, funding options, or if they run below the minimum debt or not.
- (.17)
The maximum excess cash flow that can potentially be applied to recapture payments.
- (.18)
The actual amount of recaptured cash flow paid to the debt. It is constrained by the amount of debt that can actually be paid.
- (.19)
The total payments in a given period that you can control.
- (.50)
Accrued cash interest.
- (.51)
Cash interest expense. In any period, the account value should be the equivalent of principal times the rate, which can change in a period.
- (.52)
Cash interest paid.
- (.55)
Cash interest rate you have entered.
- (.56)
Interest rate after re-pricing.
- (.60)
Accrued PIK interest.
- (.61)
PIK interest expense.
- (.62)
PIK interest paid.
- (.65)
PIK interest rate.
- (.70)

- Unamortized issue cost. Treated as a non-current asset.
- (.71)
Change in unamortized issue cost.
- (.75)
Amortization of issue cost—a non-cash item. You control where it appears in the income statement.
- (.80)
Unamortized premium or discount. When bonds are issued at more or less than face value, the issue must record a premium or discount.
- (.81)
Change in unamortized discount or premium.
- (.85)
Identifies how the premium or discount is amortized.
- (.97)
Current portion of long-term debt. The current portion is the amount of debt that is scheduled to be paid within the next 12 months.
- (.98)
Long-term portion of long-term debt. The long-term portion is the total minus the current portion. A reporting item only.
- (.99)
Triggers calculating debt schedules.

Debt Scheduler Considerations

Note this information about Debt Scheduler:

Debt Scheduler Calculation in Leaf Periods

If you enter data for Input Aggregate periods (in the **Time Periods** dialog box), note that for the following accounts, you must enter values at the leaf level (for example weeks or months depending on your time period setup) rather than aggregate periods:

- .06: Minimum Balance
- .17: Recapture Pool
- .35: Non-cash Adjustments
- .55: Cash Interest Rate
- .65: PIK Interest Rate

Currency Translation Adjustments in the Debt Scheduler

Because the Debt Scheduler always works with debt instruments in the native currency of the model, the value of all of the associated currency translation adjustments should be zero during the term of the debt in scenarios that are not translated. Those accounts are now forced to be zero by the Debt Scheduler calculation:

- .04: Currency translation revaluation for the debt balance

- .54: Currency translation adjustment for accrued interest
- .64: Currency translation adjustment for PIK accrued interest
- .74: Currency translation adjustment for issue costs
- .84: Currency translation adjustment for discount / premium at issuance

Debt Scheduler and the Deal Period

Because a Deal Period is a zero-length period that occurs at the end of a day, it has the same ending day number as the Closing period that immediately precedes the Deal Period in the model.

In general, the payment of interest and repayment of principal never occurs during a Deal Period, but occurs during the preceding Closing period if it's within the term of the debt instrument. However, if the Issue Day of the debt instrument is the same day as the Deal Period, then Debt Scheduler evaluates whether **Acquisition Related Debt** on the Term page is selected for the debt instrument. If it's selected, then the debt is issued during the Deal Period; otherwise, it is issued during the Closing period.

Tip:

You can create subperiods if needed so that the Deal and the debt issuance occur on the correct date.

The Debt Scheduler and Scenario Inheritance

Like an account, a Debt Schedule is an item that belongs to a scenario and whose values can be inherited by other scenarios in the model. Unlike an account, this information is managed from the Debt Scheduler dialog boxes, which allow you to add or delete a Debt Schedule from the currently active scenario.

- Creating a debt schedule in an inheriting scenario.
When creating a Debt Schedule in an inheriting scenario, if there is a Debt Schedule that is currently inherited by that scenario, then the initial values in the Debt Schedule are copied from the Debt Schedule that is being inherited from.
- Inheritance of debt schedule values.
By default, a Debt Schedule inherits nothing from the Debt Schedule that it is set up to inherit from. To inherit selected values from that Debt Schedule, use the **Inheritance** tab in Debt Scheduler and select the item that you want to inherit. For example, if you want your inheriting instrument to have the same term as the original instrument, select the **Term** option on the **Inheritance** tab for the inheriting Debt Schedule.

For values that are entered for the Debt Schedule through the accounts on the Account View, add the matching accounts to your scenario using the Scenario Manager if you want to use a different value in the inheriting scenario.

Debt Scheduler and Currency Translation

Translated scenarios do not allow Debt Schedules. They can hold the translated results from a scenario that has a Debt Schedule, but the translated scenarios only hold translated values, so the presence or absence of a Debt Schedule is immaterial to the currency translator.

Debt Scheduler and Scenario Rollup

- Debt Schedules in the Child Model.

When rolling values from the child to the parent, we take the values from the child that are stored in the accounts whether those were generated by a Debt Schedule calculation or whether they were calculated in other ways. Thus, the presence of a Debt Schedule in the child model is immaterial to the scenario rollup.

- **Debt Schedules in the Parent Model.**
One of the common use cases in Scenario Rollup is to provide financing at the parent level, which is a great place to use the Debt Scheduler to provide specific debt items for financing. To do this, attach a Debt Schedule (and any related accounts that are entered on the Account View) to an Input Only scenario. Enter the data for the debt instrument into that Debt Schedule, and then specify that the Input Only scenario is a contributing scenario for one or more Business Cases that you're rolling up.

Note that you cannot add a Debt Schedule to a Business Case scenario directly. This is by design.

Debt Scheduler Interest and Accrued Interest Calculations

Day Count Conventions and Direct Calculation of Interest Payments and Accrued Interest

- Interest is calculated using the selected **Day Count Convention** on days when:
 - An interest payment is due.
 - The debt balance changes.
 - It is the end of the current time period.
- Interest is calculated using the DCF (day count fraction), which is based on the number of elapsed days since the last interest payment and the number of days in a year, according to the selected **Day Count Convention** for the instrument.
- Interest is calculated on the balance at the beginning of the day.
- Interest payments and accrued interest (including PIK interest) are calculated based on the selected day count convention, the number of elapsed days, the balance, and the rate to be applied to the balance. The day count convention and the number of elapsed days can be used to calculate the DCF which is used in the calculation. In the simple case, interest and accrued interest are calculated using the appropriate DCF as follows:

$$\text{DCF} * \text{Balance} * \text{Rate}$$

For interest payments, the DCF is calculated based on the number of days between the last interest payment and the current interest payment.

For accrued interest, the DCF is calculated based on the number of days between the current date and the most recent interest payment. If that is the same date, then the accrued interest is zero.

Calculating the Dates of Interest Payments

Before calculating a Debt Schedule, the scheduled dates of all interest payments that should be made during the term of the loan according to the selected day count convention are calculated. Temporarily storing these dates in ascending order makes it easy to see when a payment is due as well as when the previous payment was.

Calculating the Day Count Fraction

The day count fraction (DCF) is the fraction of a year that is represented by the difference of the two dates involved. Dates that are separated by less than a year have values less than one; dates that are separated by more than a year have values greater than one.

Interest Expense Calculated Indirectly

Interest expense is calculated indirectly, as it is a flow that is related to the accrued interest balance account and the interest payment flow. It is the change in the accrued interest account plus any interest payments during the time period.

Calculating Interest Payments and Accrued Interest When the Debt Balance and Interest Rate Are Changing

The formula for calculating these values in a changing environment is:

$DCF * (\text{Weighted Average of } (\text{Balance} * \text{Rate}))$

Debt Scheduler calculates using the real daily calendar. Calculations take into account the selected day count convention, which might not map to the calendar.

Debt Schedules That Begin In Historical/Actual Periods

Because Debt Scheduler does not calculate the debt schedule in historical/actual periods, you must provide correct initial values (that is, in the last leaf period that the debt scheduler does not calculate) for the debt balance and accrued interest, so that the values in the forecast period are accurately calculated.

About Depreciation Scheduler

The Sample model (`$sample.alc`) that comes with Strategic Modeling contains an example that you can use to see how the Depreciation Scheduler works.

Note:

Depreciation scheduler works only in Oracle Smart View for Office (the calculations work anywhere. However, there is no editor on the Strategic Modeling Web).

Load the Sample model into Smart View, go to the **All Accounts** group on the **Account View**, and search for `v2190.01` (Depreciation Expense), which is calculated using the Depreciation Scheduler. Opening the **Forecast Method** dialog for this account, you notice that it uses a **Freeform** forecast type with the formula, "`@depr(v2170.01,5 year SL`". The `@depr` function references the "5 year SL" (five year, straight line) depreciation schedule stored in the Depreciation Scheduler. Depreciation is calculated by applying the stored schedule to a class of assets being acquired. The results are summed to give the total depreciation for the current year, in this case, `v2170.01` (Fixed Capital Investment).

Open the audit trail for `v2190.01`. As you drill down the calculation, you notice that in any given year, the first year's depreciation percentage is applied to the current year of Fixed Capital Investment, the second year to the previous year, and so on for the length of the schedule. With the results being summed to give the total depreciation for the current year.

Using Depreciation Schedules

You create depreciation schedules to depreciate capital assets over time in formulas.

To use depreciation schedules:

1. From the **Analysis** grouping label, and then select **Depreciation Scheduler**.
2. Add a depreciation schedule—see [Adding Depreciation Schedules](#).
3. **Option:** To change schedule lengths, in **Schedule**, select a schedule and click **Length**—see [Setting the Length of Depreciation Schedules](#).
4. Delete a depreciation schedule—see [Deleting Depreciation Schedule](#)
5. **Optional:** To distribute the depreciation percentage across the schedule years, click each year cell and enter a percentage.
 - First column—Year number
 - **Percent** column—Percentage of depreciation per year. Use digits for percentages, for example, enter 20 for 20%, as opposed to .2. For salvage value reasons, the rates need not equal 100.
6. Click **OK**.

Adding Depreciation Schedules

To create depreciation schedules:

1. On **Edit Depreciation Schedule**, click **Add**.
2. In **Name**, enter a name.
3. In **Length in Years** enter a number of years.
4. Click **OK**.

Deleting Depreciation Schedule

To delete depreciation schedule:

1. From the **Analysis** grouping label, and then select **Depreciation Scheduler**.
2. On **Edit Depreciation Schedule**, select a **Schedule** from the drop-down, and then click **Delete**.
3. Click **OK**.

Setting the Length of Depreciation Schedules

To change the length of depreciation schedules:

1. On **Edit Depreciation Schedule** in **Schedule**, select a schedule, and click **Length**.
2. In **New Length**, enter a number of years.
3. Click **OK**.

11

Rolling Up Financial Models

Related Topics

- [About Scenario Rollups](#)
- [Overview of Business Case](#)
- [Running Multiple Business Case Scenario Rollups](#)
- [Setting Up Server Scenario Rollups](#)
- [Working with Business Cases in Scenario Rollups](#)
- [Working with Scenario Rollups](#)
- [Data Management](#)
- [Scenario Rollup Funding Options](#)

About Scenario Rollups

Combine multiple Strategic Modeling (*.alc) models to form a single model to better analyze your enterprise. Strategic Modeling helps determine how changing business unit conditions affect parent company earnings and values. After reviewing the rolled up model, you can make informed decisions about individual business units.

You can roll up business unit information such as method, scenario, time period, subaccount detail, and organizational levels.

Business unit models do not require matching structures—they can have different scenarios, time periods, forecast methods, subaccount structures, residual value methods, currency denominations, and treatments for debt/interest and taxes. You may include models with incomplete financial structures, such as corporate files containing only general expenses and fixed assets. There are some restrictions on rolling up data.

Identify the information for analysis before deciding what to roll up to determine business unit details and the manner of rollup. For example, if you are considering divesting a portion of a business unit, you would want to roll up 100% of the earnings and the balance sheet amounts up until the transaction date, roll up the unsold portion of the unit after the transaction date and you would enter the child model twice, with the appropriated time periods selected for rollup.

For optimizing scenario rollups:

- Parent models should never forecast variables accepting input based on funding options results.
- To optimize rollup speed at the cost of storage, activate **Store outputs for all accounts** in **Scenario Manager** for each model to avoid recalculating unchanged values.

Scenario Rollups

You can create scenario rollup structures in Strategic Modeling. Scenario rollup structures represent organizational structures, where each department of a company has a child model or business unit file, and the values from all are rolled-up, or added-up, into a rolled up parent model.

The rolled up parent model (rolled up parent, scenario rollup file) becomes the root of all child models in the structure, and data from the child models are rolled up into the parent when the scenario rollup is run. This gives you the overall financial picture of an organization.

For example, say you have a manufacturing company with West Coast regional operations. You could have a parent file or model called *West Coast* for the root of the structure, and files or models for departments such as *Accounting* and *Manufacturing* as children, so their numbers are rolled-up into *West Coast* to give you the total numbers for the whole region.

Limitations

To ensure data integrity, scenario rollup structures allow only one data representation per model, no matter how many scenario rollup structures share each model.

For example, a scenario rollup structure called *West* contains child models *Accounting* and *Manufacturing*. *Purchasing* is a child of *Accounting*, but you want to create a copy to see what happens if *Purchasing* rolls into *Manufacturing*. You cannot do this on the service, because moving *Purchasing* into a second scenario rollup structure breaks the first structure.



Note:

Use scenario rollup labels to create variations of scenario rollup runs within the service.

Selecting Scenario Rollup Parent Models or Files

The first step in scenario rollup is selecting or creating a scenario rollup parent, which is the model or file receiving the rolled up data. The scenario rollup file determines the time period and account structure, so all business units' time periods should match, as should the fiscal year ends of the scenario rollup and child models. If time periods are different, create a rolled up parent including all relevant time period detail and account information.

Rolling Up Scenario Rollups

The full scenario rollup method adds output values from business units to produce output values in the rolled up parent. Strategic Modeling calculates each file before adding the values to the rolled up parent. Input values in the rolled up parent is calculated based on output values from the child models and the forecast method selected in the rolled up parent. For example, if you roll up two business units containing forecast data for Sales in the below table, if each unit's previous period sales was \$100:

Table 11-1 Sample rollup

Business Unit	Input	Output	Forecast Method
Business Unit #1	10%	\$110	Growth Rate
Business Unit #2	\$125	\$125	As Actual Value
Rollled Up Parent	0	\$0	Growth Rate

After rolling up, the Sales account in the rolled up parent reflect the growth rate necessary to achieve the sales total of the two business units combined. In this example, you need a growth rate of 17.5% to achieve the additive sales value of \$235.

Business Unit	Input	Output	Forecast Method
Rolled Up Parent	17.5	\$235	Growth Rate

Most rolled up accounts are calculated like this. There may be occasions when the additive process does not apply. For example, User Defined Accounts are typically used for non-currency items such as inflation rates and price/quantity relationships—the additive rollup process would yield meaningless results. Such accounts are candidates for blocking, so you can manually enter data in the rolled up parent—see [Excluding Models from Scenario Rollups](#).

There may be accounts in the child models that should not be included in the rolled up parent. To eliminate an account completely, you include it in an elimination group

Entering Data in Scenario Rollup Parent Models or Files

When accounts are blocked, they are not included in the scenario rollup. You can manually enter data for those accounts in the rolled up parent for calculating output values of blocked accounts.

Tree View

The Tree View display the same information, but with variation:

- **Model Tree**
The model name.
- **Business Case/Scenario**
The active Business Case/Scenario in the model is for the current scenario rollup.
- **Method**
The method for rolling up the model—see **Method Used** in [Specifying Child Model Characteristics](#).
- **% Ownership**
The percentage of its value each individual account contributes—see **Ownership % of Selected Model** in [Specifying Child Model Characteristics](#). For example, at 50% only half of the listed account value contributes to the scenario rollup.
- **Status**
Models have these possible states:
 - **Rollup**
The scenario rollup needs to be run.
 - **Working**
The scenario rollup is processing.
 - **Calc**
The model is calculated.
 - **Change**
The model has changed.
 - **Ready**
The scenario rollup is complete.

- Perform a task:
 - To deselect excluded models—Select a model, right-click on the model, select **Exclude**, and then deselect the following option: **From the Parent Scenario** and **From All Parent scenarios**
 - To excluded models—Select a model, right-click on the model, select **Exclude**, and then select the following option: **From the Parent Scenario** and **From All Parent scenarios**, and the models are displayed as follows:
 - Tree View**—Excluded models display [Excluded] by the model name.

Using Model Scenarios in Scenario Rollups

For each scenario rollup structure, you select which scenario a model contributes. For models with different scenarios in multiple scenario rollup structures, model changes require you to rerun only those scenario rollup structures using the changed scenario.

Running Scenario Rollups

After building scenario rollup structures and assigning model characteristics, you can run scenario rollups, [Setting Up Server Scenario Rollups](#), and [Working with Scenario Rollups](#).

To run scenario rollups:

1. In **Smart View** pane, select the **Strategic Modeling**, and then expand **Scenario Rollups** node.
2. Right-click on the structure name, and then select **Open**.
3. In **Model Tree**, select a parent model, and select **Scenario Rollup** tab, and then click **Run**.
 - Models display the **Working** status as the scenario rollup processes.
 - A **Scenario Rollup Completed** prompt and a **Ready** status displays.

Overview of Business Case

Business Case is a synthetic dimension that can be used for both database exporting and scenario rollups. This enables you to map the mix-and-match scenario data from the scenario rollup to a single dimension; as a result you can roll-up the data when exported to the Planning or Essbase environment without any errors.

When rolling up a Business Case, various scenarios are contributed to the scenario rollup by the different models being rolled up. When exporting values to a database, the data to export can be specified either by scenario dimension or business case dimension, depending on the setup of your export instructions.

After scenario rollup, if you want to automatically export the data to an external database, then we export the Business Case dimension instead of the Scenario dimension. As a result, reporting on the external database can display the values that contributed to the scenario rollup for a particular Business Case. It is an easy and intuitive way to define a scenario rollup with mix-and-match functionality that can be exported to an external database in the format that database will expect.

Running Multiple Business Case Scenario Rollups

If a scenario rollup structure contains multiple target scenarios, you can run multiple scenario rollups simultaneously.

To run multiple-business case scenario rollups:

1. Open a scenario rollups view.
2. Right-click on the parent model, and then select **Run Multiple**.
3. In **Scenario Rollup Business Cases**, select any of these options: **High**, **Low**, and **Base** to roll up, and click **OK**.

Setting Up Server Scenario Rollups

Scenario rollups can be created and run on the Strategic Modeling server.

Managing Server Scenario Rollups

To manage server scenario rollups:

1. In **Smart View** pane, select **Strategic Modeling**, and then select **Scenario Rollups**.
2. **Optional:** To create scenario rollups, click **New**.
3. **Optional:** To open a structure, select **Scenario Rollups** from the **Smart View** panel, right click on the scenario rollup, and then select **Open**.
4. **Optional:** To delete a structure, select **Scenario Rollups** from the **Smart View** panel, right click on the scenario rollup, and then select **Delete**.
5. Click **OK**.

Tip:

You can also create a new scenario rollup based on a model hierarchy. Right-click a model, click **Edit Model Structure**, click the **Model** tab, and then click **Convert to Model Scenario Rollup**. The selected model and its child models are converted to a scenario rollup with the same hierarchical structure.

Creating Server Scenario Rollups

To create a server scenario rollup:

1. From the **Smart View** panel, select **Scenario Rollups**, right click the **Scenario Rollups** folder, and then select **New**.
2. In **Structure Name**, enter a structure name, and click **OK**.

The name must be unique within the server.

Removing Models from Server Scenario Rollups

To remove models from server scenario rollups:

1. Select a model.
2. To delete models from **Scenario Rollups**, right-click the model, and then select **Remove Model**.

Working with Business Cases in Scenario Rollups

After you build the scenario rollup structure, you must create and assign business cases to complete the scenario rollup structure. A business case defines how child node data is rolled up into the parent.

