Oracle® Retail Regular Price Optimization

User Guide for the RPAS Classic Client

Release 16.0

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Oracle® Retail Regular Price Optimization User Guide for the RPAS Classic Client, Release 16.0

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Preface

This guide describes the Oracle Retail Regular Price Optimization user interface. It provides step-by-step instructions to complete most tasks that can be performed through the user interface.

Audience

This User Guide is for users and administrators of Oracle Retail Regular Price Optimization. This includes merchandisers, buyers, business analysts, and administrative personnel.

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Related Documents

For more information, see the following documents in the Oracle Retail Regular Price Optimization Release 16.0 documentation set:

- *Oracle Retail Regular Price Optimization Implementation Guide*
- *Oracle Retail Regular Price Optimization Installation Guide*
- *Oracle Retail Regular Price Optimization Release Notes*
- *Oracle Retail Regular Price Optimization User Guide for the RPAS Classic Client*
- *Oracle Retail Regular Price Optimization User Guide for the RPAS Fusion Client*
- Oracle Retail Predictive Application Server documentation

The following documentation may also be needed when implementing RPO:

- *Oracle Retail Predictive Application Server Batch Script Architecture Implementation Guide*

For more information about the Analytic Parameter Calculator for Regular Price Optimization (APC-RPO) application, see the Oracle Retail Analytic Parameter Calculator for Regular Price Optimization documentation set.

For more information about RPAS and the ODI enabled integration, see the following documentation sets:

- Oracle Retail Enabled ODI Integration documentation
- Oracle Data Integrator documentation
- Oracle Retail Predictive Application Server documentation

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When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 16.0) or a later patch release (for example, 16.0.1). If you are installing the base release, additional patch, and bundled hot fix releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch and bundled hot fix releases can contain critical information related to the base release, as well as information about code changes since the base release.

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To more quickly address critical corrections to Oracle Retail documentation content, Oracle Retail documentation may be republished whenever a critical correction is needed. For critical corrections, the republication of an Oracle Retail document may at times not be attached to a numbered software release; instead, the Oracle Retail document will simply be replaced on the Oracle Technology Network Web site, or, in the case of Data Models, to the applicable My Oracle Support Documentation container where they reside.

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http://www.oracle.com/technetwork/documentation/oracle-retail-100266.html

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If a more recent version of a document is available, that version supersedes all previous versions.

Oracle Retail Documentation on the Oracle Technology Network

Oracle Retail product documentation is available on the following web site:

`http://www.oracle.com/technetwork/documentation/oracle-retail-100266.html`

(Data Model documents are not available through Oracle Technology Network. You can obtain them through My Oracle Support.)

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1 Getting Started

Oracle Retail Regular Price Optimization (RPO) assists retail price mangers in pricing hard-line and grocery items.

About Oracle Retail Regular Price Optimization

Oracle Retail Regular Price Optimization (RPO) assists retail price mangers in pricing hard-line and grocery items. It is suited for long lifecycle items with infrequent price changes. It recommends permanent prices based on initial estimates of an item's total sales volume over a planning period and on price-related sales of items and related items.

RPO includes grouping in its pricing analysis because it considers cross-item elasticities; that is, RPO considers how price changes for one item may affect the sales volume of other items. Users can input objective functions and pricing constraints that define the optimization problem. Once these inputs are defined, RPO recommends prices. Multiple scenarios can be created and evaluated side by side, and what–if analysis can be performed within the context of a pricing scenario. After analyzing the What-if results and recommended prices, the user can make a final decision to submit the recommended prices for the given set of merchandise items and locations.

Goals and Constraints

As part of the RPO planning process, the price manager is trying to achieve a category objective. The category objective is a strategic understanding of the category in the larger plan for the year. RPO can be used to support the category objective. A price manager can run different scenarios (such as maximizing gross margin versus maximizing revenue) to support the category objective. This initial strategy could be optimized in detail as part of the RPO process. RPO is also very cognizant of how prices affect consumers and supports extensive business constraints on item prices.

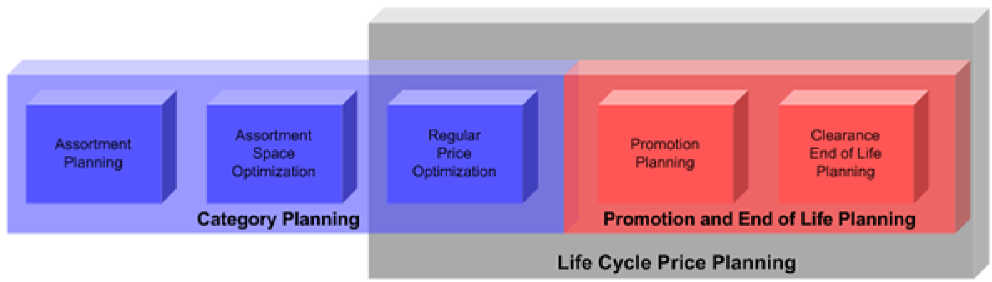
Another important component of the RPO planning process is to strategize against the competition. In this regard, RPO supports price constraints at the item level and also supports optimization goals to maximize the gains against the competition for the entire category.

RPO in the Overall Life Cycle of Price Planning

RPO fits at the intersection of category planning and price planning in hard-line and grocery implementation. It is a key step in the category planning process after the assortment for the current season has been planned. RPO optimizes the price of all the items towards the category objective.

RPO is also the first in a three-step lifecycle pricing process. It is possible to start with RPO and arrive at demand for the planning horizon by item/store/week. This demand can serve as the baseline demand for the promotion process. After the pricing plan is approved at the end of the RPO process, the demand estimate can be sent to a replenishment system or used as the baseline for the promotion planning process.

Figure 1–1 Life Cycle Price Planning Process



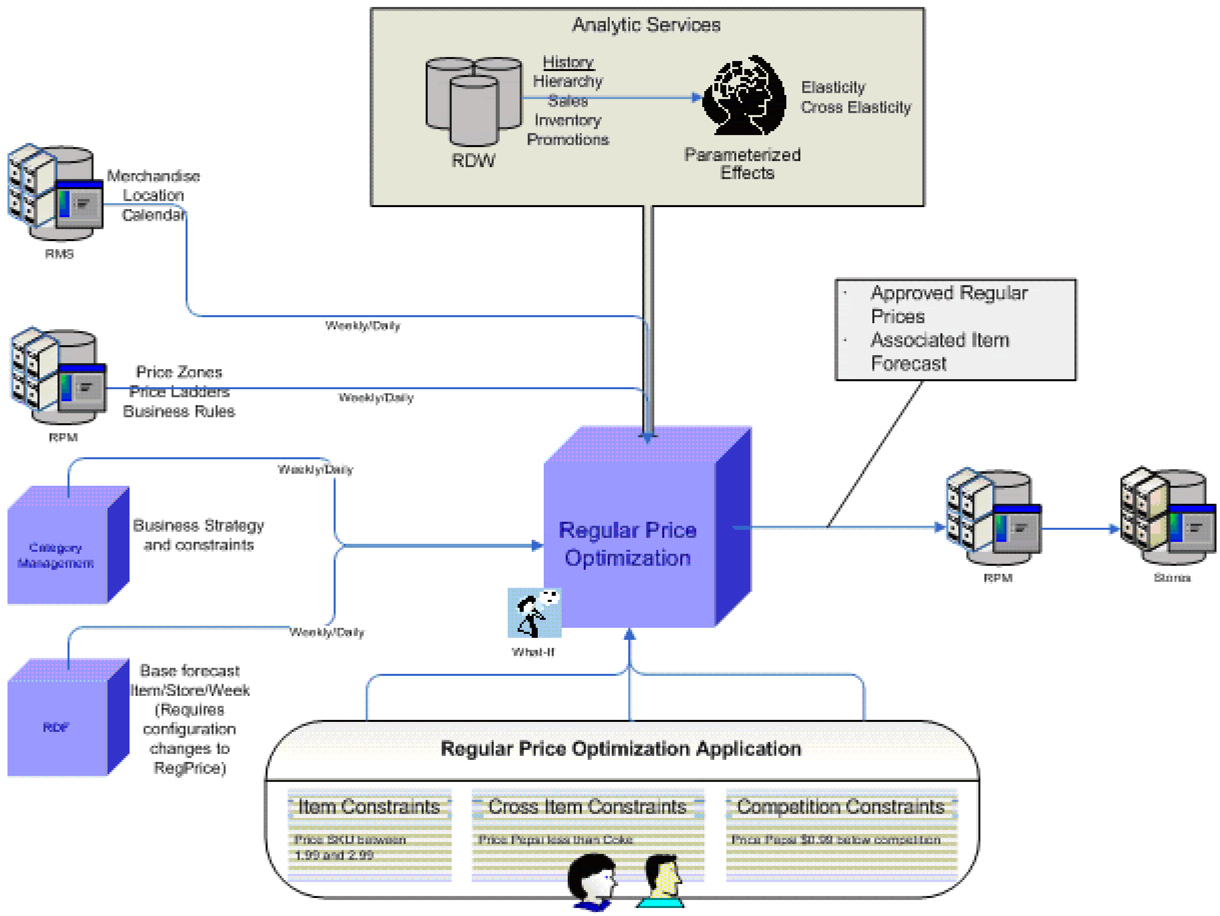
Application Workflow

The following steps describe the workflow of the RPO application:

1. Set the price ladders and general business priorities in the Business Administration Workbook.
2. Create a scenario by selecting the merchandise, location, and calendar components to be included in the optimization. Use the Scenario Management Workbook.
3. Map items, inter-items, and item groups in the Item Management Workbook.
4. Based on your business requirements, create constraints and pricing rules for each scenario in the Price Analysis Workbook.
5. Using the What-if analysis and price recommendations, perform a scenario comparison. Select a scenario and submit it for pricing using the Price Analysis Workbook.
6. Using the Post Price Analysis, you can review the time-phased historical data for your items in the Post Price Analysis Workbook.

Data Workflow

Figure 1–2 Regular Price Optimization Workflow Diagram



Users

RPO users may be category managers, price managers, planners, buyers, and merchandisers. In most organizations, price planning is managed by a price manager. The price manager consults the category manager for an overall goal. The price manager then creates a detailed scenario plan and makes a recommendation to the category manager for approval. The boundaries of each of their functions vary by organization; therefore, RPO is flexible to support different roles and functions associated with these roles.

The price planning approach is strategic and varies by organizational goal, competition, and category goals, especially in respect to chain or zone level pricing. RPO supports a flexible notion of this plan and allows the user to manage pricing at one, many, or all price zones.

RPO Workbooks

RPO contains the following workbooks:

- Business Administration Workbook

- Scenario Management Workbook
- Item Management Workbook
- Price Analysis Workbook
- Post Price Analysis Workbook

Permissible File Names

When saving a workbook (or saving a copy using the **Save As** command), there are restrictions on the length of the file name and the characters that can be used,

- The file name can be a maximum of 32 characters.
- The filename can contain the following standard characters:
  - a - z
  - A - Z
  - 0 - 9
- The filename can contain the following special characters:
  - .
  - |
  - _
  - -
  - /
  - $
  - &
  - spaces

Any file name not meeting these conditions results in an error message.

2

Business Administration Workbook

The Business Administration workbook helps you to create price ladders, set optimization priorities, and manage batch processes. It has three tabs to help you achieve these tasks:

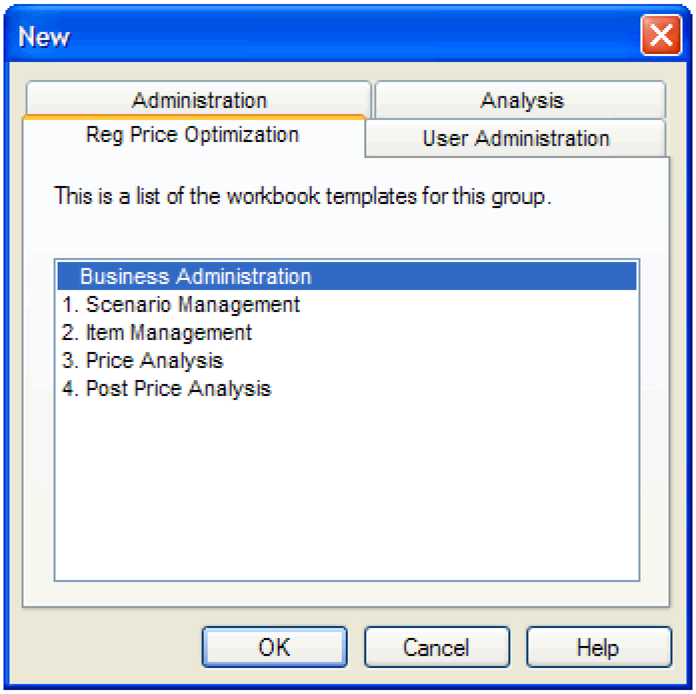
- Price Ladder Management Tab
- Default Constraint Priority Setting Tab
- Batch Management Tab
- Data Management Tab

Building the Business Administration Workbook

To build the Business Administration workbook, perform the following steps:

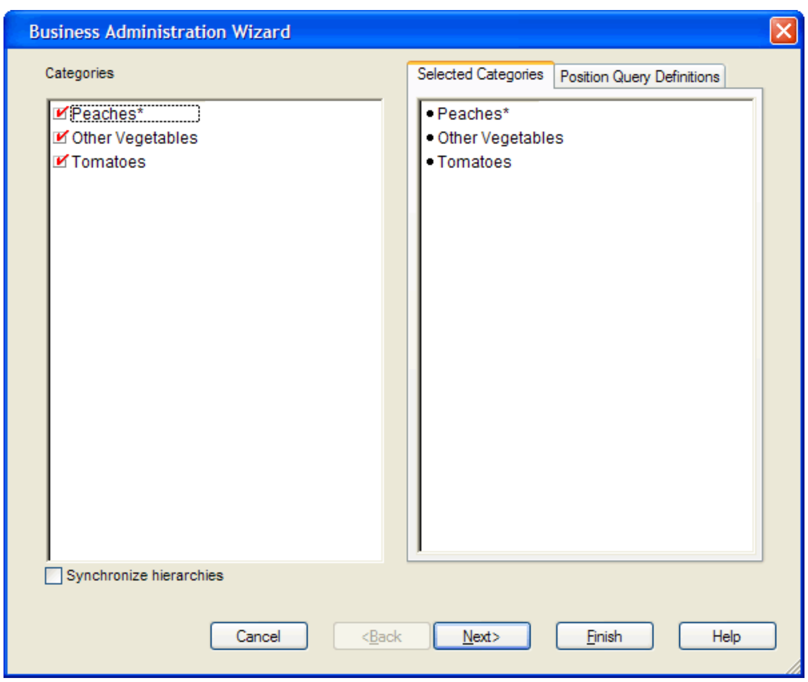
1. From the File menu, click **New**, or click the **New** toolbar button. The New window appears.
2. From the Reg Price Optimization tab, select the **Business Administration** workbook and click **OK**.