To create and assign a business case:

1. Open a scenario rollup.
2. Select the parent model in the Scenario Rollups, and then from the **Business Case** drop-down select **New Business Case**.
3. In **Add Business Case for Model Rollup**, perform any one of these steps:
 - In **Use Existing**, you can assign an existing business case to the parent model.
 - In **Create New**, enter a unique business case name.
4. In **Leaf Node Scenario to Contribute**, select an appropriate scenario from the drop-down such as: **Base**, **Actual**, **High**, **Low**, and then click **OK**.

Using these **Business Case/Scenarios**, you can roll up data to the parent model during rollup. This enables you to run multiple Business Case scenario rollups.

Note:

To remove a business case, right-click on the parent model from the **Model Tree**, and then select **Remove Business Case**.

After adding business cases, you define model characteristics to further define your business case.

Working with Scenario Rollups

After you open a scenario rollup structure, you perform these steps:

- [Adding Models to Scenario Rollups](#)
- [Specifying Parent Model Characteristics](#)
- [Specifying Child Model Characteristics](#)
- [Excluding Models from Scenario Rollups](#)
- [Deleting Business Unit Models](#)

Adding Models to Scenario Rollups

To add models to scenario rollups:

1. Perform an action:
 - To add parent models, select a model, right-click on the model, select **Add Model**, and then **Add Parent**.
 - To add child, select a parent, right-click on the model, select **Add Model**, and then **Add Child**.

- To add siblings, click a child, right-click on the model, select **Add Model**, and then **Add Sibling**.
2. In **Add Model**, in **Models**, select a model.
 3. Click **OK**.
 4. Select the contributing scenario.

Specifying Parent Model Characteristics

Use **Parent Attributes** to define parent-level parameters: contributing scenarios and elimination groups.

To specify parent model characteristics:

1. Open a scenario rollup.
2. Select the parent model.
3. Right-click on the model and then select **Model Characteristics**, and then **Parent Attributes**.
4. **Optional: In Contributing Scenarios**, if applicable, from the **Input Only Scenarios** list, select the input only scenario or scenarios that include accounts that you don't want rolled up to the parent. All input only scenarios in the parent model are listed.

You can also define input only scenarios for parent models that are at an intermediate level in a nested scenario rollup.

Use this option when you want the parent node to contribute data values to the scenario rollup instead of getting values from the child for the accounts specified in the input only scenario.

5. **Optional: Eliminating Accounts**—In **Elimination Groups Based On**, select accounts to eliminate from scenario rollup.

Eliminated accounts are set to zero in the scenario rollup parent during processing. For example, an intercompany transaction modeled in a child model may not be needed in the scenario rollup, so it can be eliminated.

Accounts must be in account group to be eliminated. Elimination can be based on account groups in the scenario rollup parent or business unit models.

- In **Elimination Groups Based On**, select the source for elimination groups:
 - **Current Model**
Eliminates accounts using account groups in the scenario rollup parent.
 - **Business Unit**
Eliminates accounts using account groups in the child models.

Note:

Accounts that are both eliminated and blocked are eliminated.

- In **User Defined Elimination Groups**, select account groups to eliminate from scenario rollup.
6. Click **Apply** or **Apply to All Scenarios**.

 **Note:**

While on **Parent Attributes**, this saves parent attributes only.

Specifying Child Model Characteristics

Child model characteristics define how children behave during rollup.

To specify child model characteristics:

1. Open a scenario rollup.
2. Select a model, right-click on it, and then select **Model Characteristics**
The model name displays in the title bar: **Model Scenario Rollup Data for <Model name>**.
3. On **Model Scenario Rollup Data for <Model name>**, select **Child Attributes**.
4. **Optional:** In **Method Used**, select a rollup method to determine the rolled up accounts:

 **Note:**

Information about using methods—When you use the **Cost**, **Equity**, or **Minority Interest Consolidation** methods, the subaccount structures should be similar. See [Important Facts about the Equity, Cost, and Minority Interest Methods](#).

- **Full Scenario Rollup**— Rolls up 100% of all accounts.
 - **Equity**—Less than 20% (see [Equity Method](#)).
 - **Cost**—At least 20% but less than 50% (see [Cost Method](#)).
 - **Minority Interest Consolidation**—At least 50% but less than 100% (see [Minority Interest Method](#)).
 - **Optional:** In **Target Subaccount**, select a subaccount.
Target Subaccount is available with **Equity** if account v2420 in the parent model has subaccounts. This method has calculations for v2420. If v2420 has subaccounts, specify which subaccount receives the child models values.
 - **Optional:** In **Equity Groups**, select an account group.
With **Equity**, account groups you select here are rolled up into the parent.
5. **Optional:** In **Ownership % of Selected Model**, enter a value.
Enter the percentage of the model to be rolled up. Enter the number as an integer with two decimal places.
For example, if sales in the first forecast period of the child model were \$200 and 100% is rolled up, \$200 are rolled up. If it is 80%, \$160 are rolled up.
 6. In **Periods to rollup into parent**, select time periods for the scenario rollup.
 - **Period to Begin Rollup**
Select the starting time period.

The time period range must be within the range of the rolled up parent—see [Time Periods in Rolled Up Parents and Child Models](#).

- **First Period in File**—Rolls up starting in the first time period in the model.
 - **<Deal Period>**—Rolls up starting in the deal period. Balance sheets from the main or .00 accounts roll up into the respective accounts .2 or acquisition-related accounts in the rolled up parent.
 - Other available options display.
 - **Period to End Rollup**
Select the last time period.
7. Click **Apply** or **Apply to All Scenarios**.

 **Note:**

On **Child Attributes**, this saves child attributes only.

Excluding Models from Scenario Rollups

You can exclude models from scenario rollups. If excluded models contain children, they are also excluded.

To exclude models from scenario rollups:

1. On **Tree View**, select a model.
2. Right-click on the model, and then select **Exclude**, and then **From the Parent Scenario**.

Deleting Business Unit Models

To delete business unit models:

1. Select a model.
2. Right-click on the model, and then select **Remove Model**
3. On the confirmation prompt, click **Yes**.

Data Management

Important Facts about the Equity, Cost, and Minority Interest Methods

Before running scenario rollups, review this information about scenario rollup methods:

- If the rolled up parent has subaccounts for accounts used by the Cost, Equity, and Minority Interest methods, Strategic Modeling uses the first subaccount to hold the rolled up results. This applies to these accounts:
 - Cost Method (v1190) —see [Cost Method](#)
 - Equity Method (v2420)—see [Equity Method](#)
 - Minority Interest Method (v1720), (v2780)—see [Minority Interest Method](#)
- Strategic Modeling enables blocking accounts used by Cost, Equity, and Minority Interest methods in parent files. A warning is written to the log when one of these accounts is blocked:

- Cost Method (v1190)—see [Cost Method](#)
- Equity Method (v2420.2), (v2420.3)—see [Equity Method](#)
- Minority Interest Method (v1720), (v2780)—see [Minority Interest Method](#)

Cost Method

Use Cost Method when the amount of investment in a company is less than 20% and is held for at least one year. Only three calculations are performed and added to the rolled up parent:

- Dividends from Investments: Cost (v1190) account is increased by the ownership percentage times the investment's cash dividends (v1900 Total Common Dividends):
Parent's v1190 = Ownership% x investment's v1900
- In the valuation adjustment for Cost and Equity methods, SVA (v5.00.900) increases by the ownership percentage times the investment's SVA value (v5070 Shareholder Value):
Parent's v5.00.900 = Ownership% x investment's v5070
- In valuation adjustment for Cost and Equity methods, EP (v5.00.910) increases by the ownership percentage times the investment's EP value (v5790 Economic Profit Shareholder Value):
Parent's v5.00.910 = Ownership% x investment's v5790

Note:

The opening balance for the investment account (v2430.00 Investments: Cost Method) is in the parent company's file. The investment is carried at the lower of acquisition cost or market value.

Equity Method

Use Equity Method when the amount of investment in a company is at least 20% and less than 50% and is held for at least one year. Business unit values roll-up into Dividends from Subsidiaries and Earnings from Investments accounts, which are used to calculate the parent's Investments: Equity Method:

```
v2420.00 Investments: Equity Method (prior period)
+ v2420.01 Increase in Investments: Equity Method
- v2420.02 Dividends from Subsidiaries
+ v2420.03 Earnings from Investments: Equity
= v2420.00 Investments: Equity Method
```

Four calculations are added to the rolled up parent:

- The Dividends from Subsidiaries (v2420.02) account increases by the ownership percentage times the subsidiary's cash dividends (v1900 Total Common Dividends), automatically reducing the balance in the investment account:
Parent's v2420.02 = Ownership% x subsidiary's v1900
- The Earnings from Investments: Equity (v2420.03) account increases by the ownership percentage times the subsidiary's after-tax net income (v1750 Net Income), automatically increasing the balance in the investment account:

Parent's v2420.03 = Ownership% x subsidiary's v1750

- In the valuation adjustment for the Cost and Equity methods, SVA (v5.00.900) increases by the ownership percentage times the subsidiary's SVA value (v5070 Shareholder Value):

Parent's v5.00.900 = Ownership% x investment's v5070

- In the valuation adjustment for the Cost and Equity methods, EP (v5.00.910) increases by the ownership percentage times the subsidiary's EP value (v5790 Economic Profit Shareholder Value):

Parent's v5.00.910 = Ownership% x investment's v5790

Note:

The opening balance for the subsidiary investment account (v2420.00 Investments: Equity Method) should be in the parent company's file. The initial investment in the subsidiary should be recorded at cost.

Minority Interest Method

Use Minority Interest Method when the amount of investment is between 50% and 100% of the company's stock. This method also rolls up output values. While 100% of the business unit is rolled up, these calculations recognize the outside interest in the business:

- Minority interest percentage calculates as the difference between 100% and the ownership percentage:

$MI\% = 100\% - \text{ownership}\%$

- Minority Interest (v1720) on the Income Statement increases by the minority interest percentage times the subsidiary's after-tax net income (v1750 Net Income):

Parent's v1720 = MI% x sub's v1750

- Minority Interest (v2780) on the Balance Sheet increases by the minority interest percentage times the subsidiary's Common Equity account (v2890):

Parent's v2780 = (MI% x sub's v2890)

- In the valuation adjustment for Minority Interest, SVA (v5.00.920) increases by the minority interest percentage times the investment's SVA value (v5070 Shareholder Value):

Parent's v5.00.920 = Ownership% x investment's v5070

- In the Valuation Adjustment for Minority Interest, EP (v5.00.930) increases by the minority interest percentage times the investment's EP value (v5790 Economic Profit Shareholder Value);

Parent's v5.00.930 = Ownership% x investment's v5790

Time Periods in Rolled Up Parents and Child Models

The analysis length and time period detail level should be the same for all files in the scenario rollup. To ensure the integrity of the scenario rollup, the time period information in the rolled up parent is compared to the time period information in the child models as they are rolled up.

Several time period conditions could affect the results of scenario rollups:

- Uneven time periods are time periods exist in child models the rolled up parent, but not in both. Depending on the condition, data may or may not be included in the scenario rollup. See [Uneven Time Periods](#).

- Mismatched historical and forecast period boundaries occur when the files in the scenario rollup do not match the last historical period. See [Uneven Fiscal Year Ends](#).
- Uneven fiscal year ends exist when the year ends of the files in the scenario rollup do not match, and stops rolling up. See [Mismatched Historical and Forecast Period Boundaries](#).
- Different levels of time detail occur when one or more files in the scenario rollup have different time dimensions than the other files. Some differences are acceptable, while others stop rolling up. See [Differing Levels of Time Detail](#).
- Subperiods must be consistent between the child models and the scenario rollup parent to be included in the scenario rollup. If they are not, rollup could stop. See [Mismatched Subperiods](#).

Uneven Time Periods

If the rolled up parent has more historical periods than the child models, Strategic Modeling assumes zero values in the rolled up parent, but not in child models. You can block the non-rolled up time period data to maintain data in other time periods of the rolled up parent.

If the rolled up parent has fewer historical periods than the child models, only data for historical periods in the rolled up parent is included in the scenario rollup.

If the rolled up parent has more forecast periods than the child models, Strategic Modeling assumes zero values for those periods in the rolled up parent but not the child model.

If the rolled up parent has fewer forecast periods than the child models, Strategic Modeling includes the child model forecast data in the residual value of the rollup up parent instead of the forecast. See [Valuations with Scenario Rollups](#) and [Residual Values in Rolled Up Parent Models or Files](#).

Uneven Fiscal Year Ends

The fiscal year end of each child model must match that of the rolled up parent. If they do not match, Strategic Modeling logs an error and stops rolling up.

For example, if the rolled up parent uses a fiscal year end of July 31, all child models must use a fiscal year end of July 31.

Mismatched Historical and Forecast Period Boundaries

The last historical period in the rolled up parent defines the last historical period for the scenario rollup. The historical and forecast boundaries of both the rolled up and child models are compared based on the system labels assigned to files when created or imported. If the historical and forecast boundaries are different, a warning message displays, but the rollup finishes.

For example, if the child model uses months and the last historical period is 5/96, the rolled up parent uses quarters and the last historical period is 2Q96 (or 6/96). Data from the child model from the first forecast period (6/96) shifts to the last historical period in the rolled up parent.

Differing Levels of Time Detail

If files in scenario rollup structures have different time detail levels, the rolled up parent cannot have a more detailed time structure than the least detailed child model. The table below illustrates how level-of-time-detail rules apply to child models based on the level of time detail in the rolled up parent:

Rolled Up Parent Uses:	Child Models Can Use:
Years	Years, Halves, Quarters, Months, or Weeks
Halves	Halves, Quarters and Halves, Months and Halves, or Weeks and Halves
Quarters	Quarters, Months and Quarters, or Weeks and Quarters
Months	Months or Weeks and Months
Weeks	Weeks

If mismatched time periods do not fall within these rules, the rolled up parent uses the aggregate data from the child models. For example, if the rolled up parent is in years and the child models are in quarters, the scenario rollup uses yearly values for each of the child models.

If a time period mismatch is not covered by these rules, Strategic Modeling logs an error and stops the scenario rollup.

Mismatched Subperiods

Strategic Modeling rolls up subperiods if the rolled up parent and child models have matching subperiods.

If child models contain subperiods but the rolled up parent does not, the scenario rollup does not include subperiods. Subperiod data aggregates to the full period in the rolled up parent.

Number of Days

Before Rollup:	Subperiod #1	Subperiod #2	Total Days
Business Unit File	30	335	365
Rolled Up Parent	None	365	365

After Rollup:	Subperiod #1	Subperiod #2	Total Days
Rolled Up Parent	None	365	365

If the rolled up parent has subperiods and the child models do not have matching subperiods, Strategic Modeling logs an error and stops the scenario rollup.

The same condition exists for subperiods with uneven lengths of time. In this example, the rolled up parent contains subperiods which match the length of time of the subperiods in business unit #1. The subperiods in child model #2 do not match, so Strategic Modeling would log an error and stops the scenario rollup.

Number of Days

Before Rollup:	Subperiod #1	Subperiod #2	Total Days
Business Unit File #1	30	335	365
Business Unit File #2	45	320	365
Rolled Up Parent	30	335	365

Rollup of Files with Dissimilar Currencies

Strategic Modeling compares the Default Currency Name for each child model to that in the rolled up parent. If they are different, Strategic Modeling logs a warning, but continues rolling up. The rolled up values may not be meaningful.

This rule holds unless Currency Translator is involved.

Freeform Formulas in Scenario Rollups

Strategic Modeling preserves the additivity of the child model output data whenever possible. Strategic Modeling solves for @input if the rolled up parent contains a Freeform formula using @input.

For example, child models and the rolled up parent use the same Freeform formula, which contains the @input function, to calculate Depreciation Expense (v1110) on the Income Statement. Strategic Modeling solves the rolled up parent input using the output values of the child models. In this example, the input of .86 is necessary to achieve the additive output of \$430 in the rolled up parent.

Business Unit File Freeform formula:

```
@input * v2190.1
```

Rolled up parent Freeform formula:

```
@input * v2190.
```

Input Data:

Account Name	Business Unit File #1	Business Unit File #2	Rolled Up Parent
Depreciation Expense (Funds) (v2190.1)	\$200	\$300	\$500
Depreciation Expense (v1110.0)	.80	.90	.86

Output Data:

Account Name	Business Unit File #1	Business Unit File #2	Rolled Up Parent
Depreciation Expense (v1110.0)	\$160	\$270	\$430

If the rolled up parent contains a Freeform Formula that does use @input, the scenario rollup checks the rolled up parent to see if the account has currency overrides. If there are, the currency override is the sum of the output data of all child models in the scenario rollup.

For example, both business units use the same Freeform Formula, which contains @input, to calculate Depreciation Expense (v1110) on the Income Statement. The rolled up parent does not use @input. It sets Depreciation Expense (v1110) equal to Depreciation Expense (Funds) (v2190.1). Strategic Modeling solves this using the output values of the child models. In this example, a currency override of #430 achieves the additive output of \$430 in the rolled up parent.

Business Unit File Freeform formula:

```
@input * v2190.01
```

Rolled Up parent Freeform Formula:

v2190.01

Input Data:

Account Name	Business Unit File #1	Business Unit File #2	Rolled Up Parent
Depreciation Expense (Funds) (v2190.1)	\$200	\$300	\$500
Depreciation Expense (v1110.0)	.80	.90	#430

Output Data:

Account Name	Business Unit File #1	Business Unit File #2	Rolled Up Parent
Depreciation Expense (v1110.0)	\$160	\$270	\$430

If there are no currency overrides, the Freeform Formula in the scenario rollup is executed. It is possible, with no currency overrides, that the rolled up parent output is not equal to the sum of the child models.

Take the previous example, but with no currency override, and the Freeform Formula in the rolled up parent executes.

Business Unit File Freeform formula: @input * v2190.01

Rolled up parent Freeform Formula: v2190.01

Input Data:

Account Name	Business Unit File #1	Business Unit File #2	Rolled Up Parent
Depreciation Expense (Funds) (v2190.1)	\$200	\$300	\$500
Depreciation Expense (v1110.0)	.80	.90	Executes Freeform Formula

Output Data:

Account Name	Business Unit File #1	Business Unit File #2	Rolled Up Parent
Depreciation Expense (v1110.0)	\$160	\$270	\$500

Valuations with Scenario Rollups

Performing valuations in a rolled up parent and in a child model are similar. While most of the data comes from the child models, some accounts may be manually entered in the rolled up parent, depending on the scenario rollup structure.

Cash flows from child models are additive in full scenario rollup methods, unless you have selected to block accounts—see [Rolling Up Scenario Rollups](#). Other child model accounts are also cumulative:

- Market Value of Debt (v5.00.500)

- Market Value of Other Obligations (v5.00.540)
- Underfunded Pension Liabilities (v5.00.520)
- Investment in Stocks and Bonds (v5.00.560)
- Market Value of Other Liabilities (v5.00.700)
- Market Value of Other Assets (v5.00.720)
- Residual NOPAT Adjustment (v5.00.820)

If these accounts contain data at a rolled up level, but not in child models, consider entering the data into one of the child models. Or, enter the account data in child models, to avoid changing files.

You can block the Cost of Capital account group and manually enter those accounts in the rolled up parent.

Otherwise, the cost of capital is calculated as a weighted average of the child models.

- [Residual Values in Rolled Up Parent Models or Files](#)
- [Cost Method](#)
- [Equity Method](#)
- [Minority Interest Method](#)

Residual Values in Rolled Up Parent Models or Files

If you roll up Residual Values, Strategic Modeling calculates them using the Liquidation method for both the Shareholder Value and Dividend Discount models. The Perpetuity method applies to the Economic Profit model. The Future Value of Residual Value (FVRV) from the child models are added to calculate the FVRV for the rolled up parent. The rolled up FVRV is discounted using a weighted average discount rate from the child models. If the Cost of Capital account group is blocked, discount rates in the rolled up parent are used instead of the weighted average.

If you block Residual Values, Strategic Modeling calculates them using the residual value method selected in the rolled up parent.

If you block the Residual Value account group is blocked, you must manually enter data in these accounts of the rolled up parent:

- [Shareholder Value Model](#)
- [Dividend Discount Model](#)
- [Economic Profit Model](#)

Shareholder Value Model

Perpetuity

Normalized Operating Profit Adjustment (v5110.00)

Residual Value Tax Rate (v4.00.560)

Growth in Perpetuity

Normalized Operating Profit Adjustment (v5110.00)

Residual Value Tax Rate (v4.00.560)

Perpetuity Growth Rate (v4.00.520)

Value Growth Duration

Normalized Operating Profit Adjustment (v5110.00)

Residual Value Tax Rate (v4.00.560)

Perpetuity Growth Rate (v4.00.520)

Perpetuity Value Growth Duration (v4.00.540)

Price/ Earnings Ratio

Normalized Earnings Adjustment (v5140.00)

Price/ Earnings Ratio (v5130.00)

Debt Discount/ (Premium) (v5150.00)

Market-to-Book Ratio

Market-to-Book Ratio (v5120.00)

Debt Discount/ (Premium) (v5150.00)

Liquidation

Liquidation Value (v5210)

Dividend Discount Model

Perpetuity

Long-Term Return on Book Equity (v4.00.780)

Residual Value Target Leverage Ratio (4.00.760)

Growth in Perpetuity

Long-Term Return on Book Equity (v4.00.780)

Perpetuity Growth Rate (4.00.720)

Residual Value Target Leverage Ratio (4.00.760)

Value Growth Duration

Perpetuity Value Growth Duration (v4.00.740)

Residual Value Target Leverage Ratio (4.00.760)

Perpetuity Growth Rate (4.00.720)

Price/ Earnings Ratio

Normalized Earnings Adjustment (v5440.00)

Price/ Earnings Ratio (v5430.00)

Market-to-Book Ratio

Market-to-Book Ratio (v5420.00)

Liquidation

Equity Liquidation Value (v5480.00)

Economic Profit Model

Perpetuity

Economic Profit Residual Tax Rate (v5.00.800)

Residual NOPAT Adjustment (v5.00.820)

Economic Profit Adjustment to NOPAT (v5740.00)

Economic Profit Adjustment to Assets (v5715.00)

Economic Profit Adjustment to Liabilities (v5720.00)

Scenario Rollup Funding Options

Strategic Modeling uses Funding Options attributes in the rolled up parent when handling rolled up surpluses or deficits.

Funding Options Table

Child models do not change the characteristics of the Funding Options table in the rolled up parent, as shown in the example below:

Rolled Up Parent

Account	Type	Surplus	Deficit
v2520.0.000	Term	x	
v2460.0.000	Asset	x	x

Child Model

Account	Type	Surplus	Deficit
v2520.0.000	Rev	x	x
v2460.0.000	Asset		x

Order of Repayment and Funding

Strategic Modeling uses the order of repayment in the scenario rollup file when rolling up Funding Options and disregards attributes in the child model, as shown in the example below:

Rolled Up Parent

Apply Cash Surplus to...

Item	Number
Marketable Securities	1
Notes Payable	2
Long-Term Funding Asset	3

Business Unit File

Apply Cash Surplus to...

Item	Number
Notes Payable	1
Long-Term Funding Asset	2
Marketable Securities	3

Rollup Process for Funding Options Accounts

For accounts that are Funding Option surpluses or deficits, the input values forecast the maximum account output. For accounts that are not in Funding Options, the input values forecast the actual output values. For example, to repay early a term loan of \$100 and there is sufficient cash, enter \$100 for that account. After calculating, the output is between 0 and \$100, depending on the available cash. If the term loan should not be paid early, input \$100 and the output is \$100.

Funding Option accounts have main accounts and maximum accounts. For example, Marketable Securities has the main account v2010.00.000 and the maximum account v2010.07.000. Maximum account output calculates based on the main account value:

- If main accounts have surplus/deficit settings, maximum account outputs calculate using main account inputs.
- If main accounts do not have surplus/deficit settings, maximum account outputs calculate using main account outputs.

The basic roll-up process backsolves output values from business units to calculate the rolled up input. Funding Options accounts backsolve differently:

- If main accounts have surplus/deficit settings in the rolled up parent, Strategic Modeling adds all business unit maximum account outputs, backsolves the main account input, and determines the main account output using the rest of the data.
- If main accounts do not have surplus/deficit settings, Strategic Modeling adds all business unit main account outputs and backsolves the main account input. The rest of the data is irrelevant.

Consider:

In business unit A, Marketable Securities (v2010) has a surplus/deficit setting. There is not enough cash to use the maximum. In business unit B, Marketable Securities (v2010) does not have a surplus/deficit setting. Business unit B runs large cash surplus. The table shows the rolled up results if Marketable Securities (v2010) has a surplus/deficit setting in the rolled up parent (SD) and if it does not (No SD).

Task	Business Unit A	Business Unit B
input (v2010.0)	100	200
output (v2010.0)	85	200
maximum (v2010.7)	100	200

Task	Cons (SD)	Cons (No SD)
input (v2010.0)	300	285

Task	Cons (SD)	Cons (No SD)
output (v2010.0)	300 (A)	285
maximum (v2010.7)	300	285 (B)

(A) This could be up to 300, depending on the rolled up cash position.

(B) This is determined by the input of v2010.00, so the maximum on these facts is not additive.

Debt accounts act like asset accounts. If the item is a term loan, the surplus/deficit setting matters.

- If the item is a revolver, its accounts roll-up like assets with surplus/deficit settings, regardless of whether the revolver has a surplus/deficit setting.
- If the term loan has a surplus/deficit setting, it rolls up like a revolver.
- If the term loan does not have a surplus/deficit setting, it rolls up like assets with no surplus/deficit settings.

Accounts Associated with Funding Options Accounts

Funding Options accounts have accounts recording interest income or expense. For example, Marketable Securities (v2010) and Interest on Marketable Securities (v2010.05) behave in scenario rollups according to their forecast method and their associated accounts. Rolled up interest income/expense for given Funding Options accounts is generally not the sum of the business units.

Rollled Up Interest Income Example

If a business unit generates cash surplus of \$100 invested in Marketable Securities and those securities earn 7%, the business unit has an interest income of \$7. Roll up this business unit with one generates a large cash deficit. After rollup, if Marketable Securities has a surplus/deficit setting in the rolled up parent, the rolled up business unit shows marketable securities of 0. As long as the forecast method for interest income is a percent of Marketable Securities, interest income is zero. The interest rate is 7% in the rolled up parent.

If Marketable Securities does not have a surplus/deficit setting, the rolled up parent has \$100 of Marketable Securities and \$7 of interest income.

If interest income is forecast as an actual value in the rolled up parent but marketable securities has a surplus/deficit setting, Marketable Securities is zero, but interest income is \$7.

Rollled Up Interest Rate Example

To get rolled up interest rates, Strategic Modeling temporarily assumes that Marketable Securities does not have a surplus/deficit setting, and adds up all child model output values for both marketable securities and interest income, and solves for the rate. This rate becomes the input for interest income. If marketable securities has a surplus/deficit setting, this rate applies to whatever output Marketable Securities uses for rolled up interest income.

Item	File	Business unit 1	Business unit 2
Mkt. sec.		300	400
Interest rate	6.57%	6%	7%
Interest inc.		18	28

Marketable Securities and Interest Income values depend on other data, but rates can be determined by adding 18 and 28 and dividing the sum by the sum of 300 and 400.

12

Translating Currencies

Related Topics

- [About Currency Translator](#)
- [Adding Currency Codes](#)
- [Currency Translator Default Assignments](#)
- [Currency Translator Calculation and Adjustment Process](#)
- [Currency Translator Reports](#)

About Currency Translator

Currency Translator expresses data in international currencies when creating multinational financial models. For example:

- A financial model including international subsidiaries, and the data is in different currencies.
- Associates or lenders in other countries need your data expressed in their national currency.

Using Currency Translator, you add exchange rates to financial models and assign those rates to currency accounts to translate the data to a new currency. After you translating, you can view or print reports showing the results.

If you are translating data from a company in a country with high inflation, please review Currency Translator Calculations before translating the data—you should remeasure the data first.

Note:

Use Currency Translator to apply rates to currency accounts only. You cannot apply rates to accounts expressed in items or ratios.

Using the Currency Translator

To use Currency Translator:

1. From the **Data** grouping label, click **Currency Translator**.

A warning is displays stating that Strategic Modeling adds Currency Translator accounts to the model.

2. Click **OK** to display **Currency Translator**.

The actual exchanges rates are defined in Currency Translator memo accounts added to the **Accounts** spreadsheet:

- v100.00.000 Weighted Average Exchange Rate

- v105.00.000 Period End Exchange Rate
- v110.00.000 Equity Historical Exchange Rate
- v115.00.000 User Defined Exchange Rate—The only subaccountable Currency Translator account.

By default, the v115 rate is assumed for all subaccounts.

3. Select **General Information** to define basic currency translation information—see [Managing Summary Information About the Current Model](#).
4. Select **Assign Exchange Rates** to define exchange rates—see [Setting Exchange Rates for Currency Translations](#).
5. Click **OK**.

Setting General Information About Currency Translations

On **General Information**, you define source and target currencies, exchange scales, and rate names, if applicable.

To set general currency translation information:

1. Access Currency Translator.
2. Select **General Information**.
3. In **Define Exchange Rates As**, select the currency-to-currency type conversion.
 - The first box is the destination currency.
Currency Translator assumes the default currency in the **Summary Information** is the translated currency.
 - The second box is the source currency.

For example, you are translating Dollars per Peso. The rate in the memo account is the number of Dollars equalling one Peso.

If you do not see the currency in the list, enter the name.

4. **Optional: In Scale**, change the scale of the translated data.
Change the scale when more of one currency to makes less of the other. For example, you change the scale to millions or thousands to eliminate trailing zeros.

As with the default currency, enter the default scale in **File**, then **Summary Info**, and then see the following link:

5. **Optional: Select Use Rates from Current Source File** to import forecasted rates, and click **Browse** to select a file.

After choosing a file, click **Import Rates** to load the rates. This creates a dynamic link—any changes made to the source file affect the translated file. **Last Imported Source File** and **Last Imported Date** reflect the most recent import.

6. Set exchange rates—see [Setting Exchange Rates for Currency Translations](#)
7. Click **Translate**.

Setting Exchange Rates for Currency Translations

To set exchange rates for currency translation:

1. Access the Currency Translator.
2. Select **Assigning Exchange Rates**.

3. In **Account/Dialog Variable** select accounts.
4. In **Exchange Rate** select exchange rates:
 - Weighted Average Exchange Rate
 - Period End Exchange Rate
 - Equity Historical Exchange Rate
 - User Defined Exchange Rate—enter custom exchange rates in the spreadsheet
5. Click **Translate**.

Revaluations

Currency Translator translates only the first time period and time periods with value changes, and calculates others. This avoids revaluations and provides accurate results without requiring a blended exchange rate of all equity components.

For example, consider these values in American dollars:

Year	Dollars	Rate of Exchange
Common Stock in 2003	100	exchange rate: 3
Common Stock issued in 2004	50	exchange rate: 4
Common Stock in 2004	150	exchange rate: 3

If you use the standard method to translate American dollars to the German deutschmark, these values result:

Common Stock in 2003	300	translated at 3
Commons Stock issued in 2004	200	translated at 4
Common Stock in 2004	450	translated at 3
Revaluation of Stock	-50	-

The translations should be:

- Equity—from 100 to 300
- Issuance—from 50 to 200

The total should be 500, but the translation is 450—a -50 revaluation difference. This error occurs when calculating every time period, regardless of change.

To avoid this error, Currency Translator translates the equity of the first period at the equity historical rate, and translates subsequent periods only if the value changes. Otherwise, they use the first period's value. The values are correct:

Table 12-1 Currency translation

Common Stock in 2003	300	translated at 3
Common Stock issued in 2004	200	translated at 4
Common Stock in 2004	500	calculated
Revaluation of Stock	0	-

See [Avoiding Revaluation in Equity Accounts](#).

Avoiding Revaluation in Equity Accounts

For equity accounts, Currency Translator translates the first period balance and all subsequent flows. As a result, there are no values in the .04 accounts. If there were values in the .04 accounts before translation, they remain in the original currency afterwards. Equity accounts are designed to avoid revaluation, so you should zero the .04 values for all equity accounts.

Copying Local Files to the Server for Currency Translation

If you copy a local file to a server and that file uses translation rates from another local file, it defaults to using residual rates from the last translation run. On subsequent retrievals of the file copied to the server, the local client searches for the local file containing the translation rates.

Currency Translator Retained Earnings Adjustment

Currency Translator assumes that exchange rates for retained earnings reflect the historical basis of the account, and translates retained earnings in historical periods. It calculates the retained earnings and compares it to the translated data. If they do not match, Currency Translator adjusts the translated data to balance the Funds Flow report.

Currency Translator calculates retained earnings as:

Retained Earnings =	Retained earnings (prior period)
-	+ Income available for common dividends
-	- Common dividends
-	+ Funds flow adjustment: sources
-	- Funds flow adjustment: uses

Retained Earnings Adjustment =	Retained earnings
-	- Retained earnings (prior periods)
-	- Income available for common dividends
-	+ Common dividends
-	- Funds flow adjustment (sources)
-	+ Funds flow adjustment (uses)

Strategic Modeling adds the retained earnings adjustment to the account structure so you can review how it calculates. The Translator adjusts the amount and creates an account called the Retained Earnings Adjustment Account (v2853.0.000)

Example:

In Deutschemarks

(adjustment applies to all historical periods, except the first historical period)

Item	2003	2004
Retained earnings	500	2000
Net income	-	2100
Dividends	-	600
Equity exchange rate	.7	.7

Item	2003	2004
Year-end exchange rate	.667	.75
Weighted avg. rate		.72

In U.S. Dollars - After Translation

Item	2003	2004
Retained earnings	350	1400 direct translation at equity historical rate
Net income	-	1512 weighted average rate
Dividends	-	432 weighted average rate

The retained earnings calculated by the normal retained earnings formula is:

350
1512
(432)
1430

The retained earnings is not calculated for 1400. This difference of 30 is the retained earnings adjustment.

Adding Currency Codes

All ISO recognized currencies are available and internally tracked in currencies.xml. You specify currency for use at the model level using Summary Information. Although it is not recommended, you can add currencies to applications using the currencies_user.xml file.

Currency Translator Default Assignments

Assignments by Account Type

The default exchange rates by account type:

Input Accounts

- Income and expense accounts default to Weighted Average Exchange Rate.
- Asset and liability accounts (.00 accounts) default to the Period End Exchange Rate.
- Equity accounts default to the Equity Historical Exchange Rate.
- Increases in asset and liability accounts (.01 accounts) default to the Weighted Average Exchange Rate.

Calculated Accounts

- Cash Flow from Operations defaults to the Weighted Average Exchange Rate.
- Present Value of Cash Flow (PVCF) defaults to the Period End Exchange Rate for the last historical year.

- Future Value of Residual Value (FVRV) defaults to Period End Exchange Rate for the last forecast period.

Certain accounts such as Cost of Capital and Number of Shares do not have exchange rates.

Default Assignments

This table lists the default exchange rates for accounts:

Dialog Variable	Description	Default Exchange Rate
5.00.200	Current Stock Price	Period End
5.00.500	Market Value of Debt	Period End
5.00.520	Underfunded Pension Liabilities	Period End
5.00.540	Market Value of Other Obligations	Period End
5.00.560	Investment of Stocks and Bonds	Period End
5.00.700	Market Value of Other Liabilities	Period End
5.00.720	Market Value of Other Assets	Period End
5.00.820	Economic Profit Normalized Earnings Adjustment	Weighted Average
5.00.900	Valuation Adj. for Cost and Equity: SVA	Period End
5.00.910	Valuation Adj. for Cost and Equity: EP	Period End
5.00.920	Valuation Adj. for Minority Interest: SVA	Period End
5.00.930	Valuation Adj. for Minority Interest: EP	Period End
315.00.300	Initial Loss Balance	Period End
316.00.300	Initial Gain Balance	Period End
316.00.500	Initial Balance of Taxes Paid	Period End

Currency Translator Calculation and Adjustment Process

Currency Translator automatically calculates the exchange data for all currency accounts simultaneously. When necessary, it adjusts the accounts so that your model remains balanced. It places the adjustments in special accounts where you can review them.

Note:

Currency Translator assumes all financial data in a file share one currency. To use data in several currencies, change foreign currency entries to the operational currency before translating the file.

Currency Translator adjustment information is in several reports: Funds Flow, Direct Cash Flow, Indirect Cash Flow, and FAS 95—See [Currency Translator Information in Other Reports](#).

Remeasurement for High Inflation

Currency Translator supports FASB 52, so fluctuations in the exchange rates are recorded as equity, not income. If you are modeling a company in a country with high inflation and the parent company is in a country with low inflation, re-measure the company financial statements before translation.

After re-measuring, you can translate all financial statements using one exchange rate: Currency Translator will not calculate the income effect. This is useful for companies presenting last year's financial data based on the current year's currency.

Adjustment Exceptions

When the adjustments are complex, Currency Translator adjusts translated data in a unique manner as described in this topic.

Fixed Assets

Currency Translator makes a special adjustment when the fixed asset formula is:

Fixed Assets =	Fixed assets (prior period)
	+ Fixed Capital Investment (FCI)
	? Retirements

Example:

Item	Deutschemarks	Rate	Dollars	Rate Info
Fixed assets (year 1)	6000	.75	4500	year-end rate (year 1)
FCI (year 2)	700	.72	504	weighted average rate
Retirements (year 2)	(600)	.72	(432)	weighted average rate
Fixed assets (year 2)	6100	.60	3660	year-end rate (year 2)

The fixed assets formula expressed in dollars does not balance, that is, 4500 + 504 - 432 - 3660. Currency Translator adjusts the amount and store the adjustment in Adjustment to Fixed Assets (v2170.4.000).

Following is the adjustment formula:

Adjustment to Fixed Assets =	Fixed Assets	3660
	- Fixed assets (prior period)	4500
	- Fixed Capital Investments	504
	+ Retirements	432
	Result	- 912

Accumulated Depreciation

Currency Translator makes a special adjustment when the accumulated depreciation formula is:

Accumulated Depreciation =	Accumulated depreciation (prior period)
	+ Depreciation expense (Funds)
	Accumulated depreciation on retirements

Example:

Depreciation	Deutschemarks	Rate	Dollars	Rate
Acc. Dep. (year 1)	1200	.75	900	year-end rate (year 1)
Depr. exp. (year 2)	1220	.72	878.4	weighted average rate
Retirements (year 2)	(120)	.72	(86.4)	weighted average rate
Acc. Dep. (year 2)	2300	.60	1380	year-end rate (year 2)

In this circumstance, Depreciation Expense: Funds = Depreciation Expense: Book before translation but not after, so the dollars column is not balanced. Currency Translator adjusts depreciation expense to correct the imbalance by adding -312 to 878.4, and stores the adjustment value in the Adjustment to Accumulated Depreciation (v2190.4.000) account.

The adjustment formula:

Adjustment to Accumulated Depreciation =	Accumulated depreciation
	- Accumulated depreciation (prior paid)
	- Depreciation expense (funds)
	+ Accumulated depreciation on retirements

Fixed Asset Accounts

Unlike cash accounts, fixed-asset accounts rely on additions and retirements, so Currency Translator adjusts them differently. For example, Goodwill:

Goodwill =	Goodwill (prior period)
	+ Additions to goodwill
	- Amortization of goodwill

Currency Translator adjusts it:

Adjustment to Goodwill =	Goodwill
	- Goodwill (prior period)
	- Additions to goodwill
	+ Amortization of goodwill

The Goodwill adjustment value is stored in the Adjustment to Goodwill (v2400.4.000) account.