Figure 2–1 Building the Business Administration Workbook



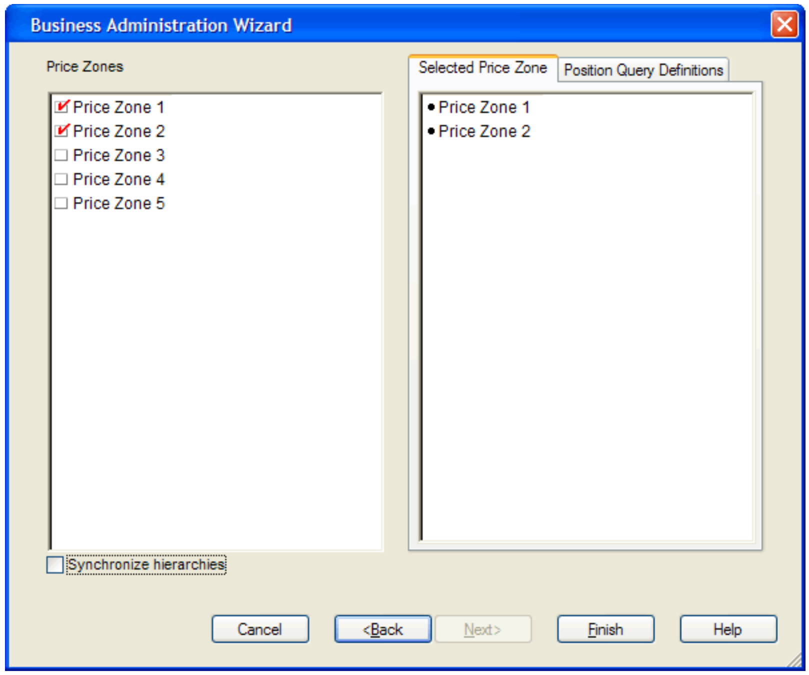
3. The Business Administration wizard opens. Select the categories you want to work with and click **Next**.

Figure 2–2 Business Administration Wizard: Select Categories



4. Select the price zones you want to work with and click **Finish**.

Figure 2–3 Business Administration Wizard: Select Price Zones



The Business Administration workbook is built.

Price Ladder Management Tab

This tab contains worksheets to help you create price ladders, set optimization priorities, and manage batch processes. There are three worksheets:

- Price Ladder Setting Worksheet
- Price Ladder Maintenance Worksheet
- Merchandise Price Ladder Assignment Worksheet

Price Ladder Setting Worksheet

Use this worksheet to edit the price ladders that were loaded during the batch process.

A price ladder is a collection of acceptable price points for an item. Price ladders are loaded to ensure appropriate recommended prices are provided based upon optimization results. RPO recommends only prices that are price points on the price ladder.

For example, if the optimization engine recommends a price of $11.93, but your price strategy is that all prices must end in .00 and price steps must occur every $2.00, then RPO recommends $12.00 instead of $11.93.

Using this worksheet, you can set the range of prices for the price ladder, the price steps (the required difference between consecutive price points), and the ending digits of the price points.

Figure 2–4 Price Ladder Setting Worksheet

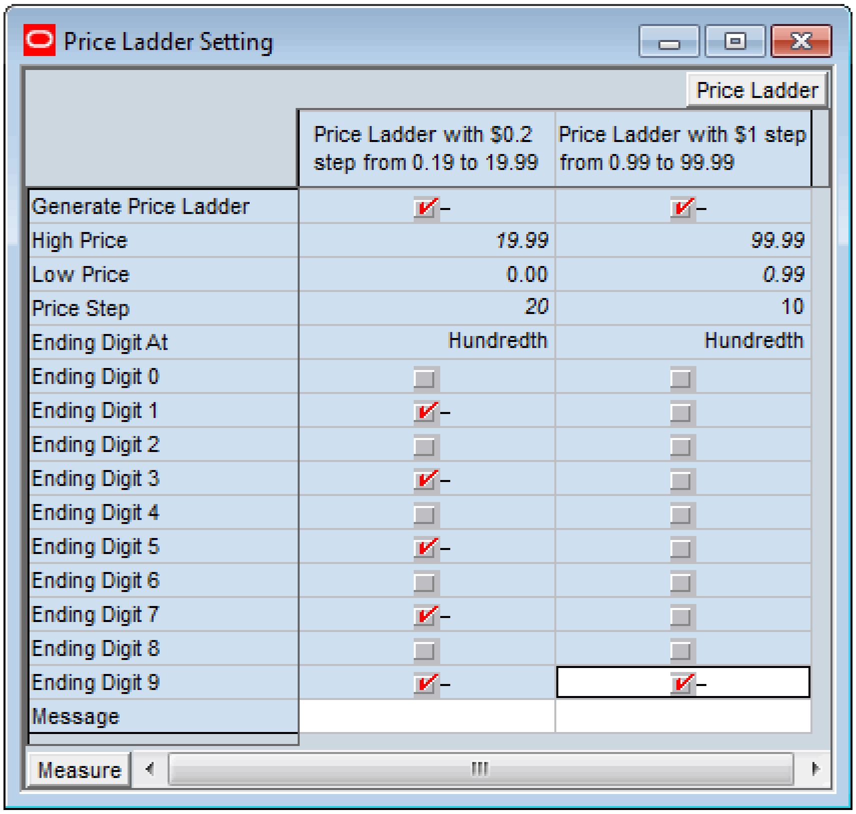


Table 2–1 lists the measures in this worksheet.

Table 2–1 Price Ladder Setting Worksheet Measures

Measure	**Description**
Generate Price Ladder	Select this boolean measure to generate the price ladder you have edited. After you have selected it, you must click the **Generate Price Ladder** option in the RegPrice custom menu (as described below).
High Price	The highest price on the price ladder. No item that uses this price ladder can have a price higher than this amount.
Low Price	The lowest price on the price ladder. No item that uses this price ladder can have a price lower than this amount.
Price Step	Use the picklist to set the price step value based on the Ending Digit At measure. The price step value is calculated by multiplying the selected value in the Price Step measure by the Ending Digit At measure. For example, if the Price Step measure is set to 10 and the Ending Digit At measure is set to Hundredth, then the price step value is 10 x 0.01 = 0.1.
Ending Digit At	Use this measure to specify what the selected ending digit means in the price ladder. Options are Ones, Tenth, or Hundredth. For example, if you select the ending digits 1, 3, and 5 and you select Hundredth in this measure, then the ending digits are 0.01, 0.03, and 0.05. If you selected Tenth in this measure, then the ending digits are 0.1, 0.3, and 0.5.

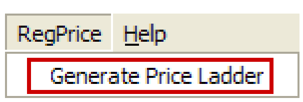
Table 2–1 (Cont.) Price Ladder Setting Worksheet Measures

Measure	Description
Ending Digit X	Use these measures to select the ending digits for the price points. For example, Figure 2–4 shows the first price ladder with five ending digits selected: 1, 3, 5, 7, and 9. Therefore, the price points in that price ladder can only end with 1, 3, 5, 7, or 9. Its price points could be $0.19, $0.21, $0.23, $0.25, $0.27, and so on.
Message	This is a read-only measure that displays the return message from the Price Ladder Generation call.

To edit and generate a price ladder, perform the following steps:

1. Enter the lowest price for the price ladder in the Low Price measure. This means that no item that uses this price ladder can have a price below this amount.
2. Enter the highest price for the price ladder in the High Price measure. This means that no item that uses this price ladder can have a price above this amount.
3. Set the Price Step and Ending Digit At measures for this price ladder. The price step is the required difference between consecutive price points. For instance, if you want the prices on the price ladder to be $1.00, $1.10, $1.20, $1.30, and so on, you would select 10 in the Price Step measure and Tenth in the Ending Digit At measure.
4. Using the Ending Digit measures, select the ending digits allowed for the price points. For instance, if you want all prices to end with 9, such as $14.49 and $14.99, then you would select only the Ending Digit 9 measure. If you want prices to end with only 1, 3, 5, 7, or 9, you would select those three measures, as shown in Figure 2–4.
5. After editing the price ladders, select the **Generate Price Ladder** measure for each of the price ladders you want to generate.
6. From the RegPrice menu, click **Generate Price Ladder**. This action generates the price points shown in the Price Ladder Maintenance Worksheet.

Figure 2–5 Generate Price Ladder



After you have edited and generated the price ladders, continue to the Price Ladder Maintenance Worksheet to review the price points and price ladders you created.

Price Ladder Maintenance Worksheet

Use this worksheet to review and edit the price ladders and price points you created in the Price Ladder Setting Worksheet.

To edit a specific price point, double-click it and enter a new price.

Figure 2–6 Price Ladder Maintenance Worksheet

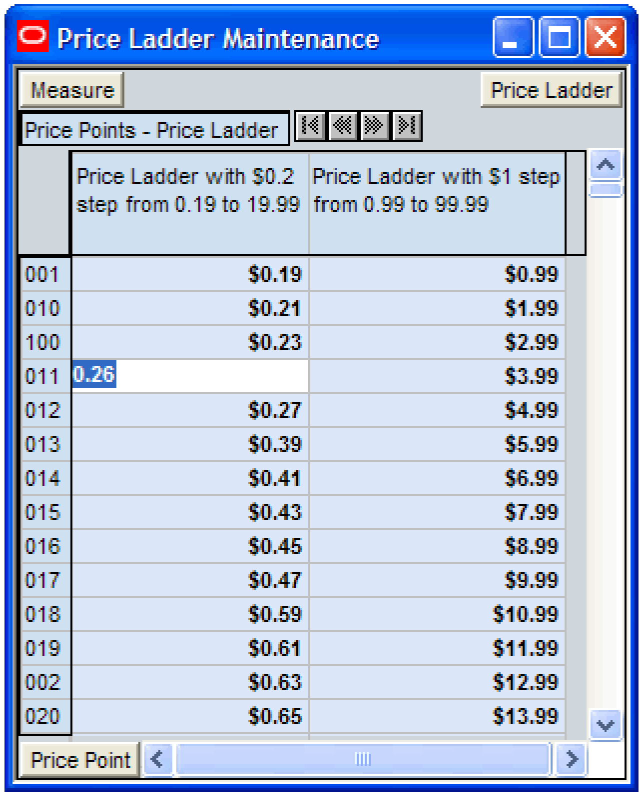


Table 2–2 lists the measures in this worksheet.

Table 2–2 Price Ladder Maintenance Worksheet Measures

Measure	Description
Price Points - Price Ladder	The price points on a given price ladder. Use this measure to edit the price points.

After you have reviewed and edited the price points, continue to the Merchandise Price Ladder Assignment Worksheet.

Merchandise Price Ladder Assignment Worksheet

Use this worksheet to to assign price ladders to a category and price zone.

Select a price ladder for each price zone. After you have assigned the price ladders, save and commit the workbook.

Figure 2–7 Merchandise Price Ladder Assignment

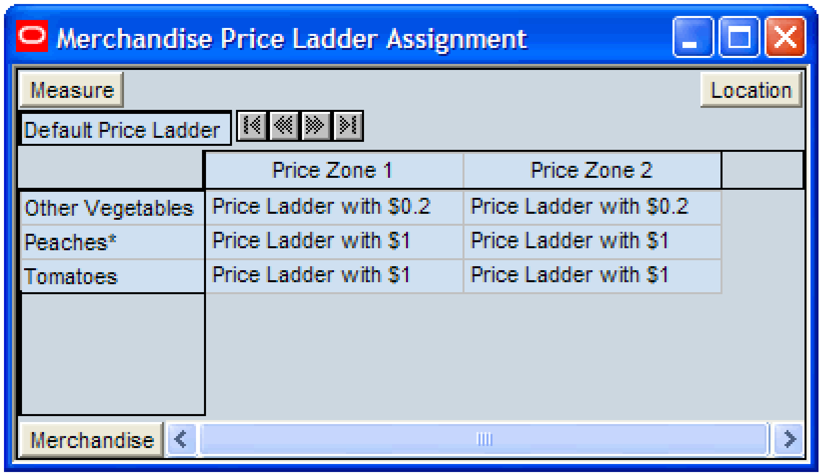


Table 2–3 lists the measures in this worksheet.

Table 2–3 Merchandise Price Ladder Assignment Worksheet Measures

Measure	Description
Default Price Ladder	The price ladder that will be used with a price zone by default.

Default Constraint Priority Setting Tab

This tab contains one worksheet: Default Priority Setting.

Default Priority Setting Worksheet

This worksheet displays all constraint types available in RPO. Constraints are rules that you define for RPO to obey when optimizing for prices. These constraints are created in the Price Analysis Workbook. For instance, you can create a competition constraint that all canned peaches items are priced cheaper than the competition's prices.

Before you create these specific constraints, however, you should define the default priorities for each constraint type in this worksheet. For instance, if your main sales objective is to have lower prices than the competition, you would set the Competition Priority measure to a high priority such as Priority 1 or Priority 2. However, if your main objective is to increase your gross margin, you would set the Margin Priority measure to a high priority.

If you set a constraint to have a priority 2 through 10, RPO attempts to obey that constraint, but if it cannot, it relaxes or bends the rules of the constraint until it finds a feasible solution. However, if you set a constraint to priority 1 and RPO cannot obey that constraint, it returns a message stating there is no feasible solution. If RPO must choose between obeying two constraint types that conflict, it obeys the constraint with the highest priority. Note that multiple constraint types can have the same priority.

The default priorities that you assign to the constraint types in this worksheet are for all scenarios and price zones. These priorities can be overridden for specific scenarios and price zones in the Priority Setting Tab of the Price Analysis Workbook.

After you have set the default priorities, continue to the Batch Management Tab.

Figure 2–8 Default Priority Setting Worksheet

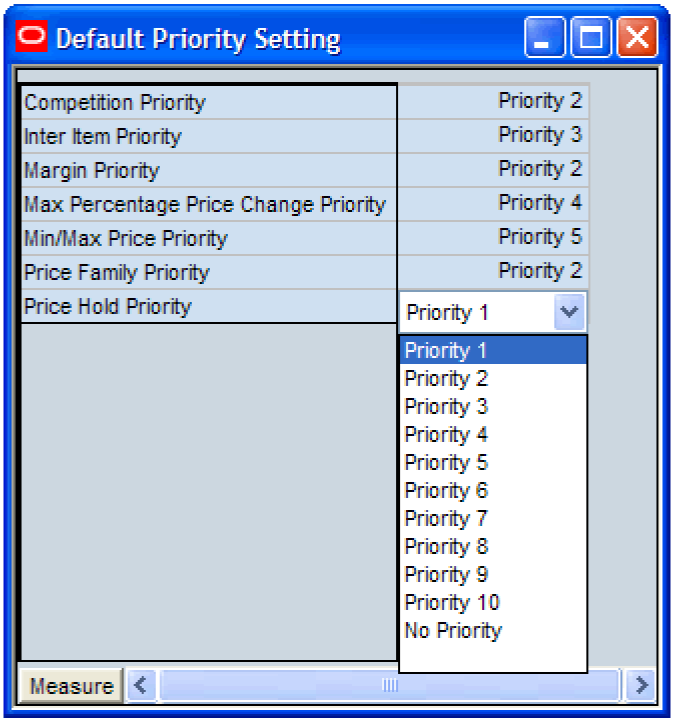


Table 2–4 lists the measures in this worksheet.