Currency Translator adjusts the other fixed-asset accounts as follows:

Other Intangibles

Adjustment to Other Intangibles =	Other intangibles
	- Other intangibles (prior period)
	- Additions to other intangibles
	+ Amortization of other intangibles
	Adjustment to other intangibles

Long-Term Debt

Adjustment to Long-Term Debt =	Long-term debt: scheduled
	- Long-term debt: scheduled (prior period)
	- Increase in long-term debt: scheduled
	- Non-cash interest on long-term debt: scheduled
	Long-term Debt

Investment Equity Method

Adjustment to Inv. Eq. Method =

- Investments: equity method
- Investments: equity method (prior period)
- Increase in Investments: equity method
- Dividends from subsidiaries
- + Earnings from investments: equity
- Adjustment to Inv. Equity

Currency Translator, Cash Flow and Valuation

Cash Flow from Operations

Currency Translator neither creates nor destroys cash flows when translating one currency to another—it applies an exchange rate to Cash Flow from Operations and translates directly. It does the same for the items constituting Cash Flow from Operations, which can cause an imbalance. To rebalance, Currency Translator makes an adjustment and stores the adjustment value in the Cash Flow Adjustment: Currency (v4090) account.

Present Value of Cash Flow

Currency Translator neither creates nor destroys values when translating from one currency to another—it applies the year-end exchange rate from the last year in history to Present Value of Cash Flow and translates it directly.



Note:

You can change the exchange rate.

Cost of Capital

Because Currency Translator translates both the Cash Flow from Operations and Present Value of Cash Flow directly, it can calculate the Cost of Capital for each period. The Cost of Capital may be different after translation because it reflects the original currency's economic factors. After translation, it should balance the future and present values of the cash flows.

Future Value of Residual Value

Currency Translator translates the Future Value of Residual Value directly—it applies the year-end exchange rate from the last year in forecast period to Future Value of Residual Value and translates it directly.



Note:

You can reassign the exchange rate if needed.

Currency Translator calculates the residual value based on the method you select—see [Modeling Valuation Accounts](#). In some circumstances, it may be necessary to use a value when translating data—see [Shareholder Value and Dividend Discount Method](#).

Shareholder Value and Dividend Discount Method

These are the residual value methods and values used:

Method	Specific Value
Perpetuity Method	Long-term cost of capital
Growth in Perpetuity	Long-term cost of capital
Value Growth Duration	Long-term cost of capital
Price/Earnings Ratio	Normalized earnings adjustment
Market-to-Book Ratio	Market-to-book ratio
Liquidation Value	Liquidation value

Economic Profit

Economic profit only supports the perpetuity method, and its value is the residual NOPAT adjustment.

Revaluation

Currency Translator distinguishes between actual increases and decreases in balance sheet accounts and period-to-period changes caused by currency fluctuations. For example:

Cash	2003	2004
Cash	\$100	\$150
Increase in cash		\$50

If you translate the preceding dollar amounts to French Francs using these exchange rates:

Year	Exchange
2003	4 FF per \$1
2004	5 FF per \$1

After translation, the data is:

Amount	2003	2004
Cash	FF400	FF750
Increase in cash		FF250 (\$50 x 5)

After translation, the increase in cash is incorrect because of the currency fluctuation—it should be FF350. Currency Translator adjusts for the fluctuation, in this case adding FF100, and notes the adjustment value in the Adjustment To Cash (v2000.04.000) account.

Most balance sheet accounts must be adjusted similarly, and adjustment values recorded in additional .04 accounts. Currency Translator sometimes makes different adjustments—see [Translation Adjustment](#).

Translation Adjustment

Currency Translator translates most balance sheet accounts at the year-end exchange rate. It translates equity accounts using the equity historical exchange rate. In forecast periods, it does not translate retained earnings, but translates the weighted average of the items constituting retained earnings. Because the use of different exchange rates causes an imbalance, Currency Translator adjusts the data.

If you do not use the default exchange rate assignments (see [Setting Exchange Rates for Currency Translations](#)), Currency Translator uses this formula to calculate CTA:

CTA =	Total assets after translation
	- Total liabilities after translations earnings
	- Equity after translation
	Currency Translation Adjustment

Currency Translator enters the value in the currency translation adjustment account, in the equity section of the balance sheet. Period-to-period changes appear on the cash and funds flow reports.



Note:

The account does not have an analysis trail because the data is not available after translation.

In Dollars (U.S.)

Cash	2003	Type	2004
Cash	100	Cash	100
Debt	100	Retained Earnings	100

Cash	2003	Type	2004
		Sales	100

The cash from sales pays the debt.

Period end rate	2003	4
Weighted avg. rate	2004	5
Period end rate	2004	6

After the translation:

Cash or Dept	2003	Type	2004
Cash	400	Cash	600
Debt	400	Retained Earnings	500
		Adjustment	100
		Sales	500

Currency Translator Reports

Currency Translator Information in Other Reports

Currency Translator creates .04 accounts containing adjustment values which are displayed in these reports.

Report	Adjustment Accounts
Funds Flow Report	Total Adjustment to Assets: <ul style="list-style-type: none"> • Sums all .04 asset accounts • Part of Total Uses of Funds Total Adjustment to Liabilities: <ul style="list-style-type: none"> • Sums all .04 liability accounts • Part of the Total Sources of Funds
Direct Cash Flow Report	Total of all .04 accounts
Indirect Cash Flow Report	Total of all .04 accounts.
FAS 95 Report	Total of all .04 accounts.

13

Performing Advanced, What If? Analysis

Related Topics

- [About What If? Analysis](#)
- [Using Scenarios](#)
- [Using Sensitivity Analysis](#)
- [Using Goal Seek](#)

About What If? Analysis

There are three What If? Analysis utilities for creating financial model variations:

- **Scenario Manager**—you create variations, or scenarios, on a model, with accounts specific to that scenario.
- **Sensitivity Analysis**—you can change values for some accounts to evaluate the effects on key metrics.
- **Goal Seek**—you set target values for accounts, evaluate changes to other accounts to reach those target values.

Using Scenarios

Scenarios are variations on an analysis. You create scenarios to evaluate different sets of forecast assumptions, evaluating different possible outcomes in strategic planning.

Accessing the Scenario Manager

To access **Scenario Manager**, perform these steps:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. On the Strategic Modeling ribbon, click **Scenario Manager**.

Creating Scenarios

When you create a new scenario, the properties and account selection are based on the currently active scenario in the model, with the exception of inheritance order.

To create scenarios:

1. On the Strategic Modeling ribbon, click **Scenario Manager**.
2. To create a scenario, click **New**.
3. In **Scenario Name**, enter a name.

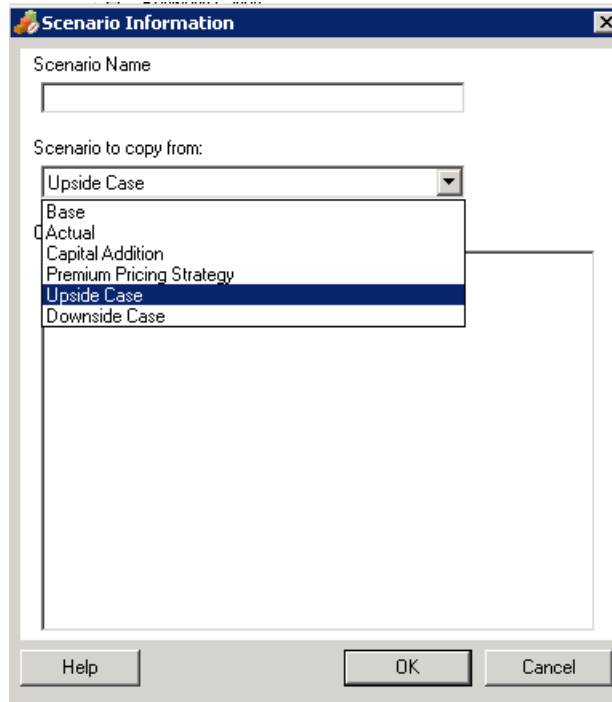
 **Note:**

The name must be unique among scenarios in the model. Not case sensitive.

4. In **Scenario to copy from**, select a scenario from the drop-down.

 **Note:**



By default, the scenario displayed in **Scenario to copy from** drop-down is based on the scenario selected in the POV.



5. In **Comments**, enter comments about the scenario.
6. Click **OK**.

Sorting Scenarios

To reorder scenarios:




1. On the Strategic Modeling ribbon, click **Scenario Manager**.
2. In **Scenario**, select a scenario.
3. Click  or  to reorder the scenario.

 **Note:**

The first two scenarios, **Base**, and **Actual** cannot be reordered.

Maintaining Scenarios

To maintain scenarios:

1. Access **Scenario Manager**.
See [Accessing the Scenario Manager](#).
2. In **Scenario Manager**, perform an action:
 - To create a scenario, click . See [Creating Scenarios](#).
 - To rename a scenario, in **Scenarios**, select a scenario, and click .
 - To delete a scenario, in **Scenarios**, select a scenario, and click .
3. In left pane of the **Scenario Manager**, which displays the list of scenarios in the model, select a scenario.

The Base and Actual are default scenarios:

- Base— contains the original inputs of each account.
- Actual— isolates actual data.

Note:

You cannot edit the accounts for Base and Actual scenarios.

4. In the right pane of the **Scenario Manager**, which displays the information about a scenario in the model such as, **Properties** and **Accounts**.
5. **Optional:** In **Inheritance Method**, select a method that determines type of scenario: **Inherits**, **Standalone**, or **Input only**
6. In **Use Actuals**, select an option: **Never**, **When Available**, or **In History** from the drop-down list.
7. **Optional:** In **Display**, select any one to display accounts list: **All Accounts**, **Selected**, **Unselected**, or **Selected and Inherited**.
8. **Optional:** In **Find Accounts**, you can search for an account or enter text or numbers to search.
As you enter values, Strategic Modeling generates the search result list in the box.
9. Click **OK**.

Working with Inheritance Scenarios

Use Inheritance Scenarios to create and evaluate variant models by combining multiple scenarios into a single scenario, saving you time in data entry.

Sample Inheritance Scenario

For an inheritance scenario example, assume a model with this Base Scenario:

Scenario	Account	Value
Base	Sales	10%

Scenario	Account	Value
	Interest on Debt	6%

You create these scenarios on the Sales account:

Scenario	Account	Value
Forecasting 1	Sales	12%
Forecasting 2	Sales	14%
Forecasting 3	Sales	16%

You create these scenarios on the Interest account:

Scenario	Account	Value
Financing 1	Interest on Debt	7%
Financing 2	Interest on Debt	3%
Financing 3	Interest on Debt	4%

To evaluate values in Sales with different values in Interest, you create an inheritance scenario with information from the Forecasting scenario, adding different Financing scenarios to evaluate varying Interest on Debt account numbers.

You can create several inheritance scenarios, each of which pulls data from the different preceding scenarios:



Table 13-1 Few Example Inheritance Scenarios to evaluate varying Interest on Debt account numbers.


Scenario	Account	Value	Combination	Scenario	Account	Value
Forecasting 2	Sales	14%	Inherited Scenario 1	Financing 3	Interest on Debt	4%
Forecasting 1	Sales	12%	Inherited Scenario 2	Financing 2	Interest on Debt	3%
Forecasting 3	Sales	16%	Inherited Scenario 3	Financing 1	Interest on Debt	7%

Creating Inheritance Scenario Lists

Using Scenario Manager, you can create an Inheritance Scenario list.

To create Inheritance Scenario lists:

1. Access **Scenario Manager**.
See [Accessing the Scenario Manager](#).
2. In **Scenario Manager**, click . See [Creating Scenarios](#).
3. In **Scenario Information**, enter a unique scenario name.
4. **Optional:** In **Comments**, enter a description and then click **OK**.
5. **Optional:** In **Inheritance Method**, select **Inherits**, and then click .

6. **Optional:** In **Display**, select **All Accounts** to display.
7. In **Available Scenarios**, select a scenario and click  to add it to **Inheritance Scenarios** list.
8. **Optional:** Use the arrows to reorder the scenarios in **Inheritance Scenarios**.
9. Click **OK** to exit the Inherit From dialog.
10. In **Use Actuals**, select an option: **Never**, **When Available**, or **In History** from the drop-down list.
11. **Optional:** In **Display**, select **All Accounts** to display.
12. In **Accounts** list, select the required accounts that can be part of the currently active scenario in the model, and then click **OK**.

Using Sensitivity Analysis

Use Sensitivity Analysis to manipulate selected accounts and evaluate the effect on key variables. For example, you can see how much you must increase product sales to balance an increase in manufacturing expenses.

You can use Sensitivity Analysis to isolate the value drivers in financial models. Value drivers are key variables that, when manipulated, impact values. Knowing which accounts affect your enterprise helps you make informed decisions.

There are three sensitivity models:

- Full Strategic Modeling model
- Shareholder Value model
- Economic Profit model

Accessing Sensitivity Analysis

To use Sensitivity Analysis:

1. Access the Strategic Modeling ribbon in Microsoft Excel.
2. On the Strategic Modeling ribbon, click **Sensitivity Analysis**.
3. Set full model options.
See [Setting Global Sensitivity Analysis Options](#)
4. Set shareholder value options.
See [Setting Shareholder Value Options](#)
5. Set economic profit options.
See [Setting Economic Profit Options](#)
6. Test the results in the matrix.
See [Viewing Sensitivity Analysis Results](#)
7. Click **OK**.

Setting Global Sensitivity Analysis Options

Use the Sensitivity Analysis-Full Model tab to analyze the entire model. Because it uses the full model, it has the longest calculation time.

To set the full model options for sensitivity analysis:

1. Access **Sensitivity Analysis**.
See [Accessing Sensitivity Analysis](#).
2. In **Sensitivity Analysis**, select **Full Model** tab.
3. In **Sensitivity**, select an account for analysis.

 **Note:**

Accounts using scalar inputs or historical average forecast method are not listed. Accounts using Freeform Formulas that respond to changes in other accounts are included.

4. In **period**, select a time period.
5. In **Display**, define how values are presented:
6. In **Relative to - Top**, enter information for the first account variable that is changed. This information is displayed on the matrix.
 - In **Account**, select the top variable of the matrix on which the sensitivity is performed. The list includes all accounts from the model, plus:
 - Input accounts with no freeform formulas
 - Input accounts with freeform formulas using @input
 - Main accounts calculated as a sum of their subaccounts
 - Subtotal subaccounts
 - For accounts calculated through subaccounting and subtotal subaccounts, the increment percentage applies to the subaccounts output values. Using these accounts, you must select **Multiplying by** in the **Change by** field.
 - Calculated accounts such as Net Income are not included.
 - In **Change by**, select a method for changing the sensitivity variable:
 - **Adding**: Add the change amount to the input value of the relative variable. The change amount is based on the input type and scale of the relative variable. For example:
 - * An increment of 3 for A/R, if it is forecast in Days of Annualized Sales, adds three days to the input value of A/R.
 - * An increment of 2 for Sales, if it is forecast as a Growth Rate, adds 2 percent to the input value of Sales.
 - * An increment of 5 for Fixed Capital Investment, if it is forecast as Actual Value in Millions, adds 5 million dollars to the input value of Fixed Capital Investment.
 - **Multiplying by**: Multiplies the input value for the Relative to account by a percentage. For example, an increment of 2 for Sales, if it is forecast as a 10% Growth Rate, multiplies the input value of 10% by 2%, equalling 10.2%.
7. In **Relative to - Left**, add another sensitivity variable.
 - In **Account**, select an account to perform a sensitivity using a second variable.

 **Note:**

The default account is Period End Exchange Rate unless you have saved another setting.

- In **Change by**, select a method for changing the sensitivity variable:
 - **Adding:** Add the change amount to the input value of the relative variable. The change amount is based on the input type and scale of the relative variable. For example:
 - * An increment of 3 for A/R, if it is forecast in Days of Annualized Sales, adds three days to the input value of A/R.
 - * An increment of 2 for Sales, if it is forecast as a Growth Rate, adds 2 percent to the input value of Sales.
 - * An increment of 5 for Fixed Capital Investment, if it is forecast as Actual Value in Millions, adds 5 million dollars to the input value of Fixed Capital Investment.
 - **Multiplying by:** Multiplies the input value for the Relative to account by a percentage. For example, an increment of 2 for Sales, if it is forecast as a 10% Growth Rate, multiplies the input value of 10% by 2%, equalling 10.2%.
- 8. Click **Update** to view the percentage calculation in the grid.
- 9. To copy the data in the grid, click **Copy**. By doing this, you can copy and paste the data from the grid.
- 10. Click **OK**.

Setting Shareholder Value Options

Use the Shareholder Value tab to perform a sensitivity analysis using a limited number of value driver variables from the Shareholder Value model. Because this group is a subset, calculations are faster, but may give different results than the Full Model.

To set the shareholder value options for sensitivity analysis:

1. Access **Sensitivity Analysis**.
See [Accessing Sensitivity Analysis](#).
2. In **Sensitivity Analysis**, select **Shareholder Value** tab.
3. In **Sensitivity**, select an account for analysis.
4. In **Display**, select a display option.
5. In **Relative to - Top**, perform these steps:
 - In **Value Driver**, select the top variable of the matrix on which the sensitivity is performed in addition to the increment type and amount. The default is **Sales Growth Rate**.
 - In **Change %**, enter the percent multiplied by or added to the Relative to account.

You cannot enter negative amounts. Examples:

If you enter 2% for Sales Growth Rate here and select Multiplying in the Change % field, Strategic Modeling multiplies Sales Growth Rate by 98% to obtain the -2% result and multiplies Sales Growth Rate by 102% to obtain the +2%. So, 10% becomes 9.8% and 10.2%.

If you enter 2% for Sales Growth Rate here and select Adding in the Change % field, Strategic Modeling adds or subtracts 2% to obtain the result. So 10% becomes 8% and 12% growth rate.

6. In **Relative to - Left**, perform these steps:
 - In **Value Driver**, select the left variable of the matrix on which the sensitivity is performed. The variables are the same as in the Relative (top) text box. Default: **Profit Margin**.
 - In **Change %**, enter the percent increment for the left variable. The rules in the Change % for the top variable field apply.
7. In **Change by**, select either **Adding** or **Multiplying** the variable by a percentage.
8. Click **Update** to view the percentage calculation in the grid.
9. To copy the data in the grid, click **Copy**. By doing this, you can copy and paste the data from the grid.
10. Click **OK**.

Setting Economic Profit Options

Use the Sensitivity Analysis—Economic Profit tab to analyze sensitivity using a subset of value driver variables from the Full Model. Because this group is a subset, calculations are faster, but may give different results than the Full Model.

To set the shareholder value options:

1. Access **Sensitivity Analysis**.
See [Accessing Sensitivity Analysis](#).
2. In **Sensitivity Analysis**, select **Economic Profit** tab.
3. In **Sensitivity**, select an account variable on which to perform sensitivity analysis.
4. In **Display**, select an option for displaying results.
5. In **Relative to - Top**, perform these steps:
 - In **Value Driver**, select the top variable of the matrix on which the sensitivity is performed in addition to the increment type and amount. The default is **Sales Growth Rate**.
 - In **Change %**, enter the percent multiplied by or added to the Relative to account. You cannot enter negative amounts.
6. In **Relative to - Left**, perform these steps:
 - In **Value Driver**, select the left variable of the matrix on which the sensitivity is performed. The variables listed are the same as the Relative (top) field. The default is **Profit Margin**.
 - In **Change %**, enter the percent increment for the left variable. The Change % rules for the top variable field apply.
7. In **Change by**, select either **Adding** or **Multiplying** the variable by a percentage.
8. Click **Update** to view the percentage calculation in the grid.
9. To copy the data in the grid, click **Copy**. By doing this, you can copy and paste the data from the grid.
10. Click **OK**.