Table 2–4 Default Priority Setting Worksheet Measures

Measure	Description
Competition Priority	Use this measure to set the priority for maintaining the competition constraints that define the relationship between your items and the competitor items. These competition constraints are created in the Competition Constraints Tab of the Price Analysis Workbook.
Inter Item Priority	Use this measure to set the priority for maintaining the inter-item constraints that define the relationship between two items (for instance, the relationship between the prices of a brand name item and the same private label item). These inter-item constraints are created in the Inter–Item Constraints Tab of the Price Analysis Workbook.
Margin Priority	Use this measure to set the priority for maintaining the margin constraints. The margin constraints are created in the Scenario Goals and Constraints Tab of the Price Analysis Workbook.
Max Percentage Price Change Priority	Use this measure to set the priority for maintaining the maximum percentage price change constraint that defines how much or how little change is allowed between the original price and the recommended price. These constraints are created in the Scenario Goals and Constraints Tab of the Price Analysis Workbook.
Min/Max Price Priority	Use this measure to set the priority for maintaining the min/max price priority constraint. The minimum and maximum item price constraints are set in the Item Constraints Tab of the Price Analysis Workbook.

Table 2–4 (Cont.) Default Priority Setting Worksheet Measures

Measure	Description
Price Family Priority	Use this measure to set the priority for maintaining a price family. A price family is a group of items that have the same price. Price families are created in the Select Constraint Items and Item Group Levels Worksheets in the Price Analysis Workbook.
Price Hold Priority	Use this measure to set the priority for maintaining a price hold on an item. Setting a price hold on an item means that you do not want RPO to change that item's price. Price holds are applied to items in the Item Constraints Tab of the Price Analysis Workbook.

Batch Management Tab

This tab contains one worksheet: Batch Job Setting.

Batch Job Setting Worksheet

Use this worksheet to select the scenarios that you want to run during the batch process. This is useful because it allows you to select only the scenarios that you want to work with to be run during batch rather than all scenarios.

After the scenarios are run during batch, the Last Run Date measure displays the date of the run.

Figure 2–9 Batch Job Setting Worksheet

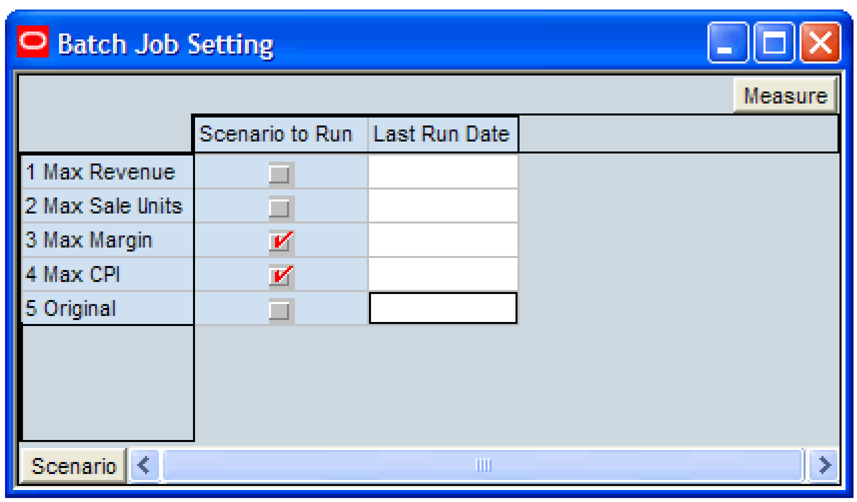


Table 2–5 lists the measures in this worksheet.

Table 2–5 Batch Job Setting Worksheet Measures

Measure	Description
Scenario to Run	Use this measure to select the scenarios that you want to run during batch.
Last Run Date	This is a read-only measure that displays the date of the last batch run.

After you have selected the scenarios that you want to run during batch, commit the workbook. Build the Scenario Management Workbook to define the items, locations, and time periods for the scenarios.

Data Management Tab

This tab has two measures that influence the price recommendations. First is the Value Added Tax (VAT) rate. The VAT affects the calculation of the margin as shown:

$$Margin = Sales\ Units * (\frac{Price}{1+\mathrm{VAT}} - Unit\ Cost)$$

Margin=Sales Units*(Price/(1+VAT)-Unit Cost)

Because the VAT rate can be different by geography, and potentially by type of merchandise, it is available to be set at the item/price zone level.

The VAT information is also available to be viewed in the Price Analysis workbook.

The second measure on the worksheet is the No Touch Period. It represents the minimum number of periods that have to elapse until a new price is recommended for an item. For instance, an item had a price recommendation on September 1st and the No Touch Period is set to 4 (weeks). This translates into a Price Hold constraint for the next 4 weeks, or until September 30th. However, in the Price Analysis workbook, in the Item Constraints worksheet, the user can override the Price Hold constraint. Also, the constraint's priority can be changed so the solver can relax it when optimizing the prices.

3

Scenario Management Workbook

This chapter describes the Scenario Management workbook. A scenario defines a group of items for particular price zones during a particular time period. After you define the scenarios in this workbook, you use the Price Analysis Workbook to define your optimization goals to find the optimized prices for the items in those scenarios. The Scenario Management workbook contains three tabs:

- Scenario - Calendar Assignment Tab
- Scenario - Item Assignment Tab
- Scenario - Location Assignment Tab

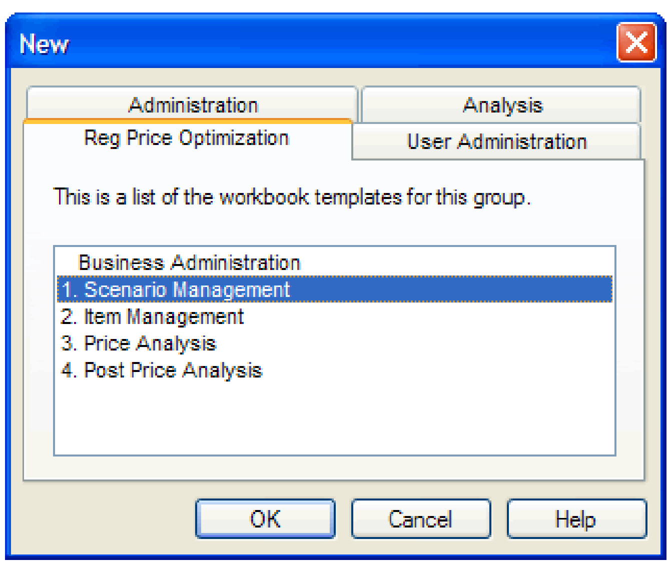
Building the Scenario Management Workbook

To build the Scenario Management workbook, perform the following steps:

> **Note:** To build the Scenario Management workbook, you must be in a local domain.

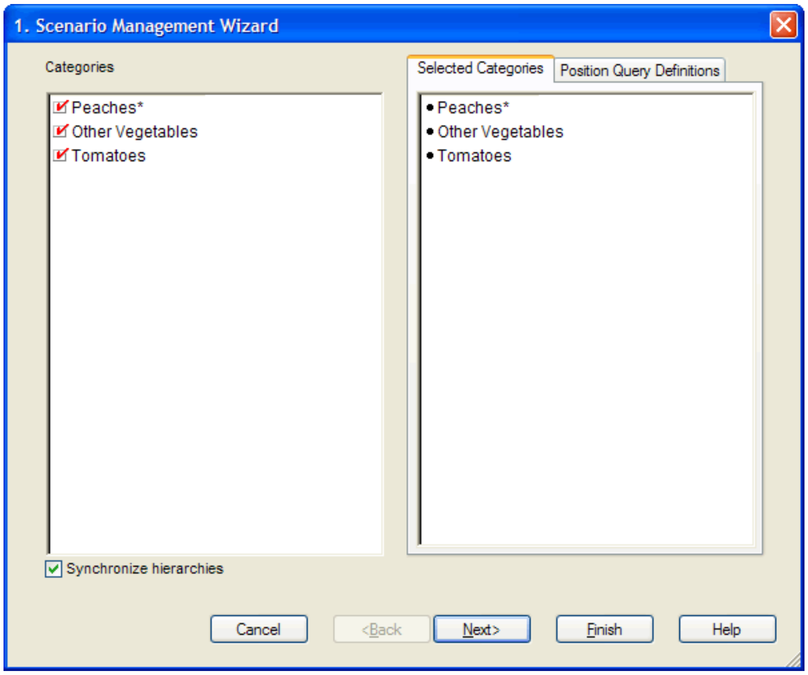
1. Select **New** from the File menu. The New window appears.
2. From the Reg Price Optimization tab, select **Scenario Management** and click **OK**.

Figure 3–1 Building the Scenario Management Workbook



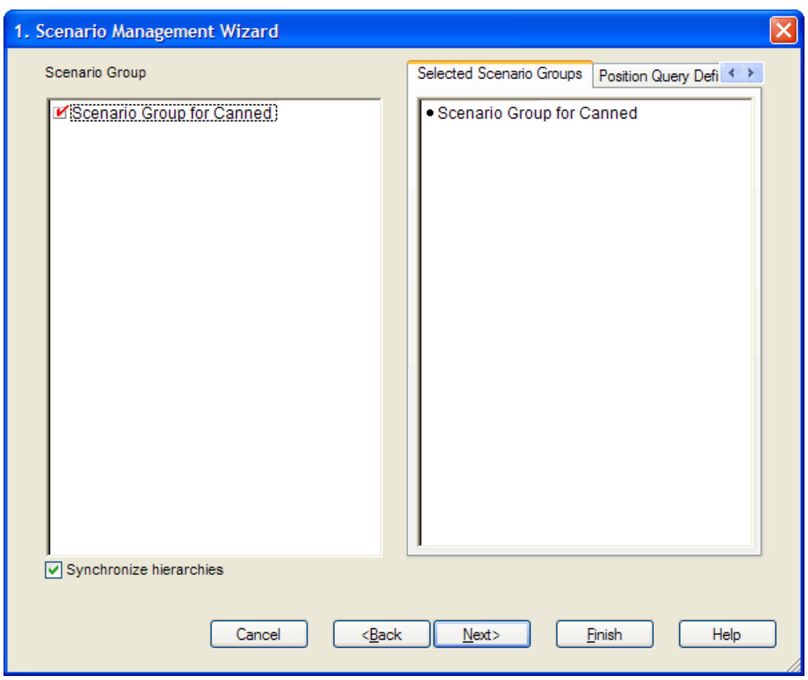
3. The Scenario Management wizard opens. Select the categories you want to work with and click **Next**.

Figure 3–2 Scenario Management Wizard: Select Categories



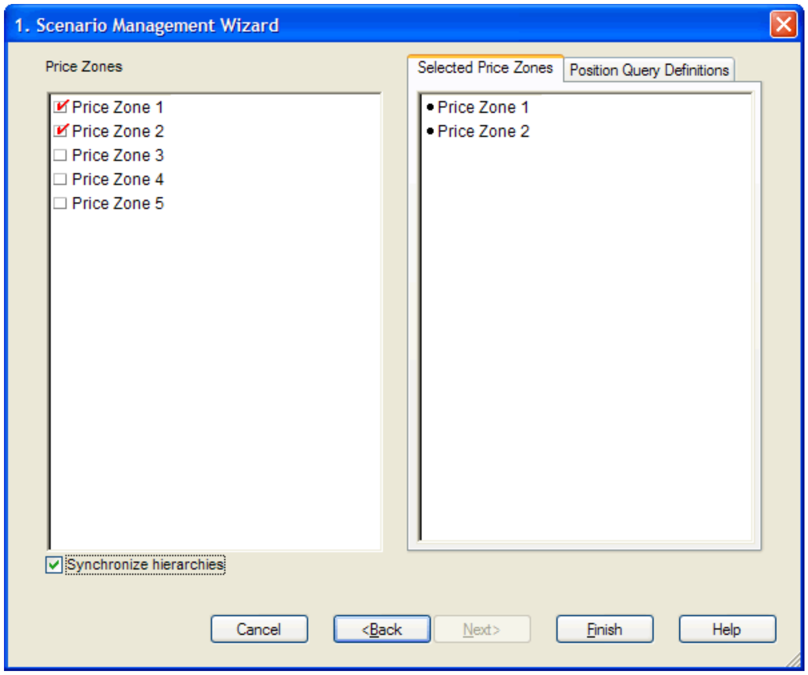
4. Select the groups you want to work with and click **Next**.

Figure 3–3 Scenario Management Wizard: Select Group



5. Select the price zones you want to work with and click **Finish**.

Figure 3–4 Scenario Management Wizard: Select Price Zone



The Scenario Management workbook is built.

Scenario - Calendar Assignment Tab

This tab includes one worksheet: Scenario Setting.

Scenario Setting Worksheet

Use this worksheet to set the time periods and enter descriptions for the scenarios that were loaded in the load process. These descriptions appear in the Price Analysis workbook wizard (Figure 5–2). Entering a useful description here will help you select the scenarios in the Price Analysis Workbook.

Figure 3–5 Scenario Setting Worksheet

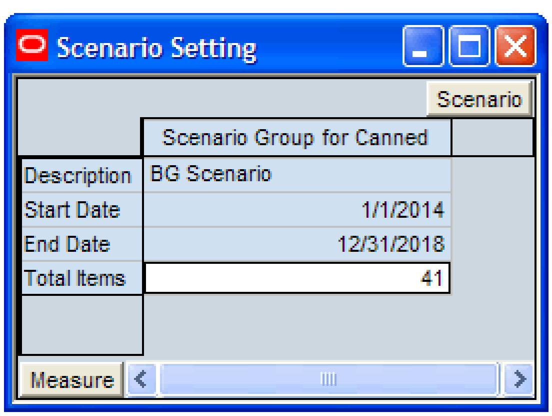


Table 3–1 lists the measures in this worksheet.

Table 3–1 Scenario Setting Worksheet Measures

Measure	Description
Description	Use this measure to enter a short, useful description of the scenario. This description appears in the Price Analysis wizard (Figure 5–2).
Start Date	The first day of the planning period.
End Date	The last day of the planning period.
Total Items	The number of items in the scenario. This is a read-only measure used for reference only.

After you have defined the time period and description for each scenario, continue to the Scenario - Item Assignment Tab to assign items to the scenario.

Scenario - Item Assignment Tab

This tab has one worksheet: Select Items.

Select Items Worksheet

Use this worksheet to assign items to the scenario. When this scenario is selected in the Price Analysis Workbook, the items selected here will be analyzed for price optimization.