Viewing Sensitivity Analysis Results

To view Sensitivity Analysis results:

1. Access **Sensitivity Analysis**.
See [Accessing Sensitivity Analysis](#).
2. Select the **Full Model**, **Shareholder Value**, or **Economic Profit** tabs.
3. Click **Update**.
4. View results in the matrix:

When you enter values and click **Update**, Strategic Modeling updates the matrix on the Sensitivity Analysis, showing how the two variables affect the sensitivity of the selected account. You can print or copy and paste from the matrix.

Using One Variable for Sensitivity Analysis

To analyze sensitivity for one variable, enter the top variable information, and enter 0 (zero) for left variable's percent change. Displays only one row (the middle, horizontal row of numbers) of calculated results.

Using Goal Seek

Use Goal Seek to identify a target value for an account. Strategic Modeling calculates changes to another account to reach that target. This eliminates manipulating accounts manually.

Using Goal Seek for Single Periods

To use Goal Seek for single periods:

1. On the Accounts spreadsheet, select a cell or account, and then **Goal Seek**.
2. Select **Single Period**.
3. In **Set**, select the goal account.
4. In **In Period**, select a time period.
5. In **To Value**, enter the target amount.
6. In **Change**, select the source account affecting the goal.
This account must be related to the goal account through a formula.
7. In **From Period** and **To Period**, enter the years to change the source account.
8. In **Adjust By**, specify the adjustment method.
9. **Optional:** Select **Continuous Seek** to perform a new goal seek while retaining the results of the prior goal seek(s) in the model.

Note:

When continuous seek is active the results of the prior goal seek(s) are incorporated in the model for the current goal seek. If the continuous seek option is not active the results of the prior goal seek are undone before starting the current goal seek.

10. Click **Seek**.
11. **Optional:** Select **Undo Last** to revert just prior to last seek.
12. **Optional:** Select **Undo All** to revert all changes to the account values by all seeks since the dialog was opened.
13. Click **OK** to retain the results, or click **Cancel** to reject the results.
14. **Optional:** Select **Only Show Changes** to display only the time periods that are modified.

Using Goal Seek for a Time Series

To use Goal Seek for a time series:

1. On the Accounts spreadsheet, select a cell or account and then **Goal Seek**.
2. Select the **Time Series** tab.
3. In **Set**, select the goal account.
4. In **Values in**, select a source account to contain the goal.
You can use Memo Accounts.
5. In **Change**, select the source account affecting the goal.
This account must be related to the goal account through a formula.
6. In **From Period** and **To Period**, enter the years to change the source account.
7. Click **Seek**.
8. **Optional:** Select **Continuous Seek** to perform a new goal seek while retaining the results of the prior goal seek(s) in the model.

 **Note:**

When continuous seek is active the results of the prior goal seek(s) are incorporated in the model for the current goal seek. If the continuous seek option is not active the results of the prior goal seek are undone before starting the current goal seek.

9. Click **Seek**.
10. **Optional:** Select **Undo Last** to revert just prior to last seek.
11. **Optional:** Select **Undo All** to revert all changes to the account values by all seeks since the dialog was opened.
12. Click **OK** to retain the results, or click **Cancel** to reject the results.
13. **Optional:** Select **Only Show Changes** to display only the time periods that are modified.

14

Using Provided and Freestyle Reports

This section describes about displaying financial data using reports and graphs.

About Reporting


You evaluate financial models using standard reports like income statements, balance sheets, and funds flow statements. You can create custom reports to meet other needs. Reports display through different tabs on the workspace, or through the menu bar.

Strategic Modeling provides these report categories:

- Financial and Valuation reports on financial data
- The Notes Report for annotating analyses
- 5 custom reports
- Freestyle Reports for more flexible custom reports
- The Linked and Embedded Objects report for embedding graphics

On standard reports, you can display reports in different formats, review account notes, use Analyze to review account values, and change input assumptions to see how it changes your analysis. You change the report display by inserting or deleting accounts or rows and columns, and changing stylistic elements like fonts and number formats. There are features adding flexibility when printing reports.

Video

Your Goal	Watch This Video
Learn about creating custom reports in Strategic Modeling.	 Creating Custom Reports in Strategic Modeling with Oracle Enterprise Planning Cloud

Reviewing Reports

By default, reports display account values as currencies—but, you can select alternative value formats. When reviewing reports, you can annotate an analysis, for example, to note how account values are calculated. Or, use Analyze to see how a value is calculated from constituent accounts, and how each affects the input data. You can change input assumptions on reports.

Accessing Reports

To access reports:

1. From the **Report** grouping label, click **Report List**.
2. Select a report:
 - **Income Statement**—Displays period results.
 - **Balance Sheet**—Reports the financial condition at the end of a period.

- **Funds Flow**—Compares total sources of funds to total uses of funds.
- **Cash Flow**—Displays the difference between operating and non-operating balances.
- **Indirect Cash Flow**—Displays operating, investing, and financing cash flow in an indirect format.
- **Ratios**—Displays corporate Profit Performance Ratios, Leverage Ratios, Activity Ratios, Liquidity Ratios, Per-Share Data, Valuation Ratios and Custom Ratios.
- **Debt**—Summarizes and details analysis of capital structure and capital cost accounts.
- **FAS95**—Provides a direct cash flow statement compliant with FAS 95 guidelines.
- **Executive Summary Report**—Summarizes key income statement, balance sheet, cash flow and financial ratio accounts.
- **Statement of Retained Earnings**—Reconciles the period-to-period activity in the Retained Earnings account.
- **SVA**—Displays period-by-period discounted cash flow and Residual Value used to compute Corporate Value and Shareholder Value.
- **DDM**—Displays the same information as the Cash Flows and Shareholder Value report, but uses the discounted equity cash flow method.
- **Economic Profit Report**—Displays the discounted value of economic profit and residual value.
- **Custom 1-5**—Enables you to design your own reports by inserting or pasting accounts, account notes and text rows and columns.
- Freestyle Reports enable you to design all report characteristics.
- **Notes**—Displays all account notes in an analysis.
- **OLE**—Enables you to link or embed objects such as graphics.

Changing Report Formats

 **Note:**

This procedure does not apply to freestyle reports.

To change report formats:

1. Select a **Report**. See [Accessing Reports](#)
2. From the **Report** grouping label, click **Report Formats**.
3. On **Alternate Formats**, select formats:
 - **None**
Default—Displays values in currency format.
 - **Currency and Growth Rate**
Displays values in growth rates from the prior period. Growth rates for periods under a year are based on the same time period length from the prior period, even if the prior period is a year. For example, if 2004 is modeled in quarters and 2003 as a year, the growth rate for 1st quarter 2004 is based on 4th quarter 2003. The value for 4th quarter 2003 is based on actual number of days.

- **Currency and Common Size**

Displays values in a common-size (percentage) format. This alternative format is only available for the Income Statement, Balance Sheet and Cash Flow Statement. Common-size values are calculated for the Income Statement and Cash Flow Statement based on Sales (v1000) and the Balance Sheet based on Total Assets (v2490).
 - **Currency and Growth Rate Over Same Period One Year Ago**

Displays values in growth rates from the same period in the prior year. Growth rates for periods under a year are based on the same time period length from the same period in the prior year. For example, if 2004 is modeled in quarters and 2003 as a year, the growth rate for 1st quarter 2004 is calculated based on the 1st quarter 2003. The value for 1st quarter 2003 is based on actual number of days.
 - **Current and Named Scenario**

Displays values for the current scenario and a second scenario select in the **Scenarios** list. You have options for displaying variances between the two scenarios:

 - **Currency**

The currency difference.
 - **Percent**

The percentage difference.
 - **Both Currency and Percent**

The difference in both currency and percent.
 - **None**

Displays accounts only—no variance columns.
4. On **Cell text information**, select the following:
 - **Optional:** Select **Show Cell Text on Report** to retrieve the textual content
 - **Optional:** Select **Show Account Cell Text** to retrieve an account information.
 - **Optional:** Select **Show Input Cell Text** to retrieve the input information.
 - **Optional:** Select **Show Output Cell Text** to retrieve the output information.
 5. **Optional:** Select **Suppress Zero Values** to display only accounts containing non-zero values.

Default—Reports hide accounts with zero values.
 6. **Optional:** Select **Apply Format to All Reports** to apply the format to all reports.

Without this option, only the currently selected report is modified.
 7. Click **OK**.

Modifying Report Properties

To review or change report properties:

1. Select a **Report**. See [Accessing Reports](#)
2. From the **Report** grouping label, click **Properties**.
3. **Optional:** In **Report Name**, enter a name.

Maximum: 20 characters

 **Note:**

Standard report headers are generated using this **Report Name**, along with the Company Name that is entered into the model's summary information dialog.

4. **Optional:** In **Tab Short-name**, enter a short name for the report tab.
5. **Optional:** In **Common Size Variable**, select an account.

Displays all accounts as percentages of this account. You must set the report to display using the **Currency and Common Size** format.

 **Note:**

Does not apply to Freestyle Reports.

Click **Find Account** to browse.

6. Click **OK**.

Changing the Display Options for Reports

To review or change report display options:

1. Select a **Report**. See [Accessing Reports](#)
2. Select an account, from the **Report** spreadsheet.
3. From the **Report** grouping label, click **Display Options**.
4. **Optional:** Select **Expand Subaccounts** to include all subaccounts when inserting main account.
5. **Optional:** Select **Expand Dimensions** to include all dimensions when inserting dimensional accounts.
6. **Optional:** Select **Change Sign** to reverse the +/- sign of accounts.

Accessing Notes Reports

To access the Notes Report:

1. Select **View**, then **Reports**, and then **More Reports**.
2. In **Report(s) to view**, select **Notes Report**.
3. Click **OK**.

Adding or Reviewing Notes

To add or review report notes:

1. Select a report.
2. Select an account in the report.
3. Select **Accounts**, then **Account Notes**.
4. **Optional:** To change accounts, select an account from the list.

**Tip:**

To scroll through accounts, click **Next** and **Prev**.

5. **Optional:** In **Notes**, enter comments for the account.
6. **Optional:** Select **Display on reports** to display **Notes** comments at the bottom of the report.
7. **Optional:** Select **Show only accounts with notes** to display only accounts with comments attached in the account list on **Account Note**.
8. **Optional:** To delete the comment, click **Clear**.
9. When you finish, click **Exit**.

Editing Input Account Values

To edit values using **Input**:

1. Highlight an account and click the input box.
2. Enter a value and press **Enter**.
3. Recalculate the model.

Editing Input Account Values

To edit account values using **Account Input**:

1. Select **Accounts**, then **Account Input**.
2. On **Account Input**, select an account.
3. In the historical and forecast rows, enter changes.
4. Click **exit**.
5. Recalculate the model.

Customizing Reports

There are global and individual settings for reports. For individual reports, you can insert or delete accounts, rows, or columns. You can change number formats, fonts, rows, and column settings and alignment.

Customizing Standard and Freestyle Report Formats

You can customize report to mirror financial statements. You can hide, reveal, or delete columns and rows. You can insert accounts, account notes, and text, and make cosmetic changes to fonts, borders, and other report elements—see [Formatting](#).

Using Freestyle Reports

Freestyle Reporting is flexible reporting tool for financial statements and variance analyses, offering these benefits:

- Creating calculations directly on the Freestyle Report.
- Building fully customized reports, including specialized layouts for time structure or table creation.

- Dynamic reporting through the use of the base period feature.
- Automatic linking of data from the Account spreadsheet.
- Fully functional Analyze trail.

Building Freestyle Reports

To build a Freestyle Report, you create a blank one first.

See [Creating Blank Freestyle Reports](#).

With blank Freestyle Reports, there are three ways to enter data:

- Entering data directly by typing or pasting the data from another source. See [Inputting Data](#).
- Creating formulas referencing other cells in the report or other reports. See [Creating Formulas in Cells](#).
- Linking accounts by assigning cell attributes.
See [Linking Data to Freestyle Reports by Assigning Cell Attributes](#).

Note:

When creating freestyle reports in Strategic Modeling, group the cells together with like attributes; for example, if the entire sheet reports on a particular scenario, select the whole sheet and apply that scenario using the **Assign Cell Attributes** dialog. If a whole column reports on one specific time period (or other attributes like account label), select the column and assign the desired attribute using the **Assign Cell Attributes** dialog. You can assign attributes to the sheet, rows, columns, ranges, or single cells. The more attributes are mass-assigned, the fewer instructions are needed to be read when refreshing the sheet, increasing the performance.

Creating Blank Freestyle Reports

There are two ways to create an empty Freestyle Report.

To create Freestyle Reports:

1. From the **Report** grouping label, click **Insert**, and then **Sheet**.
New freestyle report – a blank worksheet is displayed.
2. From the Freestyle report, click **Assign Cell Attributes**. See [Linking Data to Freestyle Reports by Assigning Cell Attributes](#)

Inputting Data

To input data into a Freestyle Report, click a cell and enter a value. To paste data from another source, highlight the cell or range of cells in the report, select **Edit**, and then **Paste**.

Creating Formulas in Cells

You create formulas in cells. Formulas are stored until deleted from cells. To reference cells in calculations, click a cell following a mathematical operator (for example, +).

Linking Data to Freestyle Reports by Assigning Cell Attributes

To create links between the Freestyle Reports and the financial model accounts, highlight a cell or range of cells (individual cell, row, or column) and assign cell attributes. Each cell must be assigned all five available attributes for information to appear:

- Model
- Data Object
- Account Attributes
- Time
- Scenario

When attributes conflict in overlapping rows and columns, Strategic Modeling follows the levels of influence to determine which attribute to use.

 **Note:**

Columns and rows must intersect before the information displays. For example, if you assign columns for the years 2003, 2004, and 2005, no information appears until you assign a row of accounts below those columns.

To assign cell attributes:

1. Select a Freestyle Report.
2. Highlight a cell, row, or column. From the **Reports** grouping label, click **Assign Cell Attributes**.
3. Under **Model**, select a data source:
 - **None**—Paste in copied data, or enter data.
 - **Current**—Retrieve data from the current financial model.
 - **Alias**—Link data from another model or file (.alc). The source file or model must have an alias. See [Using Alias Manager](#)

 **Note:**

When linking calculated data through **Alias**, you can use **Analyze** to view the analyze trail from the source.
see [Using Analyze](#).

4. Under **Data Object**, define the object from the source to display in the cell:
 - In **Account**, select an account.
The available accounts are from the source in **Model**. You must select an option in **Other**.
 - Click **Find Accounts** to browse.
 - For Debt Scheduler items, in **Account**, select one of the debt accounts:

- * New Senior Notes (v2652)
 - * New Senior Subordinated Notes (v2654)
 - * Total Long Term Debt (v2660)
- In **Other**, select elements to display as report titles, column and row headings, default currency and units, or scenario descriptions:
5. Under **Account Attributes**, select the account data to display:
 - **Input**
Displays input values or forecast assumptions accounts.
 - **Output**
Displays output values.
 - **Label**
Displays account names.
 - **Note**
Displays account notes.
 - **None**
Default—Displays nothing.
 - **Change Sign**
Displays opposite values from the account data.
 6. Under **Time**, enter the time periods to retrieve:
 - **Interpret relative time references based on**
Specify the source financial model for time information:
 - **Current**
From the current model.
 - **Alias**
From a linked model. Requires an alias—see [Using Alias Manager](#)
 - In **Time Period**, enter a time period or formula.
Click **Build** to enter a time formula—see [Building Time Formulas](#).
 - In **Options**, select a roll-up time period:
 - **<None>**
 - **YTD**
Year to Date
 - **HTD**
Half to Date
 - **QTD**
Quarter to Date
 7. **Optional:** Under **Scenario**, select a scenario.

 **Note:**

To activate this feature, access **Scenario Manager - Account Scenarios** and, in **Accounts** select the account—see [Maintaining Scenarios](#).

8. Click **Apply**.

Creating Charts

After populating Freestyle Reports with data, you can create charts with that information. You can customize charts—see [Working with Graphs](#).

To create charts:

1. In a report, select the a range of cells, rows, and columns—include headings.
2. From Excel **Insert** menu, and then select **Chart**.

Using Alias Manager

Use **Alias Manager** to create aliases for models, used when linking external models to Freestyle Reports.

To create aliases using **Alias Manager**:

1. From the **Reports** grouping label, select **Freestyle Reports**, and then select **Alias Manager**.
2. Specify the location:
 - **Use Model from Server (Model)**
For server models.
 - **Use local file (Filename)**
For local files.
3. Review aliases information:

Alias Manager lists:

- **Alias:** The alias name.
- **File Name/Model**
A multimode column listing alias sources:
 - **File Name**
For local files, this lists the filepath and referenced file.
 - **Model**
For server implementations, this lists the referenced model.
- **Password / Archive**
A multimode column:
 - **Password**
For password-protected files, enter the password.

- **Archive**
For aliases referencing archived models, this lists the archive.
 - **Count**
The number of times the alias is currently cited in all Freestyle Reports.
 - **Calc**
The current status of the referenced model or file:
Calc
Values need recalculating.
Ready
Values are calculated.
 - **Status**
The current description of the model or file:
 - **Open**
Someone is accessing the model.
 - **Changed**
The model needs recalculating.
 - **Current**
The model is calculated and closed.
 - **Label**
If a model has a labeled scenario rollup, then list of labels are displayed.
4. **Optional:** To create aliases, click **New**.
 5. Click **OK**.

Creating Aliases

To create aliases:

1. On **Alias Manager**, click **New**.
2. In **Alias**, enter a name for the alias.
3. **Optional:** Alias a server model:
 - In **Model**, enter a model.
 - **Optional:** To alias currency-translated model versions, select **Translation**.
 - **Optional:** To alias an archive of the model, in **Archive**, enter an archive name.
4. **Optional:** To create aliases to local files:
 - In **File Name**, enter the filepath and filename.
 - **Optional:** In **Password (for local file)**, enter the password if the file is password protected
Optional: To store passwords and avoid prompting when aliases are used, select **Save password in alias**.
5. Click **OK**.

15

Working with Graphs

Related Topics

- [Creating Graphs From Freestyle Reports](#)

Creating Graphs From Freestyle Reports

You can create a graphs from freestyle report data.

To create graphs from freestyle reports:

1. Within a freestyle report, select a range of cells, including the row and column headings.
2. From Excel **Insert** menu, and then select **Chart**.

Strategic Modeling produces a graph based on the data.

16

Using Freeform Formulas

Related Topics

- [Overview](#)
- [Building Formulas](#)
- [Functions Used in Formulas](#)

Overview

Use the Formula Builder to create freeform formulas to calculate the historical and/or forecast values of input accounts.

Formulas contain:

- **Values**, that are constants or account numbers
- **Mathematical Operators**
- **Boolean Operators**, such as =,=, < > ,#OR#
- **Account References and Functions** to reference periods, account values or percentages

Formulas calculate from left to right. To calculate expressions first, enclose them in parentheses.

Values

To enter a number, enter the number. For example, enter **10** is literally 10.

To enter an account, enter a v with the account number immediately following. Case-insensitive. For example, "V1040.00.000" and "v1040.00.000" refer to the same account.

Mathematical and Boolean Operators

Operation	Description
+	Adds
-	Subtracts
*	Multiplies
/	Divides
^	Exponentiation
Use after IF statements:	
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to
=	Equal
<>	Not equal

Operation	Description
#AND#	Bitwise and
#OR#	Bitwise or

Functions Referencing Account Time Periods

Use the following to reference account time periods:

- `vXXXX(argument)` —Retrieves account values from another time period. Use absolute or relative period references.
- Absolute periods by specifying the account and then a period in quotes, or a function in brackets. Examples:

Example	Meaning
<code>v1030 (Jan 03)</code>	Sales in January 2003
<code>v1030 (@firstpd)</code>	Sales in the first period

- Relative periods using lead and lag periods. Lead periods follow the current period; lag period precedes the current period.

Unspecified period types become the current period. Examples:

Example	Meaning
<code>v1030(-1M)</code>	Lag one month of Sales
<code>v1030(+3M)</code>	Lead three months of Sales
<code>v1030(-4Q)</code>	Lag four quarters of Sales
<code>v1030(+2Q)</code>	Lead two quarters of Sales
<code>v1030(-1Y)</code>	Lag one year of Sales
<code>v1030(+3Y)</code>	Lag three years of Sales
<code>v1030(-1)</code>	Lag one of the current period type of Sales
<code>v1030(+2M)</code>	Lead two months of Sales

Functions For Relative Time Period References

These functions convert time levels. Conversion occurs before other operations:

Table 16-1 Typecasting in Relative Time Period References

Function	Description	Returns	Syntax
@week	Converts to a week	Week	<code>v350.0.001</code> <code>(-2(@week))</code>
@month	Converts to a month	Month	<code>-v350.0.21</code> <code>(+2q(@month)) -</code> <code>@input</code>

Table 16-1 (Cont.) Typecasting in Relative Time Period References

Function	Description	Returns	Syntax
@qrt	Converts to a quarter	Quarter	$v350.000.05(-4y(@qrt))$
@half	Six months	Half year	$v350.0.001(-3(@half))$
@year	Year	Year	$v350.0.18(-18m(@year))$

Building Formulas

- [Adding Accounts](#)
- [Inserting Functions](#)
- [Building Time Formulas](#)

Creating Formulas Using Formula Builder

To use Formula Builder:

1. From any view, click **Forecast Method**.
2. Select **Freeform**, and then click **Build**.
3. In **Formula**, add accounts and functions, and insert operations. See:
 - [Adding Accounts](#)
 - [Inserting Functions](#)
4. Click **Apply**, and then **OK**.

Adding Accounts

To enter accounts:

1. From any view, click **Forecast Method**.
2. Select **Freeform**, and then click **Build**.
3. Select **Account**.
4. In **Formulas**, enter accounts.
 - Filter by account group by selecting a group from **Filter**.
 - Specify a Match Type option:
 - **Contains**—Filter accounts by name
 - **Starts with**—Filter accounts by first letter of name
5. Double click to select accounts.
6. Click **OK**.

Inserting Functions

To build functions into formulas:

1. From any view, click **Forecast Method**.
2. Select **Freeform**, and then click **Build**.
3. In **Names**, select a function.
See [Functions Used in Formulas](#).
4. In **Names**, double-click a function.
5. In **Examples**, double-click an example to build your formula using the sample syntax.
6. Click **Formula** to enter functions.
7. Click **OK**.

Building Time Formulas

Use Build Time Formula to define formulas to reference time periods. For example, to reference data for the current and next year, use @basepd:

```
@basepd(+1 (@year))
```



Note:

Use **Time Period** to change the base period. See [Settings the Time Periods](#).

To build time formulas:

1. From a freestyle report, access **Build Time Formula**.
2. In **Formula**, create time formulas by inserting operators and double-clicking functions. See:
 - [@firstpd](#).
 - [@firsthist](#).
 - [@lasthist, vXXXX\(@lasthist\)](#).
 - [@isfirstfore](#).
 - [@isfirsthist](#).
 - [@lastfore, vXXXX\(@lastfore\)](#).
 - [@closing](#).
 - [@deal](#).
 - [@opening](#).
 - [@basepd](#).
3. **Optional:** Select **Show User Labels** to display user-defined time periods.
4. Click **OK**.

Functions Used in Formulas

Functions That Retrieve Values

These functions have no arguments:

- @na
- @nummonths
- @numweeks
- @LIKEPD
- @dimexact(vXXXX,dimension member)
- @scalar
- @calc(PROCESS, Vxxxx)
- @ipvalue(PROCESS, Vxxxx)
- @debt(Vxxxx, TOKEN_NAME)
- @sub(Vxxxx.xx)



Note:

The FreeForm forecast method will not execute for an account on a deal period.

@na

Definition

Not a number.

For use as a general fill value or for non-logical results.

Returns

N/A

Example

If a ratio is relevant only in forecasted periods due, use @na for other periods. For example:

```
@if(@ishist, @na, v1400/ v2890)
```

where Total Interest Expense is v1400 and Total Liabilities is v2890.



Note:

N/A* X= N/A and N/A+ X= X

@LOG

Definition

Computes the base-10 logarithm of the argument. This enables you to represent very high values using a smaller frame of reference. For example, LOG is used to assess seismic activity such as earthquakes.

Example

`LOG(value, base)`

For example, `LOG(4, 100,000)` = 0.12

For example, `LOG10(86)` = 1.93449

@LN

Definition

Computes the natural logarithm of the argument

@nummonths

Definition

Number of months in a period

Returns

- The number of months in a time period.
- N/A for time structures based on weeks.

Example

- In a quarter, this returns the number of months in the quarter.
- In a half year, this returns 6.
- In a year, this returns 12.

@numweeks

Definition

Number of weeks in a period

Returns

The number of weeks in a period.

Example

- In a month, this returns the number of weeks in the month, or a value of 4 or 5.
- In a quarter, this returns 12 or 13.
- In a half year, this returns 26 or 27.
- In a year, this returns 52 or 53.

@numweeks

Definition

Number of weeks in a period

Returns

The number of weeks in a period.

Example

- In a month, this returns the number of weeks in the month, or a value of 4 or 5.
- In a quarter, this returns 12 or 13.
- In a half year, this returns 26 or 27.
- In a year, this returns 52 or 53.

@LIKEPD

Definition

Use to specify a lead or lag time to a period-to-date of the same type. This function enables you to create formulas where you want the period-to-date periods to lag a full period instead of using the value from the previous period.

Example

Assume you define a formula using Oct09:YTD in which the value (V1000) from the previous year, 2008, is used V1000(-1). To use a value other than the 2008 period-to-date result, use V1000(@likepd(-1)).

@dimexact(vXXXX,dimension member)

Definition

References dimensional account instances from accounts that do not share the same dimensions as the account with the formula, enabling you to reference dimensions not currently assigned to the account with the function.

Returns

Returns a dimensional instance.

Example

If Sales has the dimension Region but not Product, and Cost of Goods sold has the dimension Product but not Region, the Cost of Goods Sold account can use this formula:

```
@dimexact(v1000,"North")*.1
```

to retrieve the instance for Sales/North and multiply it by 10%.

@scalar

▲ Caution:

Do not use arguments to retrieve values from other accounts with @scalar. This functionality may be deprecated in a future release.

Definition

Returns a scalar value from the forecast method.

If you use @scalar in a Freeform Formula forecast method, the account accepts one scalar input value in all forecast periods.

Returns

Returns the value of the single forecast input for a variable when that forecast method is in use.

@calc(PROCESS, Vxxxx)

Definition

A general method of calling a complex calculation routine.

Returns

- True—if the calculation succeeds.
- False—if the calculation fails.

@ipvalue(PROCESS, Vxxxx)

An instruction to the calculation engine indicating there are intra-period values stored for this account, by some process, that should be retrieved and, in the case of Flows, summed to return the reporting value for the account for the period.

@debt(Vxxxx, TOKEN_NAME)

Returns values directly from the debt schedule for use in formulas and reporting. Other than trivial internal calculations, this performs no calculations.

@Debt keywords:

- DAYS_IN_TERM: returns the total number of days in the term of the debt instrument according to the Day Count Convention used by the instrument. This measures the difference between the Issue Date and the Maturity Date.
- FIRST_DAY: returns the day number for the Issue Date of the debt instrument.
- LAST_DAY: returns the day number for the Maturity Date of the debt instrument.
- INITIAL_BALANCE: returns the initial balance for the debt instrument.
- ISSUE_COSTS: returns the amount of the issue costs (as a currency value) for the debt instrument.
- PREM_DISC: returns the amount of the premium/discount (as a currency value) for the debt instrument.

- **ELAPSED_DAYS**: returns the number of days that have passed since the Issue Date for the debt instrument; returns a zero when outside the term of the instrument.
- **TERM_REMAINING**: returns the fraction of the term remaining for the debt instrument, adjusted for early repayment of debt if the **Amortization Follows Principal** option is selected. Returns 0 when outside the term of the instrument.
- **DAYS_IN_PERIOD**: returns the number of days in the current period according to the Day Count Convention used by the instrument.
- **DCF**: Day Count Fraction for the current period according to the Day Count Convention used by the instrument.

@sub(Vxxxx.xx)

Similar to @dim in that, using no arguments, it references the same subaccount number as the variable being calculated. Useful when calculating subaccounted formulas, as with some Debt Scheduler variables.

Functions That Reference Specific Time Periods

These functions return time period information into the current time period from different periods. None of these functions have arguments.

- @basepd
- @closing
- @deal
- @firstfore
- @firstpd
- @lastfore, vXXXX(@lastfore)
- @lasthist, vXXXX(@lasthist)
- @opening
- @lastactual
- @lastpd

@basepd

Definition

Base period

Returns

A relative time reference that returns the value for an account in the base period—see [Settings the Time Periods](#).

Example

If 2007 is the base period, this equation: v1000(@basepd)

returns the value of Sales (v1000) for 2007.

@closing

Definition

Closing period

Returns

A relative time reference that returns the value for the closing period of an account.

Example

This formula: `v1000(@closing)`

returns the closing period value for Sales (`v1000`).

@deal

Definition

Deal period

Returns

A relative time reference that returns the value for the deal period of an account.

Example

This formula: `v2005(@deal)`

returns the deal period value for Cash Used in Transaction (`v2005`).

@firstfore

Definition

First forecasted period

A relative time reference that returns the first forecasted time period value for an account—see [Settings the Time Periods](#).

Example

To return the first forecasted period output value for Sales, if the last historical value (for example, 1999) of sales is 10 and a 10% growth rate in all following periods:

```
v1000(@firstfore)
```

The value returned is 11 ($10 * 1.1$) or 2000's sales.

@firstpd

Definition

First period

Returns

A relative time reference that returns the first period in the model's value for an account.

Example

If 2007 is the first period in the model, the formula:

```
v1000(@firstpd)
```

return the value for 2007 Sales (v1000). If 2007 is in quarters, Strategic Modeling returns the first quarter for 2007 Sales (v1000).

@firsthist

Definition

This function specifies a time period reference to the first historical period (the first period after the Beginning Balance period) in the model.

Returns

This method returns a time period reference to the first historical period (the first period after the Beginning Balance period) in the model.

Example

```
v1000(@firsthist)
```

retrieves the value of account "v1000" in the first historical period.

@lastfore, vXXXX(@lastfore)

Definition

References the last forecasted value of an account.

Returns

- The value of an account in the last forecasted period.
- N/A for other periods.

Example

For this formula and values:

```
v1000(@lastfore)
```

V1000	1998H	1999H	2000F	2001F	2002F	2003F	2004F
Sales	10	15	16.5	18.15	19.965	21.962	24.158

The formula returns 24.158 in 2004 and N/A in other periods.

@lasthist, vXXXX(@lasthist)

Definition

References the value of an account that is in the last historical period.

Returns

- The value in the last historical period.

- N/A for all periods up to the last historical period.

Example

For this formula and values:

v1000(@lasthist)

V1000	1998H	1999H	2000F	2001F	2002F	2003F	2004F
Sales	10	15	16.5	18.15	19.965	21.962	24.158

The formula returns and N/A in 1998, a 15.000 in 1999 and remaining periods.

@opening

Definition

Opening period

Returns

A relative time reference that retrieves the value for an account in the opening period. The opening period is the aggregate of the closing and deal periods. For example, for a deal period in Mar99, Strategic Modeling creates the accounts Mar99:Closing and Mar99:Deal, which aggregate to Mar99. Mar99 is the opening period.

Example

The formula: v2000(@opening)

returns the opening period value of Cash (v2000).

@lastactual

Definition

Last actual value.

Returns

A reference to the last actual period.

@lastpd

Definition

Last time period.

Returns

A reference to the last time period.

Functions That Retrieve Time Period Information

These functions accept optional arguments to specify absolute or relative period references. Without arguments, they return the value for the current period.

- [@halfnum](#)
- [@inputpd\(\[Time period reference\]\)](#)

- @isagg
- @isclosing
- @isdeal
- @iseoy
- @isfirstpd
- @isfirstfore
- @isfore
- @ishalf
- @ishist
- @isinput
- @islastfore
- @islasthist
- @ismonth
- @isopening
- @isqtr
- @issub
- @isweek
- @isyear
- @monthnum
- @period
- @pexists
- @pdlen
- @pdnum
- @qtrnum
- @since(period reference), @after
- @weeknum
- @yearlen
- @yearnum
- @firstday
- @lastday
- @iscalc
- @isleaf
- @isptd
- @istrailing
- @islastactual
- @islastperiod
- @blocknum
- @issuepd(Vxxxx, [optional period reference])

- @isissuepd(Vxxxx, [optional period reference])
- @isinterm(Vxxxx, [optional period reference])

@halfnum

Definition

Half period number

Used to trigger @if statements by making the condition equal to the first or second part of the year.

Returns

- 1—first half
- 2—second half

Example

If a company accumulates taxes for the first half of the year and pays taxes second half, this formula could be entered in a Taxes Payable account:

```
@if(@halfnum=1, @sum(v1690,@ytd), 0)
```

with Total Taxes (v1690).

@inputpd([Time period reference])

Definition

Input period

This function is useful when using an optional time period reference, usually a lead or lag, although absolute period references are possible.

Returns

Returns the input period driving the value for the period being calculated. This may be the period that is being calculated, if it is an input period.

Example

For example: @inputpd(-1)

You can reference the preceding input period, even if that period is a different type from the current period, which enables returning some types of lagged data.

This formula:

```
@Vxxxx(-1)
```

returns the value of Vxxxx from the previous period of the same type.

This formula:

```
@Vxxxx(@inputpd(-1))
```

returns the value of Vxxxx from the preceding input period.

@isagg

Definition

Is an aggregate period

A relative reference in @if statements. Used with memo accounts, ratio accounts, and covenant accounts in time period structures that yield aggregate periods.

For example, if a model is in quarterly detail a year end aggregate period is created. The same applies to months, half years, and subperiods. Used in @if statements, different calculations can be performed in these aggregate periods.

Returns

- True—if the period is an aggregate period
- False—if not

Example

If a model is in quarters and the year end is an aggregate period, this formula:

```
@if(@isagg,1,2)
```

returns 2 in each of the four quarters and 1 in the year end aggregate.



Note:

This function only works when one of the User Defined Accounts is a calculated (CALC) field and the None option is selected.

@isclosing

Definition

Is the closing period in the model

A relative reference in @if statements.

Returns

- True—if the period is the closing period in the model
- False—if not

Example

This formula:

```
@if(@isclosing, 1, 2)
```

returns 1 in the closing period, 2 for other periods.

@isdeal

Definition

Is the deal period

A relative reference in `@if` statements.

Returns

- True—if the period is the closing period in the model
- False—if not

Example

This formula:

```
@if(@isdeal, 1, 2)
```

returns 1 in the closing period, and 2 for other periods.

@iseoy

Definition

Is the end of the year

A relative reference in `@if` statements used for models in months, quarters, or half years. This function models year end payments of accrued liabilities. Causes no problems in yearly detail.

Returns

- True—if the period is at the end of the fiscal year
- False—if not

Example

If the model is in quarters and December is the fiscal year end, this formula:

```
@if(@iseoy,1,2)
```

returns 2 in the first three quarters and 1 in the fourth quarter.

@isfirstpd

Definition

Is first period

A relative reference in `@if` statements.

Returns

- True—if the period is the first period in the model
- False—if not

Example 1

If the first quarter of 1998 is the first period in the model, this formula:

```
@if(@isfirstspd, 1, 2)
```

returns 1 for 1Q98, and 2 for other periods.

Example 2

If you delete 1998, the formula in the previous example returns 1 in the first period of 1999, and 2 in subsequent periods.

@isfirsthist

Definition

Is the first historical period in the model.

A relative reference in `@if` statements, enabling you to change the historical/forecast boundary and maintain the integrity of the formula. Forecast periods are determined by the historical/forecast boundary set in [Settings the Time Periods](#).

Returns

- True—if the referenced time period is the first historical period (the first period after the Beginning Balance period)
- False—if not

Example

```
@if(@isfirsthist,@na,@sum(v1000,-1))
```

returns a time period reference to the first historical period.

@isfirstfore

Definition

Is the first forecasted period in the model

A relative reference in `@if` statements, enabling you to change the historical/forecast boundary and maintain the integrity of the formula. Forecast periods are determined by the historical/forecast boundary set in [Settings the Time Periods](#).

Returns

- True—if the period is the first forecasted period in the model
- False—if not

Example 1

If a model is in years and the historical/forecast boundary is 2007/2008, with 2008 as the forecast period, this formula:

```
@if(@isfirstfore,1,2)
```

returns 1 for 2000, and 2 for other periods.

Example 2

The same formula in the previous example, but with a model in quarters with the first quarter of 2008 as the first forecast period, returns 1 for the first quarter of 2008, and 2 for other periods.

@isfore

Definition

Is a forecasted period.

A relative reference in `@if` statements.

Forecast periods are determined by the historical/forecast boundary set in [Settings the Time Periods](#).

Returns

- True—if the period is a forecasted period
- False—if not

Example

If a model contains 6 years starting in 2006, with the first year historical, then the remaining years, 2007–2011, are forecast. This formula:

```
@if(@isfore, 1, 2)
```

returns 1 for 2006, and 2 for the other years.

@isfirstforeyr

Definition

Is first forecast year.

Accepts a time period reference as an argument.

Returns

- True—If this period is contained in the first forecast year, or the first year is, even partially, in the forecast period.
- False—If not.

@ishalf

Definition

Is a half year

A relative reference in `@if` statements.

You can divide a year into quarters, enabling aggregate half year periods, or divide a year into halves, which would not make these aggregate periods. Time period detail is determined in [Settings the Time Periods](#).

Returns

- True—if the period is a half-year period whether or not it is an aggregate period

- False—if not

Example

If a model has 2006 in years and 2007 in half years, this formula:

```
@if(@ishalf, 1, 2)
```

returns 2 in 2006, and 1 in 2007.

@ishist

Definition

Is a historical period

A relative reference in `@if` statements.

Historical periods are determined by the historical/forecast boundary set in [Settings the Time Periods](#).

Returns

- True—if the period is a historical
- False—if not

Example

If a model contains 6 years starting in 2006 and the first year is historical, then 2007–2012 are forecast. This formula:

```
@if(@ishist, 1, 2)
```

returns 1 in the 2006, and 2 in the other years.

@isinput

Definition

Is an input period

A relative reference in `@if` statements.

Use in time period structures containing aggregate or year-end periods: months, quarters, halves. Use this function with accounts convertible into calculated accounts: memo accounts, ratio accounts, and covenant accounts.

Returns

- True—if the period is an input period
- False—if not

Example

If 2006 is in quarters with an aggregate year end, this formula:

```
@if(@isinput, 1, 2)
```

returns 1 for each quarter of 2006, and 2 in the year end 2006.

@islastfore

Definition

Is the last forecast period

A relative reference in `@if` statements.

Returns

- True—if the period is the last forecasted period in the model
- False—if not

Example

If a model contains 6 years ending in 2011, and 2007–2011 are forecast, this formula:

```
@if(@islastfore, 1, 2)
```

returns 1 in 2011 (the last forecasted period), and a 2 in the other years.

@islasthist

Definition

Is the last historical period

A relative reference in `@if` statements.

Forecast periods are determined by the historical/forecast boundary set in [Settings the Time Periods](#).