Figure 3–6 Select Items Worksheet

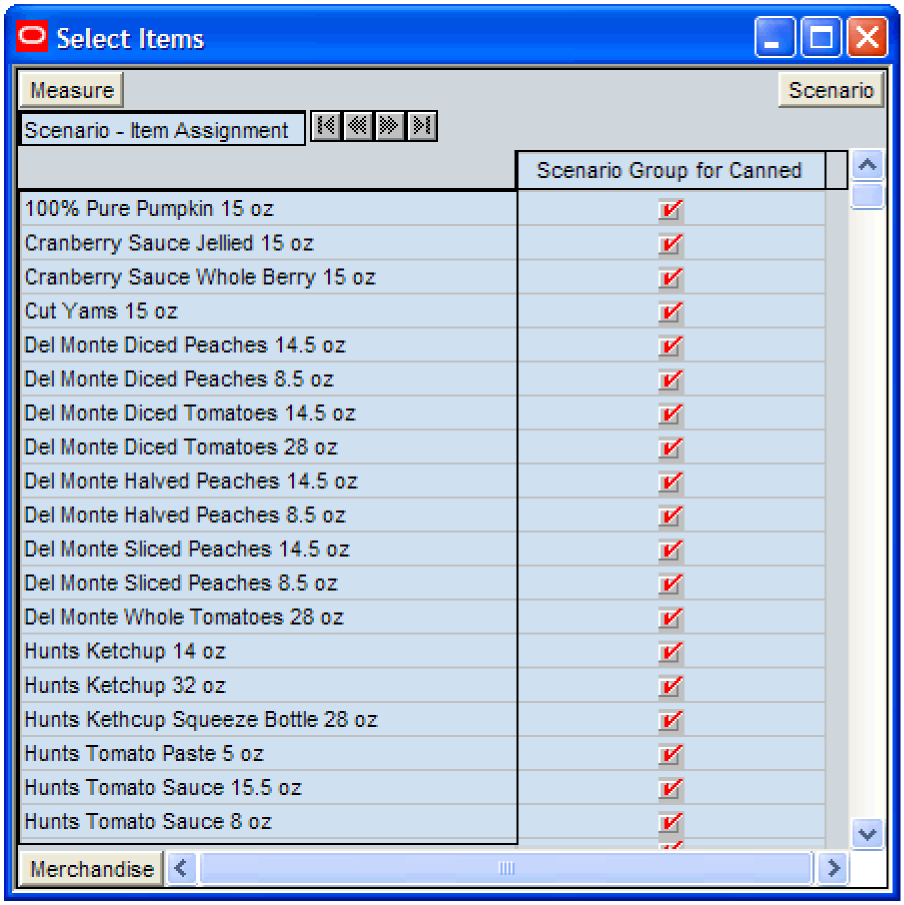


Table 3–2 lists the measures in this worksheet.

Table 3–2 Select Items Worksheet Measures

Measure	Description
Scenario - Item Assignment	Use this measure to select items to belong in the scenario.

After you have selected the items for the scenario, continue to the Scenario - Location Assignment Tab to assign price zones to the scenario.

Scenario - Location Assignment Tab

This tab has one worksheet: Select Locations.

Select Locations

Use this worksheet to assign price zones to the scenario. When this scenario is selected in the Price Analysis Workbook, the price zones selected here will be analyzed for price optimization.

Figure 3–7 Select Locations Worksheet

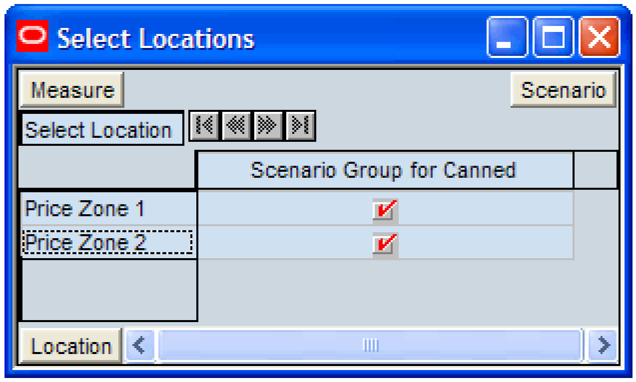


Table 3–3 lists the measures in this worksheet.

Table 3–3 Select Locations Worksheet Measures

Measure	Description
Select Location	Use this measure to select price zones to belong to the scenario.

After you have defined the time period, items, and price zones for the scenario, commit this workbook. Or, you can save the workbook and work with it later. Then, build the Item Management Workbook to define the relationships among items and create item groups.

4

Item Management Workbook

The Item Management workbook is used to define relationships among items and to create item groups. These relationships and groups are key to creating constraints in the Price Analysis Workbook. This workbook contains three tabs:

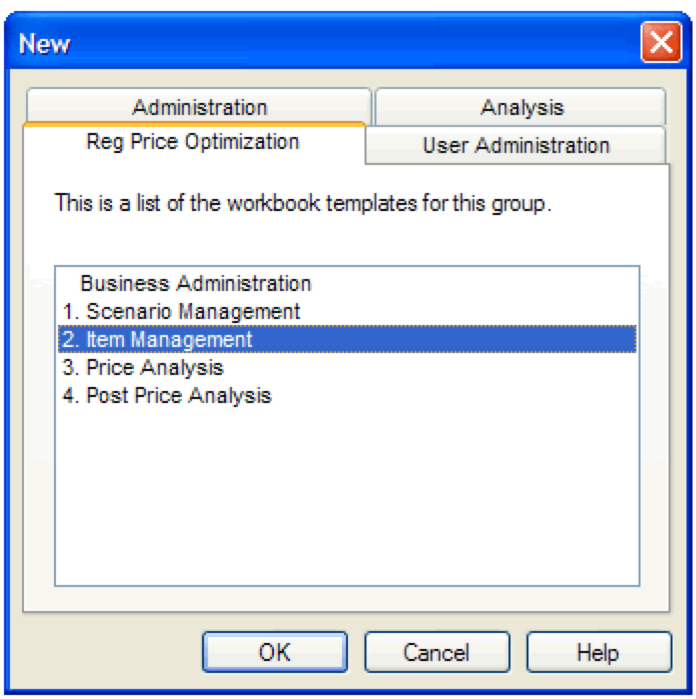
- Item Comparison Linkage Tab
- Like Item Tab
- Item Group Tab

Building the Item Management Workbook

To build the Item Management workbook, perform the following steps:

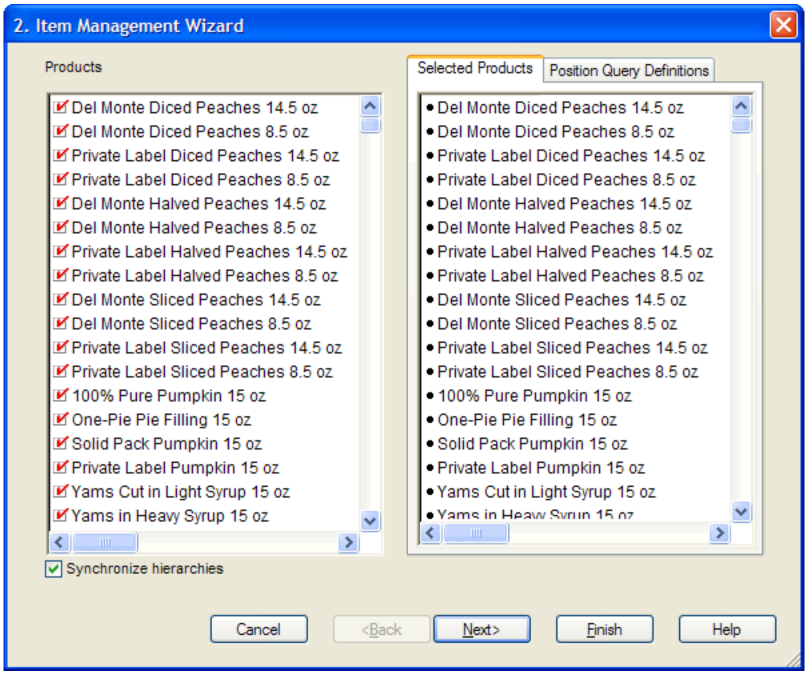
1. Select **New** from the File menu, or click the **New** toolbar button. The New window appears.
2. From the Reg Price Optimization tab, select the **Item Management** workbook, and click **OK**.

Figure 4–1 Building the Item Management Workbook



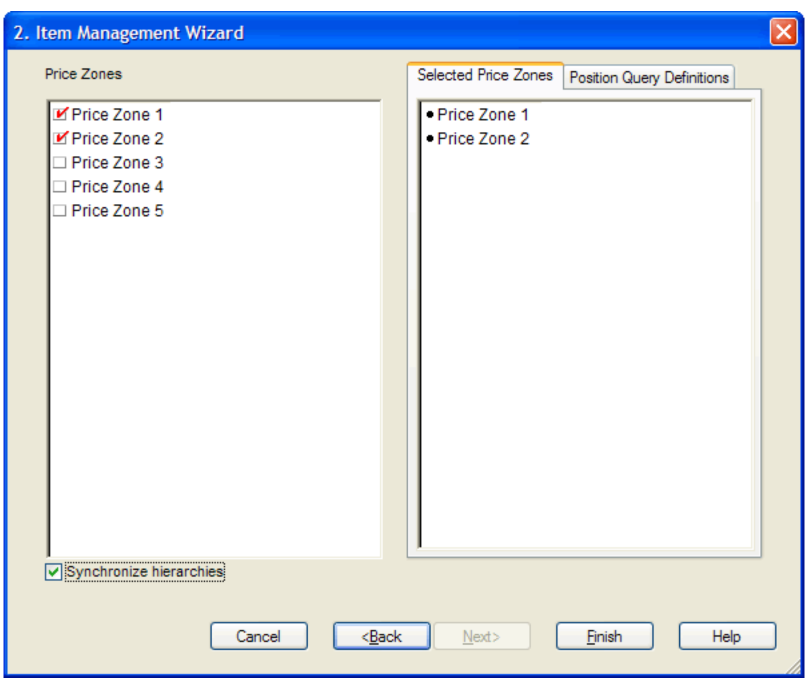
3. The Item Management wizard opens. Select the items that you want to include in the workbook. These items should include both the new items and the like items that you want to associate the new items with. Click **Next**.

Figure 4–2 Item Management Wizard: Select Items



4. Select the price zones that you want to work with and click **Finish**.

Figure 4–3 Item Management Wizard: Select Price Zones



The Item Management workbook is built.

Item Comparison Linkage Tab

This tab contains one worksheet: Item Linkage.

Item Linkage Worksheet

Use this worksheet to link items that have a relationship with other items. After items are linked, you can create constraints and rules in the Price Analysis Workbook based on those links. For instance, if you link 8.5 oz. Diced Peaches to 8.5 oz. Sliced Peaches in this worksheet (as shown in Figure 4–4), you can create a rule in the Price Analysis workbook that specifies that these two items should always have the same price.

To link an item to another, select the boolean measure at the intersection of the item in the Merchandise hierarchy and an item in the RHS (Right Hand Side) Merchandise hierarchy. After you have finished linking items, continue to the Like Item Tab.

Note: The items in the RHS Merchandise hierarchy only represent the items in the Merchandise hierarchy, they are not the true items. Therefore, linking Item A in the Merchandise hierarchy and Item B in the RHS hierarchy does not automatically link Item B in the Merchandise hierarchy and Item A in the RHS hierarchy.

Figure 4–4 Item Linkage Worksheet

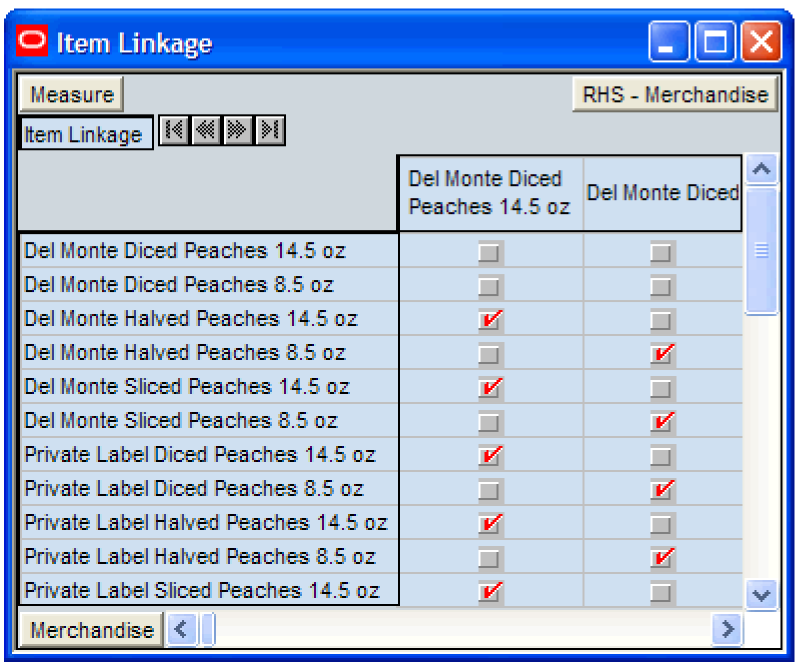


Table 4–1 lists the measures in this worksheet.

Table 4–1 Item Linkage Worksheet Measure

Measure	**Description**
Item Linkage	Use this measure to link items in the Merchandise hierarchy to items in the RHS Merchandise hierarchy.

Like Item Tab

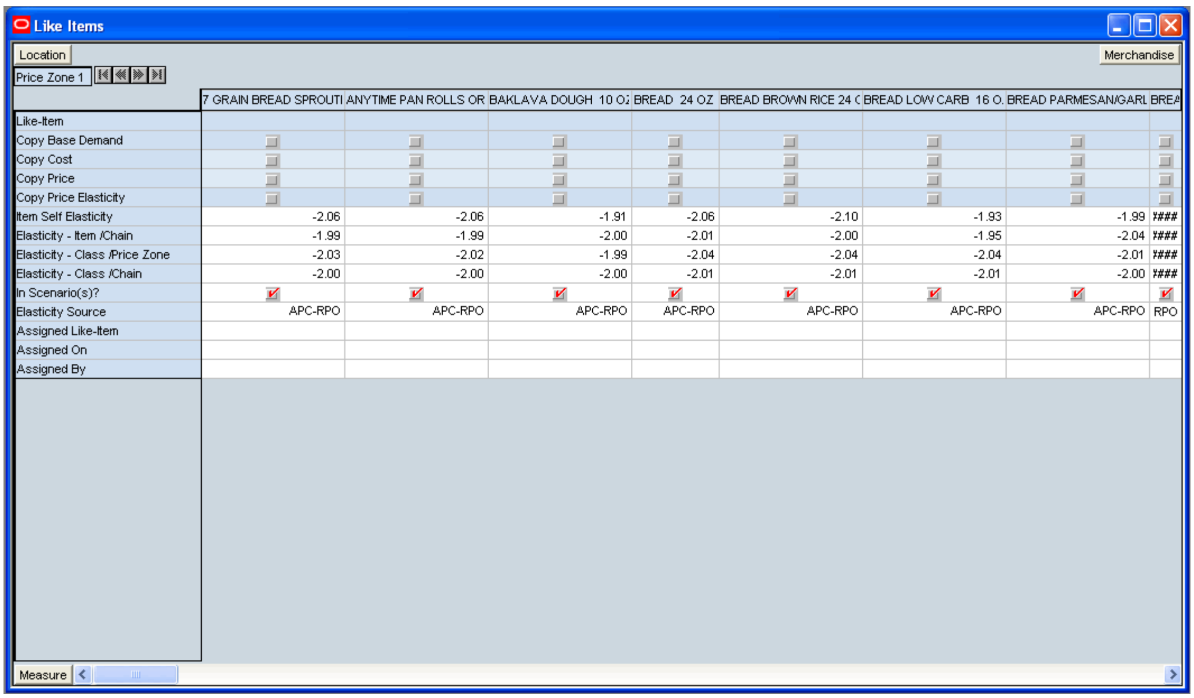
This tab contains one worksheet: Like Items.

Like Items Worksheet

Use this worksheet to assign like items to new items and to specify the like item's parameters to apply to the new item. You can apply the like item's cost, price, base demand, or demand group to the new item. The new item's self elasticity measure is pre-populated with the value obtained from the lowest possible escalation levels inside RPO.

However, you may choose to override that value with the elasticity of a like item. The like item functionality is useful if you have a new item with no sales history that is expected to perform in the same way as an existing item.

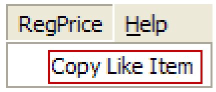
Figure 4–5 Like Items Worksheet



To assign like items:

1. Locate the item that needs a like item in the Merchandise hierarchy. In the intersection of that item and the Like-Item measure, double-click the cell.
2. The Select Item window appears. Select the item to use as the like item. Click **OK**.
3. Select the attributes of the like item that you want to use. You can choose one or more of the following options: Copy Base Demand, Copy Cost, Copy Price, and Copy Price Elasticity. (For the descriptions of these options, see Table 4–2.)
4. After you have mapped all the like items and like price zones to the new items, select the **Copy Like Item** option from the RegPrice custom menu.

Figure 4–6 Copy Like Item



5. From the File menu, select **Commit Now**.

Table 4–2 lists the measures in this worksheet.

Table 4–2 Like-Items Worksheet Measures

Measure	Description
Assigned By	This is a read-only measure that displays the user who assigned the like item to the item.
Assigned Like-Item	This is a read-only measure that displays the like item that was assigned to the item.
Assigned On	This is a read-only measure that displays the date that the like item was assigned to the item.
Copy Base Demand	Use this measure to copy the like item's forecast to the new item.
Copy Cost	Use this measure to copy the like item's cost to the new item.
Copy Price	Use this measure to copy the like item's price to the new item.
Copy Price Elasticity	Use this measure to copy the like item's price elasticity for the new item. The price elasticity is calculated in APC-RPO. **Note**: When copying elasticities for new items, only cross-item elasticities for items that are included in the workbook are copied.
Elasticity - Class/Chain	This is a read-only measure that displays the elasticity from the class/chain escalation level.
Elasticity - Class/Price Zone	This is a read-only measure that displays the elasticity from the class/price zone escalation level.
Elasticity - Item/Chain	This is a read-only measure that displays the elasticity from the item/chain escalation level.
Elasticity Source	This is a read-only measure that displays where the self elasticity is coming from. The default options are: ▪ APC-RPO: The elasticity is calculated in APC-RPO and imported in RPO. This item is very likely not new, but rather a candidate for like item. ▪ Like-Item: The elasticity is calculated by assigning a like item and running the Copy Like Item custom menu. ▪ Escalation from Item: The elasticity is calculated in the RPO batch and the item/chain level elasticity is used. ▪ Escalation from Class/Price Zone: The elasticity is calculated in the RPO batch and the class/price zone level elasticity is used. ▪ Escalation from Class: The elasticity is calculated in the RPO batch and the class/chain level elasticity is used. **Note:** These options are configurable through Configuration Tools.
In Scenario(s)?	This is a read-only measure that displays whether the item is in a scenario. Items are assigned to scenarios in the Select Items Worksheet in the Scenario Management Workbook.

Table 4–2 (Cont.) Like-Items Worksheet Measures

Measure	Description
Item Self Elasticity	This is a read-only measure that displays the self elasticity of an item. While running the batch, RPO checks for items with zero self elasticity. If it finds such items, it automatically assignes a value obtained from the lowest possible escalation levels inside RPO. This value can be overridden by assigning a like item, enabling the Copy Price Elasticity measure.for that item, and running the Copy Like Item custom menu.
Like-Item	Use this measure to select the like item you want to associate with the new item.

After you have assigned like items and like price zones to the new items, continue to the Item Group Tab.

Item Group Tab

This tab contains one worksheet: Item Group.

Item Group Worksheet

Use this worksheet to select the items you want to assign to the item groups that were loaded in the batch load. By assigning items to an item group, you can treat a group of items similarly by applying a constraint to the item group in the Price Analysis Workbook. This is easier and faster than applying constraints to each item individually.

For instance, you can assign all canned peach items to Item Group 01. Then, in the Price Analysis workbook, you can create a constraint that applies to the entire group.

Note: All items within item groups must exist in the same domain.

Figure 4–7 Item Group Worksheet

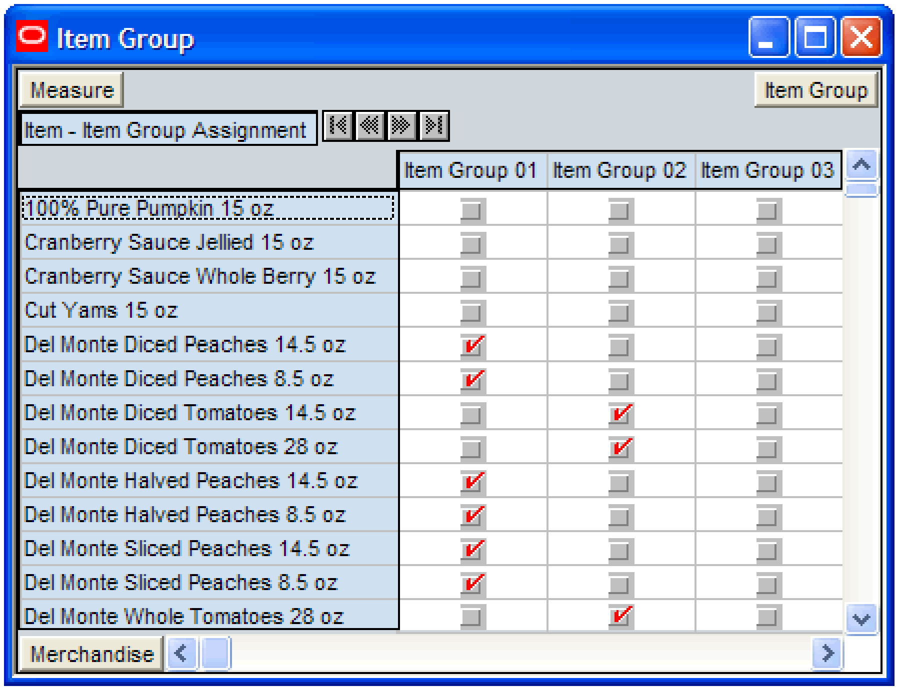


Table 4–3 lists the measures in this worksheet.

Table 4–3 Item Group Worksheet Measures

Measure	Description
Item - Item Group Assignment	Use this measure to assign items to an item group.

After you have assigned items to an item group, save and commit the workbook. Next, build the Price Analysis Workbook.

5

Price Analysis Workbook

The Price Analysis workbook is used to optimize prices for the scenarios you have created in the Business Administration Workbook, Scenario Management Workbook, and Item Management Workbook. Using this workbook, you can specify pricing constraints, optimize prices, override recommendations, specify business goals, and analyze the effect of price changes on decision variables such as gross margin and revenue.

The tabs contained within the Price Analysis workbook are outlined below:

- Scenario Goals and Constraints Tab
- Priority Setting Tab
- Item Constraints Tab
- Inter–Item Constraints Tab
- Competition Constraints Tab
- Optimization Dashboard Tab
- Recommendations and What–If Tab
- Miscellaneous Tab

The basic workflow of this workbook is described below:

1. Choose the business goals you want to optimize in the Scenario Goals and Constraints Tab. Override the scenario goals and objectives at the item group level in the Scenario Goals and Constraints Override Worksheet.
2. Set the general and competition constraint priorities for the scenario you are analyzing in the Priority Setting Tab.
3. Enter specific constraints in the Item Constraints Tab, Inter–Item Constraints Tab, and Competition Constraints Tab.
4. Review the optimization results in the Optimization Dashboard Tab.
5. Make adjustments and create What-if simulations in the Recommendations and What–If Tab. Select and approve the scenario to use.

Building the Price Analysis Workbook

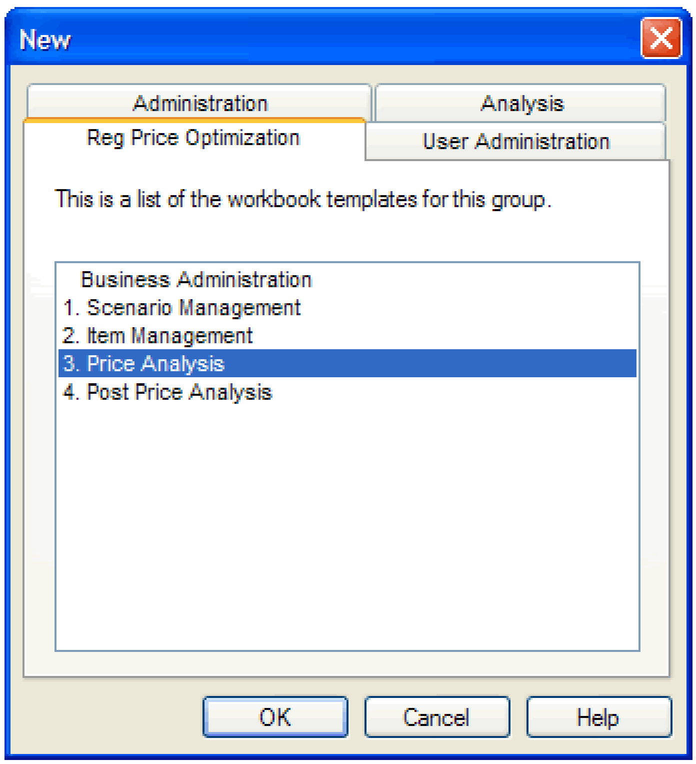
In order to build the Price Analysis workbook, you must use the Price Analysis wizard. To use the wizard:

Notes:

- The Price Analysis workbook cannot be build in the master domain.
- You must have a scenario created to build a Price Analysis workbook.

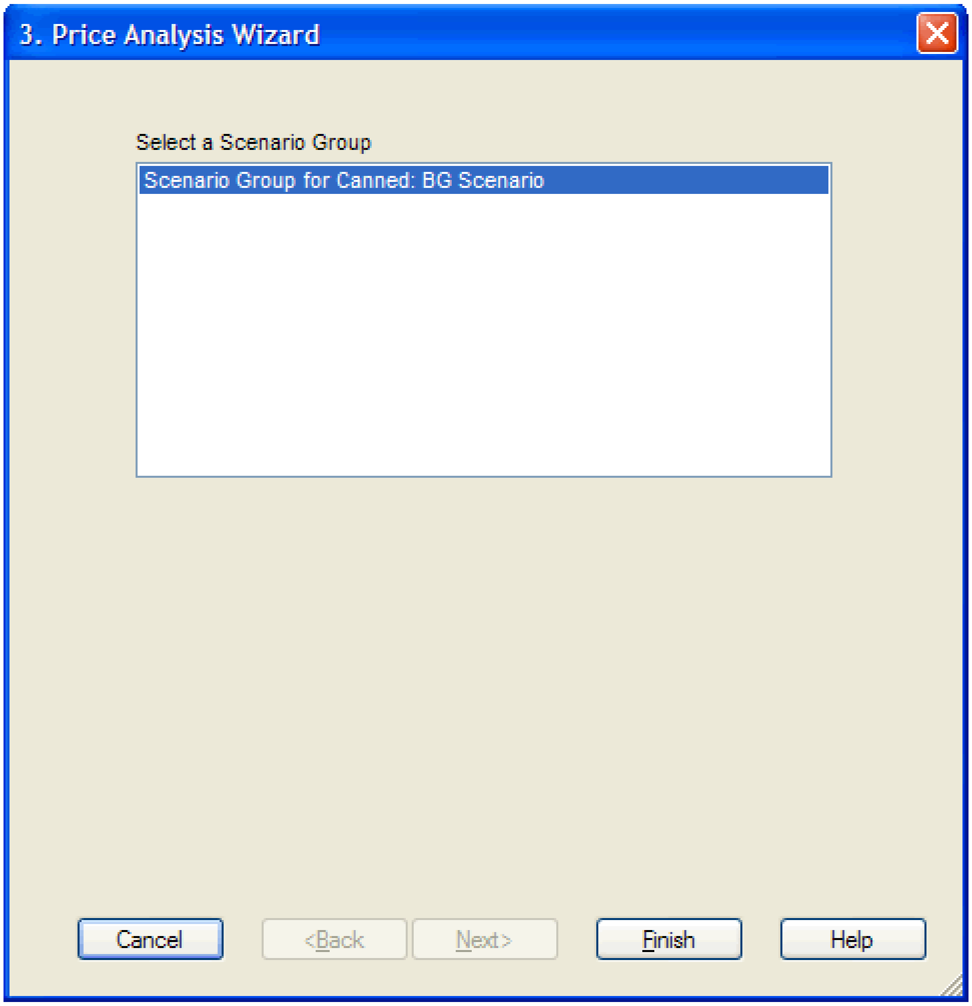
1. Select **New** from the File menu, or click the **New** toolbar button. The New window appears.
2. From the Reg Price Optimization tab, select **Price Analysis** and click **OK.** to open the Price Analysis wizard.

Figure 5–1 Building a Price Analysis Workbook



3. The Price Analysis wizard opens. Select the scenario group you want to optimize. All scenarios belonging to a particular scenario group are included in the workbook. The scenarios contain the item, location, and calendar information that you specified for it in the Scenario Management Workbook. Click **Finish**.

Figure 5–2 Price Analysis Wizard: Select Scenario Group



The Price Analysis workbook is built.

Scenario Goals and Constraints Tab

This tab contains these worksheets:

- Scenario Goals and Constraints Worksheet
- Scenario Goals and Constraints Override Worksheet

Scenario Goals and Constraints Worksheet

Use this worksheet to choose the parameters you want to optimize for the scenario. For instance, if you want to optimize the Max Revenue scenario to return the most revenue while maintaining at least 75% of the original Gross Margin and 80% of the original volume, you would select Revenue as the Goal for Full Optimization and set the Gross Margin and volume objectives.

After selecting the optimization goal and entering constraints, continue to the Priority Setting Tab.