Returns

- True—if the period is the last historical period in the model
- False—if not

Example

If a model contains 6 years starting in 2005, with 2006 as the last historical period, then the 2007–2010 are forecast. This formula:

```
@if(@islasthist, 1, 2)
```

return 1 in 2006, and 2 in all other years.

@ismonth

Definition

Is a monthly period

A relative reference in `@if` statements.

Time period detail is set in [Settings the Time Periods](#).

Returns

- True—if the period is in months

- False—if not

Example

If 2006 is in years and 2007 is in months, this formula:

```
@if(@ismonth, 1, 2)
```

returns 2 for 2006, and 1 in monthly periods for 2007.

@isopening

Definition

Is the opening period in the model

A relative reference in `@if` statements.

The opening period is the aggregate of the closing and deal periods.

For example, if you create a deal period in Mar08, Strategic Modeling creates the accounts Mar08:Closing and Mar08:Deal, which aggregate to Mar08. Mar08 is the opening period.

Returns

- True—if the period is the opening period in the model
- False—if not

@isqtr

Definition

Is a quarter

A relative reference in `@if` statements.

Returns

- True—if the period is in quarters
- False—if not

Example

If 2007 is in years and 2008 is in quarters, this formula:

```
@if(@isqtr, 1, 2)
```

returns 2 in 2007, and a 1 for each quarter in 2008.

@issub

Definition

Is a subperiod

A relative time reference in `@if` statements.

The opening period is the aggregate of the closing and deal periods.

Returns

- True—if the period is subperiod with zero days
- False—if not

Example

If 2007 is in years and 2008 is comprised of two subperiods, one of 365 days and another of zero days, this formula:

```
@if(@issub, 1, 2)
```

returns 2 for 2007, and, for 2008, 1 for the 365 day and 1 in the restatement or zero-day period.

@isweek

Definition

Is a week

A relative time reference in `@if` statements.

Time period detail is set in [Settings the Time Periods](#).

Returns

- True— if the period is in weekly detail
- False—if not

Example

If 2007 is in months and 2008 is in weeks, this formula:

```
@if(@isweek, 1, 2)
```

returns 2 in the months of 2007, and 1 in the weeks of 2008. Aggregate periods of 2008 returns 2.

@isyear

Definition

Is a year

A relative time reference in `@if` statements.

Returns

- True—if the period is a year or yearend
- False—if not

Example

If 2007 is in years and 2008 is in quarters, this formula:

```
@if(@isyear, 1, 2)
```

returns 1 in 2007, and 2 for each quarter in 2008.

@monthnum**Definition**

The month fiscal number

Use @monthnum in @if statements to model one-time-a-year occurrences. Strategic Modeling numbers months from 1 to 12 beginning with the first month of the fiscal year. For example, the function is used if a liability were paid out on a month.

Returns

The number of the month: between 1 and 12.

Example

If income Taxes Payable is v2530, Total Taxes is v1690, and September is month number 9, this formula:

```
@if(@monthnum= 9, v1690, v2530(-1m)+v1690)
```

aggregates all taxes in v2530 until September, pays taxes by decreasing the balance to 0, and starts accumulating current-period taxes.

@period**Definition**

Period number, starting from the first forecasted time period

This function counts the aggregates and input columns. The last historical time column is number 0, and each column number following increases by 1.

Returns

- True—if the period number equals a number input in @if
- False—if not

Example

This formula:

```
@if(@period= 2, 1, 2)
```

executes (result: 1) after the formula reaches the second forecasted time column.

@pdexists**Definition**

Period exists

Executes commands if a period exists.

Returns

- True—if the period exists
- False—if not

Example

For the Sales (v1000) account:

```
@if(@pdexists(-3),v1000(-3),@na)
```

Embedded in a larger formula, this formula ensures that Sales from the 3 previous periods enters the equation. If there are no Sales figures for those periods, it returns N/A.

@pdlen**Definition**

Period length

Time period detail is set in [Settings the Time Periods](#).

Returns

Returns the number days in a period.

Example

This formula calculates interest expense:

```
@pdlen/@yearlen * v2520 * 9%
```

Where Notes Payable (v2520) has a 9% annual rate. This takes the number of days in the period, divides by the number of days in the year, multiplies the debt balance, and multiplies by 9% to get to a periodic interest expense.

@pdnum**Definition**

Period number, starting from the first time column

Totals the aggregates and inputs. The first time column is number 0.

Returns

The number of time columns in the model since the first period.

- True—if the period number equals the number enter in @if
- False—if not

Example

```
@if(@pdnum= 2, 1, 2)
```

This executes (result: 1) after the formula reaches the third time column in the model.

@qtrnum**Definition**

Quarter number

Returns

A relative time reference in `@if` statements.

Example

```
@if(@qtrnum=3,v1080(-1Q),v1000*@input)
```

In the third quarter, this formula takes the value of second quarter Selling, General & Administration Expense (v1080). In the first, second, and fourth quarters, the formula takes an input percentage (`@input`) times Sales (v1000).

@since(period reference), @after**Definition**

Adds durations to functions such as `@sum`.

`@since` includes starting periods. Accepts absolute period references such as `@firstfore` or `May03`, but rejects relative period references such as `-1Y`.

`@after` does not include starting periods.

Example

```
@sum( Vyyyy, @since( @issuepd( Vxxxx )))
```

Sums all flows occurring after the debt was issued.

@weeknum**Definition**

The week fiscal number

Used in `@if` statements to model one-time-a-year occurrences.

Strategic Modeling numbers the weeks from 1 to 52 (or 53) beginning with the first week of the fiscal year. For example, use this function if a dividend were paid out in a week.

Returns

The fiscal week number, between 1 and 53.

Example

For Common Dividend (v1880) and Weighted Average Common Shares Outstanding (v3410):

```
@if(@weeknum=37,v3410*.65,0)
```

returns a Common Dividend corresponding to 65 cents per common share in the 37th week of each year and 0 in all other weeks.

@yearlen**Definition**

Year Length

Returns

The number of days in the year, as defined in [Settings the Time Periods](#).

Example

This formula returns the value of Sales (v1000) in annual periods:

```
@if(@isyear,v1000,v1000/@pdlen*@yearlen)
```

In non-year periods, it annualizes Sales by dividing by the period length and multiplying by the number of days in the year.

@yearnum

Definition

Year number

A relative time reference in @if statements.

Returns

The year number.

Example

```
@if(@yearnum=2001,v1080(-1y),v1000*@input)
```

In 2001, the formula returns the value of 2000 Selling, General & Administration Expense (v1080). In other forecast years, the formula return an input percentage (@input) times Sales (v1000).

@firstday

Definition

The first day of the time period

Returns

The day number for the first day of the period.

@lastday

Definition

The last day of the time period

Returns

The day number for the last day of the period. For calendar time, this is the number of days since December 30, 1899. For non-calendar time periods, the value is adjusted for the length of the year (360 or 364 days).

@iscalc

Definition

Is a calculated number

Returns

- True—if the time period contains calculated values
- False—if not

@isleaf

Definition

Is a model with no child models

Returns

- True—if the time period has no child periods
- False—if not

Example

In a year containing only months, the year returns false and months return true.

@isptd

Definition

Is period-to-date

Returns

- True—if the time period is a period-to-date
- False—if not

@istrailing

Definition

Is a trailing period

Returns

- True—if the time period is a trailing period
- False—if not

@islastactual

Definition

Is the last actual value

Returns

- True—if the time period is the last actual period
- False—if not

@islastperiod

Definition

Is the last time period

Returns

- True—if the time period is the last period
- False—if not

@blocknum

Definition

A block of time periods defined by month or week numbers

Returns

- For models in months, the month number in the year, 1 to 12.
- For models in weeks, the week number in the year, 1 to 53.

@issuepd(Vxxxx, [optional period reference])

Definition

Issue period

Returns

- If Vxxxx contains a debt schedule, returns the period in which the debt was issued.
- Otherwise, returns an invalid period reference.

@isissuepd(Vxxxx, [optional period reference])

Definition

Is issue period

Returns

- True—if Vxxxx contains a debt schedule and the current period, or optional reference, is when the debt was issued
- False—if not

Use the optional period reference to change the test period. For example:

```
@isissuepd( Vxxxx, -1 )
```

test if the prior period was the issue period.

@isinterm(Vxxxx, [optional period reference])

Definition

Is in the term—Debt Scheduler only

Use the optional period reference to check another period if the first is within the term. A period is within the term of the debt if the debt is issued, exists, or is extinguished during that period.

Returns

- True—If Vxxxx has a debt schedule and the current period is within the term.
- False—If Vxxxx has no debt schedule, or the current period is not within the term.

Functions That Modify the Retrieval of an Account Value

For these functions, the first argument is an account reference, unless otherwise indicated. Arguments in [] are optional.

@abs(vXXXX)**Definition**

Absolute value

Returns

The absolute value of a specified account.

Example

```
@abs(v1750)
```

Where Net Income equals v1750 and is -10, this returns 10.

@annualize(vXXXX)**Definition**

Annualize a value

Use when working in months, quarters, or half years. The calculation uses the number of days in the year and the number of days in that period to calculate an annualized value.

Returns

Returns the annualized value of the account.

Example

```
@annualize(v1150)
```

Where Operating Profit equals v1150 and is 15 in the third quarter of 2000. This calculates as:

$15 * (\# \text{ of days in year}) / (\# \text{ of days in period})$

or

$15 * 366 / 92 = 59.674.$

@avg(vXXXX, -t)**Definition**

Averages a value over *t* periods

The *t* variable can be a month, quarter, or half year. Strategic Modeling calculates values for periods with insufficient detail.

Returns

Returns a rolling average of an account for the previous *t* periods.

Example

`@avg(v1040, -3q)`

Where Cost of Goods Sold (v1040) is:

v1040	1998	1999	1Q00	2Q00	3Q00	4Q00
Cost of Goods Sold	15	20	4	5	6	7

The calculation in 2Q00:

`[5+ 4+ (20*(# of days in 4Q99)/(# of days in 1999))]/3`

The result: 5.68

The calculation in 3Q00:

`(4+ 5+ 6)/3` or 5.

@ceil(vXXXX)

Definition

Rounds a value up to the next integer number

Returns

Returns the next highest integer number (for example, 2, 10, 65, 149...) based on the result of the parenthesized variable or equation.

Example

Where Inventory (v2040) is 233, this formula:

`@ceil(v2040/100)`

calculates the number of trucks necessary to haul the inventory, assuming each truck carries 100 worth of inventory in a period. This example equates to 2.33 and the function rounds result up to 3.

@chg(vXXXX,-t)

Definition

Calculates the change

Returns

Returns the change in the variable over *t* periods.

Example

@chg(v1040, -1q)

Where Cost of Goods Sold (v1040) is:

v1040	1998	1999	1Q00	2Q00	3Q00	4Q00
Cost of Goods Sold	15	20	4	5	6	7

In the second quarter of 2000 the equation returns:

1, (5- 4)

@floor(vXXXX)

Definition

Rounds a value down to the next integer number

Returns

Returns the next lower integer number (for example: 2, 10, 65, 149...) based on the result of the parenthesized variable or equation.

Example

If Sales are 20.23, 34.45:

@floor(v1000)

calculates the values 20 and 34.

@histavg or @histavg(vXXXX)

Definition

Historical forecasting average

If a Freeform Formula forecast method contains @histavg, no input is required in the forecast period. On the Accounts view, when the cursor is on the referenced account, the Hist. Avg. text box displays the historical average.

The years in the calculation of the historical average are defined in [Settings the Time Periods](#).

Returns

The historical average based on the forecasting method used in the account.

Example 1

The basic formula:

@histavg

Example 2

If Sales (v1000) in 2006 and 2007 are 10 and 12, and the forecasting method of sales is as an actual dollar value, this formula:

```
@histavg(v1000)
```

returns 11.

Example 3

If example 2 uses a growth rate forecasting method, Strategic Modeling calculates the historical average at 20%—the growth rate needed to get from 10 to 12.

@input or @input(vXXXX)

Caution:

Do not use arguments to retrieve values from other accounts, as this option is deprecated.

Definition

Uses an input in the formula

Enables users to input a number and reference that input in a formula.

Returns

The input function works in conjunction with the Input as and Units text boxes.

Example 1

When calculating dividends, Net Income from the first forecasted time period can be used as a base. Net Income is multiplied by a percentage input in each period.

For example:

```
@input* v1750(@firstfore)
```

By default, the Input as is Currency. Change it to Percentage for this formula.

Example 2

For Cost of Goods Sold (v1040):

```
@input(v1040)
```

returns the input of v1040 regardless of the account containing the formula. If Cost of Goods Sold is 75% of Sales, Strategic Modeling returns 75% instead of the Cost of Goods Sold output.

@irr(vXXXX(t),vXXXX(t), [%])

Definition

Internal Rate of Return (IRR)

- The first variable is the account in which the initial cash outlay exists at in a period.
- The second variable is the cash stream beginning in a period.
- The percentage is an optional guess at the IRR.

Returns

The internal rate of return of a stream of cash flows.

Example

A project with an initial invest in 2000 and a cash flow beginning in 2000, uses this formula:

```
@irr(v300(1999), v4100(2000))
```

if the initial investment exists in v300 of 1999. The cash stream comes from the cash flow of Operations (v4100) beginning in 2000.

@normalize**Definition**

Normalize a value

Calculates a normalized value from the number of days in the current period and a prior period. For comparing consecutive time periods of various lengths.

Returns

The normalized value of an account across consecutive time periods.

Example

```
@normalize(v1150(-1))
```

If Operating Profit (v1150) is \$8,515 in 2006,

2007 calculates as:

```
(v1150(-1)*# of days in current period)/(# of days in prior period) or (8515*366)/365 = 8538.
```

@prior(vXXXX)**Definition**

Prior period account

Returns

References the prior period's account balance.

Example

```
@prior(v1040)
```

references the prior period balance for Cost of Goods Sold (v1040).

@sum(vXXXX, -t)**Definition**

Summation

Returns

This is a rolling summation function. You must enter an account number and the number of periods to sum.

Example

```
@sum (V1040, -3M)
```

sums Cost of Goods Sold (v1040) over the last three months.

@ytd

Definition

Year to Date

References year-to-date time periods.

Returns

A summation of values from the beginning of a year to the present.

Example

If a three-year model, 2004-2006, is in quarters:

```
@avg (v1040 (-2Q), @ytd)
```

averages the year-to-date Cost of Goods Sold value from the prior two quarters. In the first quarter of 2006, the sums 1Q2000, 2Q2000, and 3Q2000, and divides by three.

Functions That Operate on Expressions

These functions can take any expression as an argument:

- [@depr\(vXXXX,"schedule"\)](#) or [@depr\(vXXXX,schedule, period retirement is in, % of initial investment retired\)](#)
- [@if\(T/F Test Condition, Execute if True, Execute if False\)](#)
- [@isna\(expression\)](#)
- [@max\(val.,val.\)](#)
- [@min\(val.,val.\)](#)
- [@not\(condition or formula\)](#)

[@depr\(vXXXX,"schedule"\)](#) or [@depr\(vXXXX,schedule, period retirement is in, % of initial investment retired\)](#)

Definition

Depreciation

Returns

Calculates depreciation or removes retirements from depreciation expense.

Enables forecasting depreciation against a capital expenditures stream. The basic formula:

```
@depr (CAPX* stream, * schedule)
```

where *CAPX stream* is the depreciating capital expenditure account and *schedule* is the schedule name defined in the following section **Using Debt Scheduler**. Enter this formula in v2190.1 or a memo account and the function output is the depreciation for that period's asset.

When depreciating CAPX streams, @depr lags backward. The depreciation in 2003 for a five-year asset is:

- 2003's CAPX times the first year rate
- plus 2002's CAPX times the second year rate
- plus 2001's CAPX times the third year rate, etc.

If a year has no CAPX or the year does not exist, Strategic Modeling multiplies zero by a rate.

Because Strategic Modeling applies the same rate to all a variable's CAPXs, each asset class should have a CAPX stream. For example, use separate subaccounts of v2170.1 for five-year and ten-year properties.

When depreciating assets for financial and tax reporting purposes, you can use the same CAPX stream, but different schedules and output accounts.

- [Interim Periods](#)
- [Retirements](#)
- [Purpose 1: Depreciation](#)
- [Purpose 2: Removing Retirements](#)

Interim Periods

If you enter assets per quarter, month, or half-year, @depr calculates the annual depreciation for the asset, displaying the amount in the quarter. To calculate each interim period likewise, create schedules.

In years after the year placed in service, Strategic Modeling calculates annual depreciation for that asset and allocates to interim periods based on days.

Retirements

To record a retirement, this function records depreciation:

```
@DEPR(v2170.03, "schedule", 3, 50)
```

- v2170.3 (Gross Retirements) is the retirements on assets
- *Schedule* is the schedule containing the depreciation rate (that is, 5 year SL)
- (3) is the current year in the schedule (in a half-year convention, five-year properties depreciate in six years). Must be a positive integer.
- (50) is the depreciation percentage not recognized in the retirement year. Must be between (0) and (100) and applies only in the retirement year. In years after the retirement year, Strategic Modeling calculates depreciation no longer recognized. If a method recognizes no depreciation in the retirement year, enter 100.

Note:

If modeling the asset sales, model accumulated depreciation on the retired assets.

Total depreciation is calculated by adding all depreciation accounts and subtracting retirements.

Purpose 1: Depreciation

@depr can depreciate capital investments streams using depreciation schedules. The formula should use the account forecasting capital investments (v2170.1.xxx). Enter the exact name of the schedule in quotations.

Example 1:

```
@depr(v2170.1.010, "Tax: 5 year")
```

With the 5 year MACRS depreciation schedule: 20%, 32%, 19.2%, 11.52%, 11.52%, 5.76%. There are six depreciation percentages due to the half-year convention.

V2170.1.010	1998H	1999H	2000F	2001F	2002F	2003F
CAPEX	16	20	30	35	40	45

In the first forecast year, 2000, Strategic Modeling takes 19.2% of 1998's investment (from the third period of the schedule), 32% of 1999's 20, 20% of 2000's 30 investment. The answer is 15.28.

Purpose 2: Removing Retirements

When removing assets from service before completely depreciating, remove the asset's portion of the depreciation expense, because Strategic Modeling depreciates initial investments. Strategic Modeling does not know retirements occur in the future and can not adjust accordingly.

@depr can remove the retired portion from the depreciation amount. In @depr, reference the account holding asset retirements (v2170.3.xxx).

Reference the schedule depreciating the assets, enter the number of periods back the retired asset started, and reference the % of the initial investment being removed from the depreciation expense.

Example 2:

```
@depr(v2170.3.010, "Tax: 5 year", 3, .75)
```

@if(T/F Test Condition, Execute if True, Execute if False)

Definition

Conditional logic statement

Syntax:

```
@if(test condition, execute if "true", execute if "false")
```

Executes one of two commands based on a condition. The condition can be a formula, string, list, or date, and must return true or false. You can nest @if statements.

Returns

Results of executed command.

Example 1

For Net Income (v1750), if the common dividend payout percentage is based on the company's net income growth over the previous year, and:

- If Net Income increases by at least 25%, the dividend is 20%
- If Net Income is below 25%, the dividend is 15%

The formula for Common Dividends is:

```
@if((v1750-v1750(-1Y))/v1750(-1Y)>=25%, v1750*20%,v1750*15%)
```

Example 2

If the model in example 1 is in quarters, but dividends are paid once a year at the fiscal year beginning, based on the prior year's net income, use a nested `@if` to calculate payment in the first quarter only:

```
@if(@qtrnum=1,@if((v1750(-1q)-v1750(-5q))/v1750(-5q)>=25%,  
v1750(-1q)*20%,v1750(-1q)*15%),0)
```

**Note:**

In the analyze trail, Strategic Modeling returns 1 if the answer is *true*, and a 0 if the answer is *false*.