Figure 5–3 Scenario Goals and Constraints Worksheet

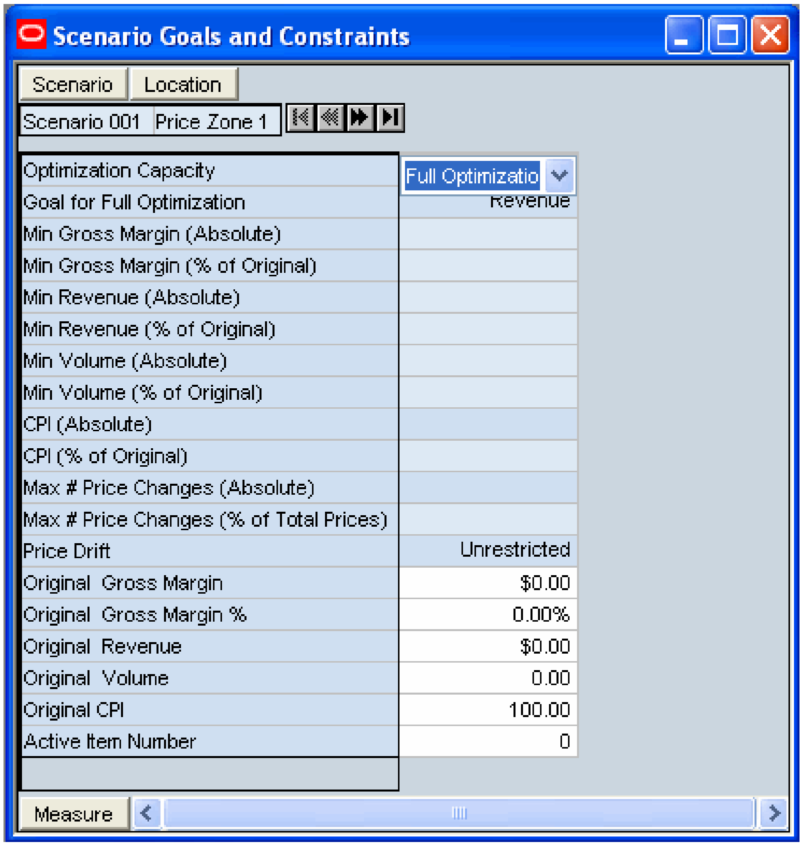


Table 5–1 lists the measures in this worksheet.

Table 5–1 Scenario Goals and Constraints Worksheet Measures

Measure	Description
Active Item Number	This measure displays the number of active items included in the scenario. An item is considered to be active if the original price of the item is not zero, and the item has non-zero forecast. RPO only recommends prices for active items.
Goal for Full Optimization	When Full Optimization is chosen for the Optimization Capacity measure, use this measure to select the goal. Options are Gross Margin, Revenue, Volume, and CPI (Competitive Price Index.) If you choose Price Simulation or Rule Management as the Optimization Capacity, you do not have to set this measure.
Max # of Price Changes (% of Total Prices)	Stores the entry for the maximum number of price change recommendations that RPO is allowed to make. This value is treated as a percent and should never be greater than 100. If this measure is empty for a certain intersection, the cell has the NA value but is not displayed in the user interface.
Max # of Price Changes (Absolute)	Stores the entry for the maximum number of price change recommendations that RPO is allowed to make. If this measure is empty for a certain intersection, the cell has the NA value but is not displayed in the user interface.
Min Gross Margin (% of Original)	Stores the entry for the minimum gross margin that you want RPO to achieve. The minimum percentage is expressed to the base of 100%, where 100% is calculated using the current price. If a 10% improvement is desired, the user should enter 110%. If this measure is empty for a certain intersection, the cell has the NA value but is not displayed in the user interface.

Table 5–1 (Cont.) Scenario Goals and Constraints Worksheet Measures

Measure	Description
Min Gross Margin (Absolute)	Stores the entry for the minimum gross margin dollars that you want RPO to achieve. If this measure is empty for a certain intersection, the cell has the NA value but is not displayed in the user interface.
Min Revenue (% of Original)	Stores the entry for the minimum revenue that you want RPO to achieve. The minimum percentage is expressed to the base of 100%, where 100% is calculated using the current price. If a 10% improvement is desired, enter 110%. If this measure is empty for a certain intersection, the cell has the NA value but is not displayed in the user interface.
Min Revenue (Absolute)	Stores the entry for the minimum revenue that you want RPO to achieve. If this measure is empty for a certain intersection, the cell has the NA value but is not displayed in the user interface.
Min Volume (% of Original)	Stores the entry for the minimum volume that you want RPO to achieve. The minimum percentage is expressed to the base of 100%, where 100% is calculated using the current price. If a 10% improvement is desired, the user should enter 110%. If this measure is empty for a certain intersection, the cell has the NA value but is not displayed in the user interface.
Min Volume (Absolute)	Stores the entry for the minimum volume that you want RPO to achieve. If this measure is empty for a certain intersection, the cell has the NA value but is not displayed in the user interface.
Optimization Capacity	Options are Full Optimization, Price Simulation, and Rule Management.
Original CPI	This is a read-only measure that displays the current Competitor Price Index (CPI).
Original Gross Margin	This is a read-only measure that displays the gross margin based on the current prices.
Original Gross Margin %	This is a read-only measure that displays the gross margin expressed as a percentage ratio of (revenue - cost)/revenue, based on the current prices.
Original Revenue	This is a read-only measure that displays the revenue based on the current prices.
Original Volume	This is a read-only measure that displays the volume based on the current prices.

Scenario Goals and Constraints Override Worksheet

Use this worksheet to choose the metrics you want to optimize for certain item groups. For instance, the scenario goal may be to optimize the volume, while maintaining at least 80% of the original margin. For item group 1 you can specify the goal to be revenue, while maintaining 90% margin. There is no restriction on how many item groups can have the goals and objectives overwritten.

Note: A given item cannot be part of two item groups that each have their goals overwritten

After selecting the optimization goal and entering constraints, continue to the Priority Setting Tab.

Figure 5–4 Scenario Goals and Constraints Override Worksheet

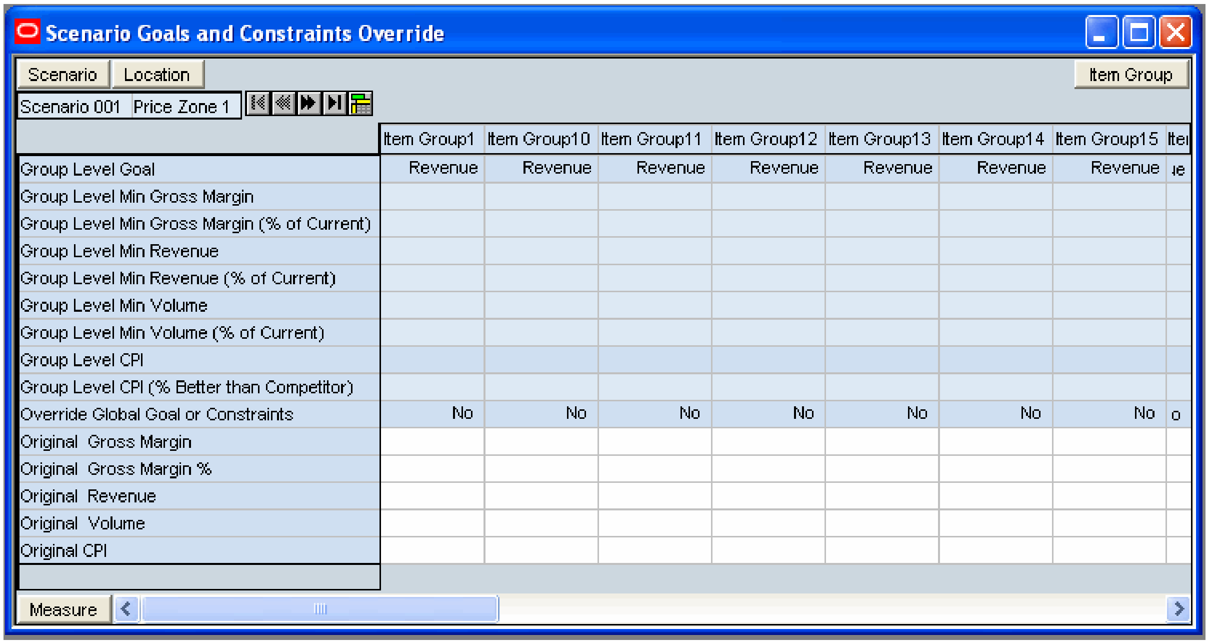


Table 5–2 lists the measures in this worksheet.

Table 5–2 Scenario Goals and Constraints Override Worksheet Measures

Measure	Description
Active Item Number	This measure displays the number of active items in the selected item group. An item is considered to be active if the original price of the item is not zero, and the item has non-zero forecast. RPO only recommends prices for active items.
Group Level CPI	This measures represents the revenue that would be generated by pricing recommendations for an item group to the average pricing of competitor items. Group Level CPI is expressed as a dollar amount difference between your revenue and the revenue based on your competitor's price for the selected item group. If this measure is empty for a certain intersection, the cell has a not applicable value that is not displayed in the user interface.
Group Level CPI (% Better than Competitor)	This measure represents the ratio of revenue that would be generated by pricing recommendations for an item group to the average pricing of competitor items. CPI is expressed to the base of 100%, where 100% represents the current ratio. For example, for a 10% improvement against a competitor, enter 110%. If this measure is empty for a certain intersection, the cell has a not applicable value that is not displayed in the user interface.
Group Level Goal	When Full Optimization is chosen for the Optimization Capacity measure, use this measure to select the item group goal. Options are Gross Margin, Revenue, Volume, and CPI (Competitive Price Index.) If you select Price Simulation or Rule Management as the Optimization Capacity, the content of this measure does not affect the price recommendations.
Group Level Min Gross Margin	Stores the entry for the minimum gross margin dollars that you want RPO to achieve for the selected item group. If this measure is empty for a certain intersection, the cell has a not applicable value but is not displayed in the user interface.

Table 5–2 (Cont.) Scenario Goals and Constraints Override Worksheet Measures

Measure	Description
Group Level Min Gross Margin (% of Current)	Stores the entry for the minimum gross margin that you want RPO to achieve for the selected item group. The minimum percentage is expressed to the base of 100%, where 100% is calculated using the current price. If a 10% improvement is desired, the user should enter 110%. If this measure is empty for a certain intersection, the cell has a not applicable value that is not displayed in the user interface.
Group Level Min Revenue	Stores the entry for the minimum revenue that you want RPO to achieve for the selected item group. If this measure is empty for a certain intersection, the cell has a not applicable value that is not displayed in the user interface.
Group Level Min Revenue (% of Current)	Stores the entry for the minimum revenue that you want RPO to achieve for the selected item group. The minimum percentage is expressed to the base of 100%, where 100% is calculated using the current price. If a 10% improvement is desired, enter 110%. If this measure is empty for a certain intersection, the cell has a not applicable value that is not displayed in the user interface.
Group Level Min Volume	Stores the entry for the minimum volume that you want RPO to achieve for the selected item group. If this measure is empty for a certain intersection, the cell has a not applicable value that is not displayed in the user interface.
Group Level Min Volume (% of Current)	Stores the entry for the minimum volume that you want RPO to achieve for the selected item group. The minimum percentage is expressed to the base of 100%, where 100% is calculated using the current price. If a 10% improvement is desired, the user should enter 110%. If this measure is empty for a certain intersection, the cell has a not applicable value that is not displayed in the user interface.
Original CPI	This is a read-only measure that displays the current Competitor Price Index (CPI) for the items in the selected item group.
Original Gross Margin	This is a read-only measure that displays the gross margin based on the current prices, realized by the items in the selected item group.
Original Gross Margin %	This is a read-only measure that displays the gross margin expressed as a percentage ratio of (revenue - cost)/revenue, based on the current prices, for the items in the selected item group.
Original Revenue	This is a read-only measure that displays the revenue based on the current prices, realized by the items in the selected item group.
Original Volume	This is a read-only measure that displays the volume based on the current prices, realized by the items in the selected item group.
Override Scenario Goal or Constraints	This measure enables or disables the override functionality for an item group. A setting of No means that no override will happen, while a setting of Yes will enable the functionality. For instance, even if the Group Level Goal has an entry, and values are entered for various metrics, no override is considered during the optimization unless this measure is set to Yes.

Priority Setting Tab

The Priority Settings tab allows you to set priority levels for business rules and competitor price constraints for each scenario and price zone level. These priority levels override the scenario priorities you set for all scenarios and price zones in the Business Administration Workbook. For more information about how priority levels work, see the Default Priority Setting Worksheet section.

There are two worksheets contained within this tab:

- General Priority Worksheet
- Competition Priority Worksheet

General Priority Worksheet

This worksheet allows you to set specific priority levels for each scenario. These priority levels can differ and will override the priority levels you set for all scenarios in the Business Administration Workbook, which are represented by the read-only default measures in this worksheet.

Note: Constraints set to Priority 1 must be met. If RPO is unable to satisfy any Priority 1 constraints, the optimization run returns with an Infeasible result, meaning that no satisfactory solution can be found.

After you have set the general priority levels for each scenario, continue to the Competition Priority Worksheet.

Figure 5–5 General Priority Worksheet

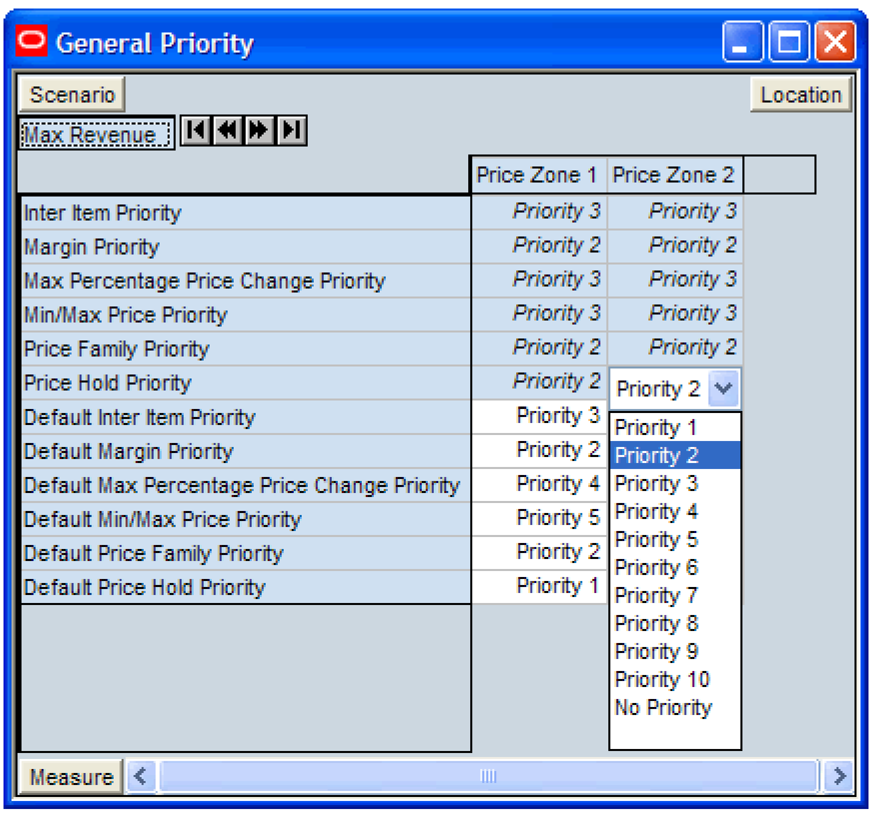


Table 5–3 lists the measures in this worksheet.