- [Using strings](#)
- [Using lists](#)
- [Using Dates](#)

Using strings

Enter strings in quotes, for example: *Underwriting*. Strings are not case sensitive, and are used as function arguments only to test formulas—they cannot be used as results.

This is valid:

```
@if(v1.0.600="Underwriting", v300*v305, @na)
```

because you can use strings in tests.

This is invalid:

```
@if(v155=v160, 300, "Revenue")
```

because you cannot use string as results.

Using lists

Lists behave like strings. Lists can be time series or scalar.

For example, if an account "Processed?" (v150.00.0000) has these possible values: Yes, No, Not Available—this is valid:

```
@if(v150="Yes", 100, 200)
```


In enumerated number lists, numbers are handled as strings, and entered in quotes. For example:

```
@if(v176="8", 300, 400)
```

Using Dates

To enter dates, use the MM/DD/YYYY format within quotes, for example:

```
@if(v174="06/30/2003", 100, 300)
```

Dates are handled as strings.

@isna(expression)

Definition

Is not available

Can be used in @if statements.

Returns

- True — if the expression is undefined or not a number
- False — if not

Example 1

```
@isna(1/0)
```

The answer to the expression is undefined, so Strategic Modeling returns true.

Example 2

```
@if(@isna(v2040/v1040), v2040/v1040, 0)
```

With Inventory (v2040) and Cost of Goods (v1040), this formula returns the inventory turnover when Cost of Goods Sold does not equal zero and 0 when Cost of Goods Sold does equal 0 or is N/A.

@max(val.,val.)

Definition

Maximum

Returns

The greatest number in a range of values.

Example

```
@max(0, 1, 2)
```

Returns 2.

@min(val.,val.)

Definition

Minimum

Returns the minimum of a value range. Formulas can be performed within function.

Example

```
@min(0, 1, 2)
```

Strategic Modeling returns 0.

@not(condition or formula)

Definition

Not something

Used in @if statements to execute a command if a condition is not true.

Example 1

```
@if(@not(v1750>100000), 1, 2)
```

If v1750 (Net Income) is less than or equal 1 million, a 1 is returned, otherwise a 2 is returned.

Example 2

```
@if(@not(@isyear), 1, 2)
```

Strategic Modeling returns 1 if the period is not a year (for example, a month, quarter...), and a 2 upon other time structures.

Special Functions

These functions are for specific use. Do not use them unless absolutely necessary.

@debtex

Used by Debt Scheduler for internal calculations.

@pfdindebt

Used by Funding Options for internal calculations.

@xspfdtodebt

Used by Funding Options for internal calculations.

Functions That Reference Infinity Values

- @ inf
- @isinf(expression)

@ inf

Definition

Loads infinity value

Returns

Infinity

Example

If you need to use Infinity in a Strategic Modeling formula, the easiest way is using the @inf function. Positive and negative Infinity values are also generated by mathematical operations such as dividing by zero.

@isinf(expression)

Definition

Method to check whether the value of an expression is infinite.

Returns

- True — if passed a positive or negative Infinity value
- False — if not

Example1

@isinf (1/0) The answer to 1/0 is "Infinity", so Strategic Modeling returns true.

Example 2

@if(@isinf (v2040/v1040), v2040/v1040, 0) With Inventory (v2040) and Cost of Goods (v1040), This formula for inventory turnover checks to see if the calculation produces an infinite value (which it will when Cost of Goods Sold is zero or Inventory is Infinite) and, if so, sets the computed value to 0.

17

Formatting

Related Topics

- [Working With Rows and Columns](#)

Working With Rows and Columns

Modify spreadsheets by adjusting row height and column width, inserting rows and columns, and adding page breaks.

Inserting Rows

To insert rows:

1. From the **Report** grouping label, and click **Insert**
2. From the drop down list, select **Text Row**.
3. On **Insert Text Row**, select an option:
 - **Blank Text Row**
Create an empty row.
 - **Subtotal Line**
Create a row with a line indicating a subtotal row following.
 - **Total Line**
Create a row with double lines for indicating a total row following.
 - **User Defined**
Create a custom row break. Select one or both of these:
 - **Text for Account Name Columns**
Add a name to the row break, and enter the name in this field.
 - **Text to Fill Data Columns**
Add a row break across the row and enter a character in this field. The columns in the row display this character to indicate a break.
4. Click **Insert**.

Inserting Columns

To insert columns:

1. From the **Report** grouping label, and click **Insert**
2. From the drop down list, select **Text Column**.
3. Click **OK**.

Inserting Account

To insert Accounts:

1. From the **Report** grouping label, and click **Insert**
2. From the drop down list, select **Account**.
3. On **Insert Accounts**, select an accounts and click **Add**.
4. **Optional:** Select **Expand Subaccounts** to include all subaccounts when inserting main account.
5. **Optional:** Select **Expand Dimensions** to include all dimensions when inserting dimensional accounts.
6. **Optional:** Select **Change Sign** to reverse the +/- sign of accounts.
 - If you insert a main or dimensional account and expand the account and select this option, the sign applies to the expanded block of data.
 - To revert to the default sign, deselect this option.
7. **Optional:** In **Accounts to Insert**, reorder the accounts.

This defines the display order of accounts in reports. To change the order, select accounts and click **Up**.

To remove the account, select an account and click **Remove**

8. Click **Insert**.

A

Forecasting Data Types

Entering Gross Fixed Assets

Three financial accounts together calculate gross fixed assets: Gross Fixed Assets (v2170.00), the Gross Book Value of Retired Assets (v2170.03) and Fixed Capital Investment (v2170.01). Fixed Capital Investment represents all capital expenditures for new and replacement equipment, discretionary and non-discretionary.

Entering Gross Fixed Assets in Historical Periods

In historical periods, you input historical values of Gross Fixed Assets (v2170.00) and Capital Expenditures (v2170.01). Gross Retirements (v2170.03) is calculated. In historical periods, the calculation for these accounts follows:

Operation	Gross Fixed Assets (beginning)	Input	\$100
+	Capital Expenditures	Input	50
-	Gross Fixed Assets (ending)	Input	130
	Gross Retirements	Calc	\$20

Forecasting Gross Fixed Assets

Gross Fixed Assets account

Forecasting the ending balance of Gross Fixed Assets results in Gross Retirements being calculated as:

Operation	Gross Fixed Assets (beginning)	Input	\$100
+	Capital Expenditures	Input	50
-	Gross Fixed Assets (ending)	Input	130
	Gross Retirements	Calc	\$20

Gross Retirements account

Forecasting Gross Retirements results in Gross Fixed Assets being calculated as:

Operation	Gross Fixed Assets (beginning)	Input	\$100
+	Capital Expenditures	Input	50
-	Gross Retirements	Input	20
	Gross Fixed Assets (ending)	Calc	\$130

This method assumes only fully depreciated assets are retired, enabling you to independently forecast actual amounts of retirements and the amount of Fixed Capital Investment in all future periods.

Accumulated Depreciation

Entering Accumulated Depreciation

Three financial accounts together calculate accumulated depreciation: Accumulated Depreciation (v2190.00), Accumulated Depreciation on Retirements (v2190.03) and Depreciation Expense (v2190.01). Depreciation Expense represents all depreciation expenses on all fixed assets.

Entering Accumulated Depreciation in Historical Periods

In historical periods, you input historical values of Accumulated Depreciation (v2190.00) and Depreciation Expense (v2190.01). Accumulated Depreciation on Retirements (v2190.03) is calculated. In historical periods, the calculation for these accounts is as follows:

Operation	Accumulated Depreciation (beginning)	Input	\$70
+	Depreciation Expense	Input	30
-	Acc Depreciation on Retirements	Input	10
	Accumulated Depreciation (ending)	Calc	\$90

Accumulated Depreciation in Forecasts

In forecast periods, you forecast accumulated depreciation using these options:

- [Forecasting Accumulated Depreciation](#)
- [Forecasting Accumulated Depreciation on Retirements](#)

Forecasting Accumulated Depreciation

Forecasting the ending balance of the Accumulated Depreciation account results in Accumulated Depreciation on Retirements being calculated as:

Operation	Accumulated Depreciation (beginning)	Input	\$70
+	Depreciation Expense	Input	30
-	Accumulated Depreciation (ending)	Input	90
	Acc Depreciation on Retirements	Calc	\$10

Forecasting Accumulated Depreciation on Retirements

Forecasting Accumulated Depreciation on Retirements results in the Accumulated Depreciation account balance being calculated as:

Operation	Accumulated Depreciation (beginning)	Input	\$70
+	Depreciation Expense	Input	30
-	Acc Depreciation on Retirements	Input	10
	Accumulated Depreciation (ending)	Calc	\$90

This method assumes all Retirements are fully depreciated, enabling you to independently forecast actual amounts of depreciation associated with retirements and the amount of depreciation expense in all future periods.

Interest Accounts

Interest income and expense can be entered in detail manner or summary. For example, interest expense can be entered as a total summary amount or the detail can be displayed and forecasted for each debt instrument on the Balance Sheet.

Interest can be entered as a total amount in history, with detail forecasted based on a percentage of the current period, prior period, or average debt or investment balances. This is due to the fact that historical interest information is usually summarized, while interest in forecast periods can be detailed using rates applied to debt and investment balances.

- [Interest Summary Accounts](#)
- [Specific Interest Accounts](#)
- [Non-Cash Interest](#)

Interest Summary Accounts

Interest Income (v1210.00) can be used to summarize total interest income in history and/or forecast. This account can also be used for other interest income.

Interest Expense (v1360.00) can be used to summarize total interest expense history and/or forecast. This account can also be used for other interest expense.

Specific Interest Accounts

Specific interest accounts are each related to a specified debt or investment account, so in forecast periods, you can forecast interest income and expense based on debt and investment balances. Any of the 10 predefined forecast methods or the Freeform Formula method can forecast interest. You can apply one of these methods:

- Percent of Another Account
- Percent of Prior Period Account
- Percent of Average Account

where the Associated Account for each interest account is the related debt or investment account and percentages entered are interest rates. When debt or investment accounts are subaccounted, related interest accounts are subaccounted, enabling forecasting interest rates for different debt and investment accounts.

Specific interest accounts and related debt/investment accounts are:

Account	Name	Assoc. Acct.
2010.05	Interest on Marketable Securities	2010.00
2015.05	Interest on Excess Mkt. Securities	2015.00
2460.05	Interest on L-T Funding Asset	2460.00
2510.05	Interest on Curr. Portion of LTD	2510.00
2520.05	Interest on Notes Payable	2520.00
2660.51	Interest on L-T Debt: Scheduled	2660.00
2690.05	Interest on Long-Term Debt: Excess	2690.00

Non-Cash Interest

Non-Cash Interest Expense (v2660.03) calculates non-cash portions of interest expense on scheduled debt accounts. Non-cash interest typically takes the form of zero coupon (deep discount) debt or PIKs (Payments in Kind). In history, enter Non-Cash Interest as a dollar amount. In forecast, enter this item as a rate (using the Percent of Prior Period Account forecast method) or as a default currency amount, depending on the forecast method you choose.

Amounts entered into this account reflect as part of total interest expense and accrue to the related scheduled debt account, Long-Term Debt: Scheduled (v2660.00) in the forecast periods.

Note:

If the forecast methods Percent of Another Account or Percent of Average Account forecast Non-Cash Interest Expense, a circular reference occurs when calculating because the current period-ending balance of L-T Debt: Scheduled is calculated based on Non-Cash Interest Expense.

Tax Rates

- [Trial Provision for Income Taxes \(v1610.00\)](#)
- [Deferred Provision for Income Taxes \(v1660.00\)](#)
- [Temporary Differences \(v3120.00\)](#)
- [Interest Tax Shield \(v3220.00\)](#)
- [Tax on Non-Operating Profit \(v3230.00\)](#)
- [Residual Value Tax Rate \(v4.00.560 and v5.00.800\)](#)

Trial Provision for Income Taxes (v1610.00)

This account measures the amount of taxes paid to taxing authorities. In historical periods, enter a currency amount. In forecast periods, enter the percentage of taxable income paid in taxes. Strategic Modeling multiplies this rate by Taxable Income (v3140.00) to arrive at the taxes to be paid.

Deferred Provision for Income Taxes (v1660.00)

This account measures the amount of taxes paid on temporary differences when they reverse. In periods where book income exceeds taxable income, the deferred provision is positive. In periods where taxable income exceeds book income, the deferred provision is negative. In historical periods, enter a currency amount. In forecast periods, enter the tax rate in effect when the temporary differences are scheduled to reverse. Generally, this is the same rate as in v1610 unless a new rate is enacted but is not yet effective.

Temporary Differences (v3120.00)

This account measures the differences between book and taxable income that reverses in future periods. In historical periods, enter a rate. Strategic Modeling divides Deferred Provision for Income Taxes (v1660.00) in a given historical period by this rate to determine the amount of temporary differences that gave rise to the deferred provision. Generally, is the statutory tax rate in effect in that period. It is important to know temporary differences in historical periods since it is a key component of Taxable Income (**v3140.00**). In forecast periods, this is calculated.

Interest Tax Shield (v3220.00)

This account measures the tax benefit of having debt. In historical periods, enter a currency amount. In forecast periods, enter the marginal tax rate, which is the tax rate to be paid on the last dollar of income. This is the rate used in v1610.00. Strategic Modeling multiplies this rate by Total Interest Expense (v1420.00) to determine the interest tax shield.

Tax on Non-Operating Profit (v3230.00)

This account measures the tax liability on non-operating income. In historical periods, enter a currency amount. In forecast periods, enter the tax rate on non-operating profit. If all income is subject to the same tax rate, this is the same rate as in **v1610**. Strategic Modeling multiplies this rate by Non-Operating Profit (v3225.00) to determine the tax on non-operating profit.

Residual Value Tax Rate (v4.00.560 and v5.00.800)

This account measures the tax rate on Perpetuity Operating Profit (v5100.00) used in both the Discounted Cash Flow and Economic Profit approaches to valuation. For discounted cash flow, enter the rate by selecting Design, Tax/Valuation Options, SVA. For economic profit, enter the rate by selecting Design, Tax/Valuation Options, EP.

Taxable Income

The starting point in analyzing taxable income is Earnings Before Taxes (EBT) (v1600.00). This account aggregates all the items of income and expense and measures book (GAAP) income. There are two general categories of differences between GAAP and tax law. GAAP uses the terms permanent differences and temporary differences to distinguish between them.

A permanent difference is one which is included in taxable income but never EBT or included in EBT but never taxable income. An example of a permanent difference is municipal bond interest income. Municipal bond interest is included in EBT but is never taxable.

A temporary difference occurs when the difference between the financial and tax treatment of an item eventually reverses. Over the life of the item, there is no difference. In a given year, there can be differences. The classic example is depreciation of fixed assets. If assets are depreciated using the straight line method for financial purposes and an accelerated method for tax purposes, a difference between GAAP and taxable income is created. Over the life of the asset, the total depreciation under each method must be equal.

Strategic Modeling uses EBT (v1600.00) and subtracts Permanent Differences (v3130.00) and Temporary Differences (v3120.00) to arrive at Taxable Income (v3140.00).

- [Temporary Differences](#)
- [Permanent Differences](#)

Temporary Differences

Strategic Modeling uses two accounts to represent temporary differences:

- (v3110.00) Other Temporary Differences
- (v3120.00) Temporary Differences

Other Temporary Differences (v3110.00) is an input in all periods.

In historical periods, Temporary Differences (v3120.00) is entered as a tax rate. The rate should be such that Deferred Provision for Income Taxes (v1160.00) divided by it equals the temporary differences in that period.

In forecast periods it is calculated as:

$$v3100.00 - v2190.01 + v3110.00$$

where:

v3100.00 Tax Depreciation

v2190.01 Depreciation Expense (Funds)

v3110.00 Other Temporary Differences.

If multiple temporary differences exist, you can subaccount Other Temporary Differences (v3110.00), so subaccounts represent a unique temporary difference. You can model each subaccount using a forecast method that best predicts what happens during the forecast periods.

Permanent Differences

Permanent differences are entered in Permanent Differences (v3130.00). This account uses the default Freeform formula as follows:

- (v2410.03) Amortization of Intangibles

Permanent Differences (v3130.00) are subtracted from EBT (v1600.00) to arrive at Taxable Income (v3140.00).

If additional permanent differences exist, and you want to model each separately, create subaccounts and model each permanent difference individually. The first subaccount inherits the default Freeform formula. As with Freeform Formulas, you can modify or delete it.

Permanent Differences (v3130.00) is the total of all the subaccounts.

Deferred Taxes

Use these accounts to model taxes on the Balance Sheet:

- **(v2080.00) Current Deferred Tax Asset**
- **(v2080.01) Incr. in Curr. Def Tax Asset**
- **(v2380.00) Deferred Tax Asset**
- **(v2380.01) Incr. in Def. Tax Asset**

- **(v2580.00) Current Deferred Tax Liab.**
- **(v2580.01) Incr. in Curr. Def. Tax Liab.**
- **(v2770.00) Deferred Income Taxes**
- **(v2770.01) Incr. in Deferred Inc. Taxes**

Changes in the deferred tax accounts generally are due to changes in temporary differences. The proper relationship between these accounts and Temporary Differences (v3120.00) assures proper presentation of the deferred tax position.

Strategic Modeling uses Current Deferred Tax Asset (v2080.00), Deferred Tax Asset (v2380.00), Current Deferred Tax Liab (v2580.00), and Deferred Income Taxes (v2770.00) as input accounts. **Incr. in Curr. Def Tax Asset (v2080.01), Incr. in Def. Tax Asset (v2380.01), Incr. in Curr. Def. Tax Liab. (v2580.01) and Incr. in Deferred Inc. Taxes (v2770.01)** take the current period value in the associated account and subtract the previous period value. If the input accounts are zero, the calculated accounts are zero.

In forecast periods, Strategic Modeling calculates the deferred tax provision as a function of temporary differences in that period. Strategic Modeling does not default a relationship between the deferred tax accounts on the balance sheet and deferred tax provision on the income statement. To keep the cash flow reports internally consistent, this relationship must be enforced. The best way to enforce it is to make sure this equality holds in all periods:

$$v1660.00 = v2770.01 + v2580.01 - v2080.01 - v2380.01$$

Deferred Tax Reconciliation (v4180.00) is calculated using the above equation. On the Direct and Indirect Cash Flow Statements, this account can be accessed by analyzing Non-Operating Income (v4200.00). On the FAS 95 Cash Flow Statement, this account can be accessed by analyzing Non-Operating Sources (FAS 95) (v4520.00).

Historical Averages

You can forecast an account based on its historical average. Strategic Modeling calculates the historical average of that account and apply it to all forecast periods.

For example, for three historical periods in a file, the respective sales were 100, 110, and 121. If the forecast periods, you want to forecast sales as a historical growth rate. Strategic Modeling calculates historical growth rates to apply to forecast periods. Without data input, Strategic Modeling grows sales at 10% in all periods.

This is a dynamic forecast method. If you changed one of the historical years, recalculating the file would change the sales forecast by applying the new historical average. If you changed the amount of historical years, recalculating the file would change data dependent on the historical average.

The number of years for the historical average is determined through the Time dialog, where you set the amount of years for the historical average. In the case of growth rates, you must select three years of history to get two growth rates. The other place to determine the amount of time to use for the historical average is the Account Status & Groupings Dialog. The Historical Average tab enables you to determine, for each account, how many periods to use in calculating the historical average.

The historical average calculation is a weighted calculation. Say, for example, you forecast Cost of Goods Sold as a historical average percentage of Sales. You have two years of historical data as follows:

Sales	100	200
COGS	70	110

The historical average calculation sum all the sales values and COGS values and calculate the percentage. In this case, 180 (70 + 110) divided by 300 (100 + 200) would yield a historical average percentage of 60. The alternative is to calculate the percentage in each period and take the historical average of the percentages. Doing that here would return a historical average percentage of 62.5. Weighting is a superior method of calculation.