Table 5–3 General Priority Worksheet Measures

Measure	Description
Inter Item Priority	Use this measure to set the priority for the inter-item constraint. Inter-item constraints define the relationship between two items. For instance, the relationship between the prices of a brand name item and the same private label item.
Margin Priority	Use this measure to set the priority for the margin constraint.
Max Percentage Price Change Priority	Use this measure to set the priority for the max percentage price change. The maximum percentage price change constraint defines how much or how little change is allowed between the original price and the recommended price.
Max/Min Price Priority	Use this measure to set the priority for the max/min price constraint.
Price Family Priority	Use this measure to set the priority for the price family constraint. A price family is a group of items that have the same price.
Price Hold Priority	Use this measure to set the priority for the price hold. Setting a price hold on an item means that you do not want RPO to change that item's price.
Default Inter Item Rule Priority	The default priority setting for the inter-item constraint. This was set up in the Default Priority Setting Worksheet.
Default Margin Rule Priority	The default priority setting for the margin constraint. This was set up in the Default Priority Setting Worksheet.
Default Max Percentage Price Change Priority	The default priority setting for the max percentage price change constraint. This was set up in the Default Priority Setting Worksheet.
Default Max/Min Price Priority	The default priority setting for the max/min price constraint. This was set up in the Default Priority Setting Worksheet.
Default Price Family Priority	The default priority setting for the price family constraint. This was set up in the Default Priority Setting Worksheet.
Default Price Hold Priority	The default priority setting for the price hold constraint. This was set up in the Default Priority Setting Worksheet.

Competition Priority Worksheet

The Competition Priority worksheet allows you to specify which competitor takes priority in the price optimization. Note that you can give the same priority to more than one competitor.

Use the Competition Priority measure to set priorities for specific competitors or competitor metrics. As a reference, the default measures display the general priority that you set in the Default Priority Setting Worksheet in the Business Administration Workbook.

Note: Constraints set to Priority 1 must be met. If RPO is unable to satisfy any Priority 1 constraints, the optimization run returns with an Infeasible result, meaning that no satisfactory solution can be found.

Figure 5–6 Competition Priority Worksheet

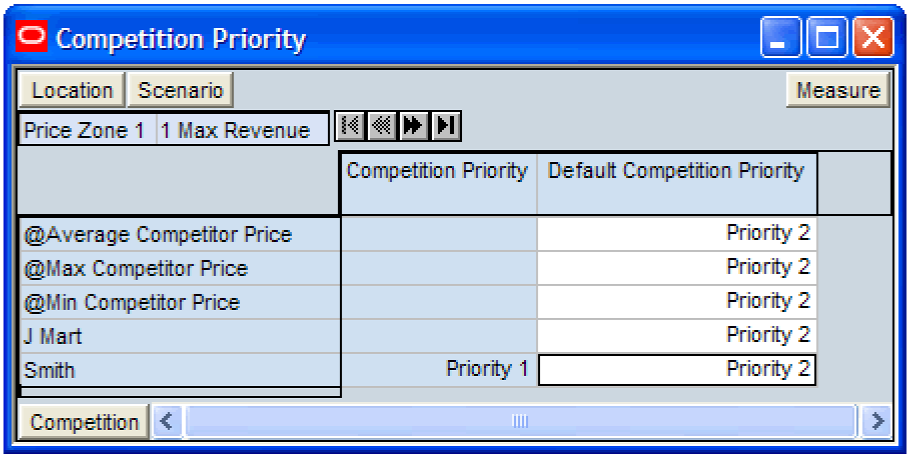


Table 5–4 lists the measures in this worksheet:

Table 5–4 Competition Priority Worksheet Measures

Measure	**Description**
Competition Priority	Allows you to specify which competitor takes priority in the price optimization.
Default Competition Priority	This read-only measure displays the priority level you set for all competitors in general in the Default Priority Setting Worksheet.

After you have set the priority levels for the competition metrics, continue to the Item Constraints Tab to set up the business rules for price optimization.

Item Constraints Tab

This tab is used to create item constraints for items and item groups. This tab contains two worksheets:

- Item Group Level Worksheet
- Item Level Worksheet

Item Group Level Worksheet

Use this worksheet to create constraints for item groups. For instance, if you had an item group of all 8.5 oz. canned peaches, you could create a constraint that defines a minimum price of $1.00. This constraint would be applied to every item in that item group. You can create more specific constraints by specifying classes, sub categories, or brands, or even classes, subcategories, and brands within an existing item group.

Figure 5–7 Item Group Level Worksheet

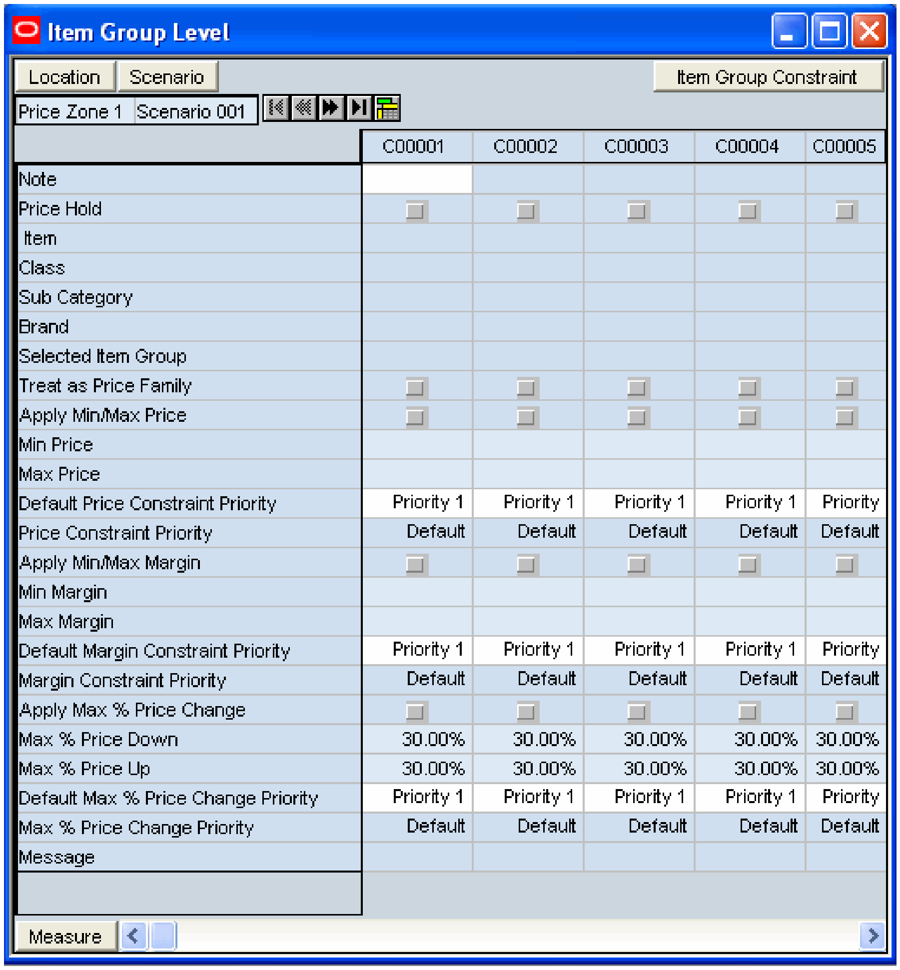


Table 5–5 lists the measures in this worksheet.

Table 5–5 Item Group Level Worksheet Measures

Measure	**Description**
Apply Max % Price Change	Select this option to allow the price constraints to be applied.
Apply Min/Max Margin	Select this option to apply the margin constraints to be applied.
Apply Min/Max Price	Select this option to apply minimum and maximum price constraints. If selected, you must enter values for the minimum and maximum price.
Brand	Use this measure to select a specific brand to apply the constraint to.
Class	Select a specific product class to apply the constraint to.
Default Margin Constraint Level	This read-only measure displays the default priority level that you set for the margin constraint in the Default Constraint Priority Setting Tab.
Default Max % Price Change Level	This read-only measure displays the default priority level that you set for the maximum percentage price change constraint in the Default Constraint Priority Setting Tab.
Default Price Constraint Level	This read-only measure displays the default priority level you set for the price constraint in the Default Constraint Priority Setting Tab.
Item	Select a specific item to apply the constraint to.

Table 5–5 (Cont.) Item Group Level Worksheet Measures

Measure	Description
Margin Constraint Priority	Use this measure to override the default priority level for the margin constraint. The default priority level is displayed in the Default Margin Constraint Level measure.
Max % Price Change Priority	Use this measure to override the default priority level for the price change constraint. The default priority level is displayed in the Default Max % Price Change Level measure.
Max % Price Down	The maximum percentage that the price can be decreased.
Max % Price Up	The maximum percentage that the price can be increased.
Max Margin	Use this measure to set the maximum margin allowed for an item.
Max Price	Use this measure to set the maximum price allowed for an item.
Message	After RPO has run the optimization, this measure displays any rule relaxations or violations that occurred for the constraint.
Min Margin	Use this measure to set the minimum margin allowed for an item.
Min Price	Use this measure to set the minimum price allowed for an item.
Note	Use this measure to create a description of the constraint.
Price Constraint Priority	Use this measure to override the default priority level for the price constraint. The default priority level is displayed in the Default Price Constraint Level measure.
Price Hold	Select this option if you do not want the price to change.
Selected Item Group	Use this measure to select an item group to apply the constraint to. If you edited the label of the item group in the Item Group Label Override Worksheet, the edited label appears in this measure.
Sub Category	Select a specific product sub category to apply the constraint to.
Treat as Price Family	Select this option to treat the item group as a price family. If this measure is selected, all specified will have the same price.
Treat Min/Max Price as %	Select this option if the minimum and maximum prices should be treated as a percentage rather than an absolute value.

Item Level Worksheet

After you have created constraints for item groups, use this worksheet to create constraints for items that do not belong to item groups. Or, you can create exceptions for items that do belong to item groups by creating specific constraints for those items.

For instance, you can create an individual item constraint for the 8.5oz diced peaches item that belongs to Item Group 01. Even though Item Group 01 has an item group constraint (as shown in Figure 5–7), the constraint you create for the item in this worksheet overrides that item group constraint.

Figure 5–8 Item Level Worksheet

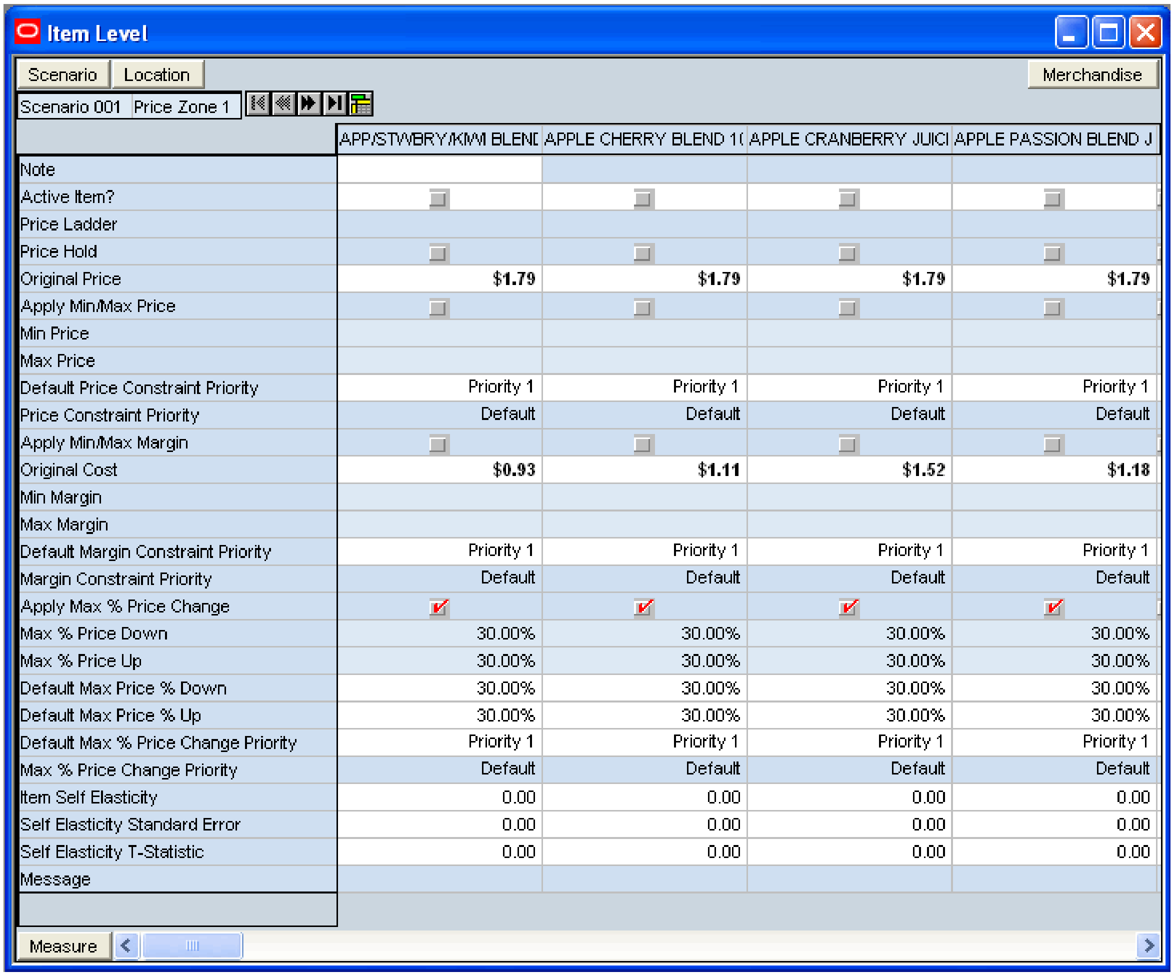


Table 5–6 lists the measures in this worksheet.

Table 5–6 Item Level Worksheet Measures

Measure	Description
Active Item?	A read-only measure that displays whether an item is being considered for optimization.
Apply Max % Price Change	Select this option to allow the price constraints to be applied.
Apply Min/Max Margin	Select this option to apply the margin constraints to be applied.
Apply Min/Max Price	Select this option to apply minimum and maximum price constraints. If selected, you must enter values for the minimum and maximum price.
Apply Minimum Price Change	Select this option to allow minimum price constraints to be applied. If selected, you must enter values for the minimum price change amount or percentage. The intention is to avoid price recommendations that are too close to the original price. Accepting small price changes may prove ineffective because the price of modifying the original price may be higher than the benefit. Make sure the minimum price change is within the range defined by the Max Price Down and Max Price Up constraints. Note that this is a priority 1 constraint. If it can not be satisfied, the solution will not recommend any price.

Table 5–6 (Cont.) Item Level Worksheet Measures

Measure	Description
Minimum Price Change Amount	Use this measure to set the minimum price change allowed for an item. For example, for an item with an original cost of $9.99, you may not want to get a price recommendation that is less than 10.49, yielding a minimum price change amount of $0.50.
Minimum Price Change %	Use this measure to set the minimum price change percentage allowed for an item. For example, for an item with an original cost of $9.99, you may not want to get a price recommendation that is less than 10.49, yielding a minimum price change percent of 5%.
Default Margin Constraint Level	This read-only measure displays the default priority level that you set for the margin constraint in the Default Constraint Priority Setting Tab.
Default Max % Price Change Level	This read-only measure displays the default priority level that you set for the maximum percentage price change constraint in the Default Constraint Priority Setting Tab.
Default Max Price % Down	The data in this measure is imported from the APC-RPO application. It defines the maximum price percent decrease in the history.
Default Max Price % Up	The data in this measure is imported from the APC-RPO application. It defines the maximum price percent increase in the history.
Default Price Constraint Level	This read-only measure displays the default priority level you set for the price constraint in the Default Constraint Priority Setting Tab.
Item No Touch Period	Use this measure to set the minimum number of periods that have to elapse from the last date a price recommendation was approved until a new price can be recommended for an item. For instance, an item had a price recommendation on September 1st and the No Touch Period is set to 4 (weeks). This translates into a Price Hold constraint for the next 4 weeks, or until September 30th. However, in the Price Analysis workbook, in the Item Constraints worksheet, the user can override the Price Hold constraint. Also, the constraint's priority can be changed so the solver can relax it when optimizing the prices.
Item Self Elasticity	This measure displays the item's self elasticity in the given location.
Last Price Change Date	This measure displays the date when a recommended or user price was last approved for an item.
Margin Constraint Priority	Use this measure to override the default priority level for the margin constraint. The default priority level is displayed in the Default Margin Constraint Level measure.
Max % Price Change Priority	Use this measure to override the default priority level for the price change constraint. The default priority level is displayed in the Default Max % Price Change Level measure.
Max % Price Down	Use this measure to set the maximum percentage that the price can be decreased.
Max % Price Up	Use this measure to set the maximum percentage that the price can be increased.
Max Margin	Use this measure to set the maximum margin allowed for an item.
Max Price	Use this measure to set the maximum price allowed for an item.
Note	Enter a short description of the constraint.
Message	After RPO has run the optimization, this measure displays any rule relaxations or violations that occurred for the constraint.
Min Margin	Use this measure to set the minimum margin allowed for an item.
Min Price	Use this measure to set the minimum price allowed for an item.
Note	Use this measure to create a description of the constraint.
Original Cost	This read-only measure displays the original cost of the item.
Original Price	This read-only measure displays the original price of the item.

Table 5–6 (Cont.) Item Level Worksheet Measures

Measure	Description
Price Constraint Priority	Use this measure to override the default priority level for the price constraint. The default priority level is displayed in the Default Price Constraint Level measure.
Price Hold Override	This measure overrides the Price Hold measure. If you select to override, the value of Price Hold is flipped.
Price Hold (In No Touch Period)	This measure specifies if a certain number of weeks (set in the No Touch Period measure) have elapsed since the last time a price recommendation was approved for an item. If it is true it means that the number of weeks between the scenario start date and the date of the last price change is less than the value specified in the No Touch Period measure.
Price Ladder	This measure specifies which price ladder to use for an item at a certain price zone.
Self Elasticity Standard Error	The data in this measure is imported from the APC-RPO application. It displays the standard error information while calculating the self price elasticity for the given item/price zone in APC-RPO.
Self Elasticity T-Statistic	The data in this measure is imported from the APC-RPO application. It displays the T-statistic information while calculating the self price elasticity for the given item/price zone in APC-RPO.
Treat Min/Max Price as %	Select this option if the minimum and maximum prices should be treated as a percentage rather than an absolute value.

After you have created constraints for individual items as well as item groups, continue to the Inter–Item Constraints Tab.

Inter–Item Constraints Tab

This tab provides three worksheets that are used to create inter-item constraints.

- Item Linkage Override Worksheet
- Select Constraint Items and Item Group Levels Worksheets

Item Linkage Override Worksheet

Use this worksheet to override the item links you created in the Item Linkage Worksheet in the Item Management Workbook. The item links you created previously were for all scenarios. In this worksheet, however, you can create item links for specific scenario, location, and inter-item constraint combinations. For instance, if you want to create an inter-item constraint that defines a relationship between halved peaches and sliced peaches for a specific scenario, you can link those items here.

For more information about item links in general, see the Item Linkage Worksheet section.

Figure 5–9 Item Link Group Overrides Worksheet

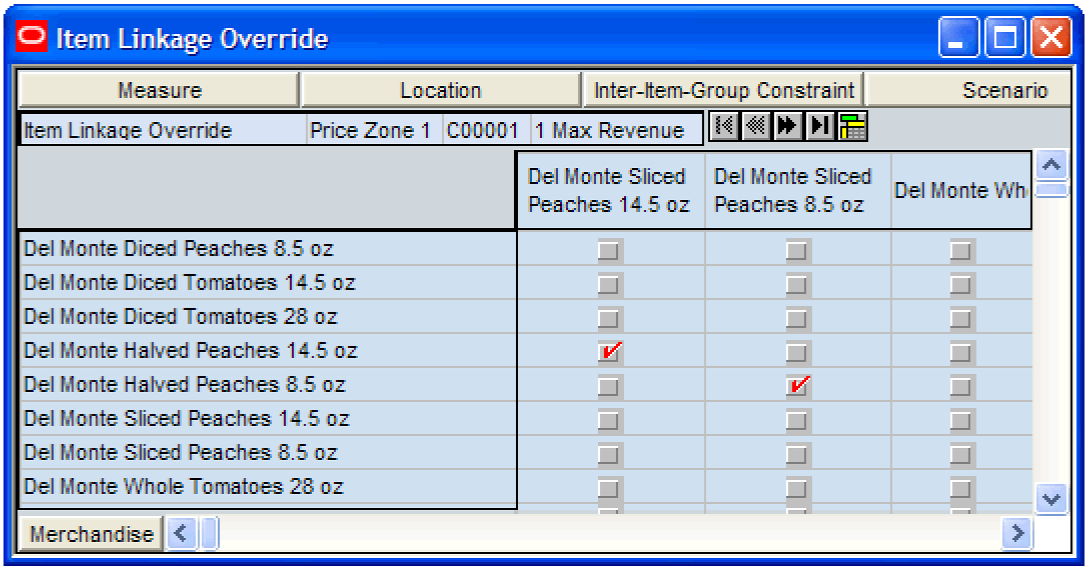


Table 5–7 lists the measure in this worksheet.

Table 5–7 Item Link Group Overrides Worksheet Measures

Measure	Description
Item Linkage Override	Use this measure to override item links at the scenario/location/inter-item constraint level. These links override the default item links you made at the all scenario level in the Item Linkage Worksheet.

Select Constraint Items and Item Group Levels Worksheets

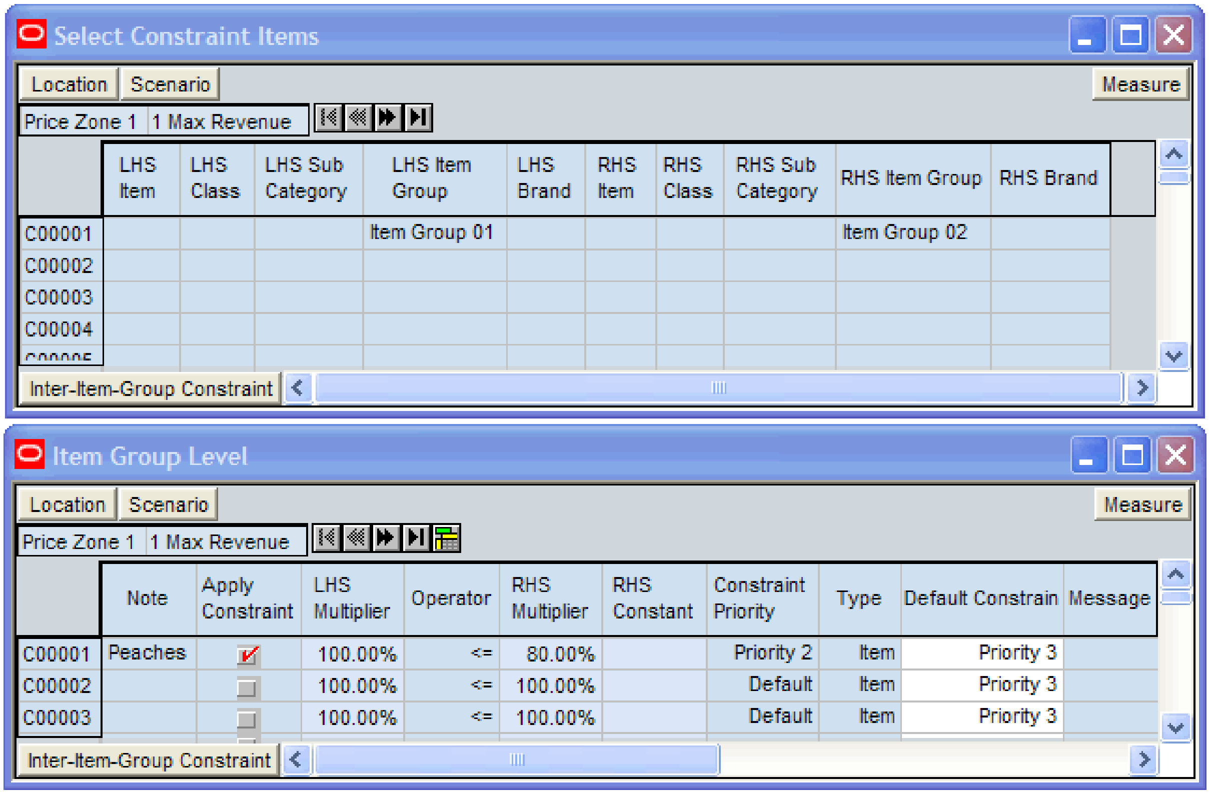
Note: The Select Constraint Items and Item Group Level worksheets are shown together so that you can see how they are related.

Use the Select Constraint Items and Item Group Level worksheets to create inter-item constraints. An inter-item constraint describes a relationship among items. For instance, you could create an inter-item constraint that specifies 8.5 oz. canned peaches items be less expensive than the 14.5 oz. canned peaches items.

For the inter-item constraint to work properly, specific 8.5 oz. items need to be linked to specific 14.5 oz. items. Even though you want the 8.5 oz. items to be less expensive than the 14.5 oz. items, you may not want the most expensive 8.5 oz. item (such as name brand peaches) to be less expensive than the cheapest 14.5 oz. peaches (such as store brand peaches). Therefore, you should link the name brand 8.5 oz. peaches to the name brand 14.5 oz. peaches and do the same for the store brand 14.5 oz. peaches using the Item Linkage Override Worksheet. That way, when you create the constraint that states 8.5 oz. peaches should be less expensive than 14.5 oz. peaches, RPO will use the inter-item linkages to ensure that the correct items are compared.

In this example, using the Select Constraint Items worksheet, you would specify Item Group 01 (8.5 oz. peaches) in the LHS (Left Hand Side) Item Group measure and Item Group 02 (14.5oz. peaches) in the RHS (Right Hand Side) Item Group measure. In Figure 5–10, these item groups were specified in the C00001 constraint.

Figure 5–10 Select Constraint Items and Item Group Level Worksheets



Then, in the Item Group Level worksheet, in the same C00001 constraint, you would specify how much less expensive the 8.5 oz. peaches should be. In Figure 5–10, it is specified that all 8.5 oz. canned peach items have prices that are less than 80% of the 14.5 oz. canned peach item prices.

You can select specific items, class, sub categories, item groups, brands, or a combination of those as the LHS or RHS component. You can enter multiple constraints that have the same item as the LHS or RHS component.

To create inter-item constraints, perform the following steps:

1. In the Select Constraint Items worksheet, select the LHS component or components for one of the constraints. You can select an item, class, sub category, item group, brand, or combination of those components.
2. Select the RHS component or components.
3. In the Item Group Level worksheet, enter a description for the same constraint in steps 1 and 2.
4. Using the LHS Multiplier, Operator, RHS Multiplier, and RHS Constant measures, create the constraint rule:
   - LHS Multiplier: Use this measure to specify the percentage of the LHS item price to be used in the constraint equation.
   - Operator: Use this measure to specify one of the following operators: less than or equal to, equal, or greater than or equal.
   - RHS Multiplier: Use this measure to specify the percentage of the RHS item price to be used in the constraint equation.

- RHS Constant: Use this measure to add or subtract an amount from the right hand side of the equation. For instance, if the constraint equation specifies

  ```
  LHS 100% = RHS 100% , RHS Constant -$0.20
  ```

  then LHS item would be $0.20 less than the RHS item.

5. In the Constraint Priority measure, enter the priority level for the constraint. Use the Default Constraint Level measure as a reference. For more information about constraints, see the Default Priority Setting Worksheet section.
6. In the Type measure, enter the aspect of the constraint items you are comparing. Options are Item (the item as a whole), UOM (the item's unit of measure), and EUOM (item's equivalent unit of measure).
7. If you want to apply the constraint to the optimization, select the check box in the Apply Constraint measure. Otherwise, the constraint can be saved in this worksheet for later use.

Table 5–8 lists the measures in this worksheet.

Table 5–8 Select Item Constraints Worksheet Measures

Measure	Description
LHS Brand	Use this measure to specify the brand used on the left hand side of the equation. This measure can be used in combination with any other LHS measure.
LHS Class	Use this measure to specify the class used on the left hand side of the equation. This measure can be used in combination with any other LHS measure.
LHS Item	Use this measure to specify the item used on the left hand side of the equation. This measure can be used in combination with any other LHS measure.
LHS Item Group	Use this measure to specify the item group used on the left hand side of the equation. This measure can be used in combination with any other LHS measure.
LHS Sub Category	Use this measure to specify the sub category used on the left hand side of the equation. This measure can be used in combination with any other LHS measure.
RHS Brand	Use this measure to specify the brand used on the right hand side of the equation. This measure can be used in combination with any other RHS measure.
RHS Class	Use this measure to specify the class used on the right hand side of the equation. This measure can be used in combination with any other RHS measure.
RHS Item	Use this measure to specify the item used on the right hand side of the equation. This measure can be used in combination with any other RHS measure.
RHS Item Group	Use this measure to specify the item group used on the right hand side of the equation. This measure can be used in combination with any other RHS measure.
RHS Sub Category	Use this measure to specify the sub category used on the right hand side of the equation. This measure can be used in combination with any other RHS measure.

Table 5–9 lists the measures in this worksheet.

Table 5–9 Item Group Level Worksheet Measures

Measure	Description
Apply Constraint	Select this option to apply the inter-item constraint to the optimization.
Constraint Priority	Use this measure to specify the priority level for the constraint.
LHS Multiplier	Use this measure to specify the percentage of the LHS item price to be used in the constraint equation.

Table 5–9 (Cont.) Item Group Level Worksheet Measures

Measure	Description
Message	After RPO has run the optimization, this measure displays any rule relaxations or violations that occurred for the constraint.
Note	Use this measure to enter a description of the constraint.
Operator	Use this measure to specify the operator that relates the LHS to the RHS.
RHS Constant	Use this measure to specify the amount to add or subtract from the RHS price.
RHS Multiplier	Use this measure to specify the percentage of the RHS item price to be used in the constraint equation.
Type	Use this measure to specify the constraint type. This field determines how relationships are handled between items. Relationships can be defined according to item, UOM, or EUOM. **Item**: Item to related item (Brand X pen to Brand Y pen) **UOM**: Unit of measures (24-pack to 6-pack) **EUOM**: Equivalent units (24.6 oz. to 32.8 oz.)

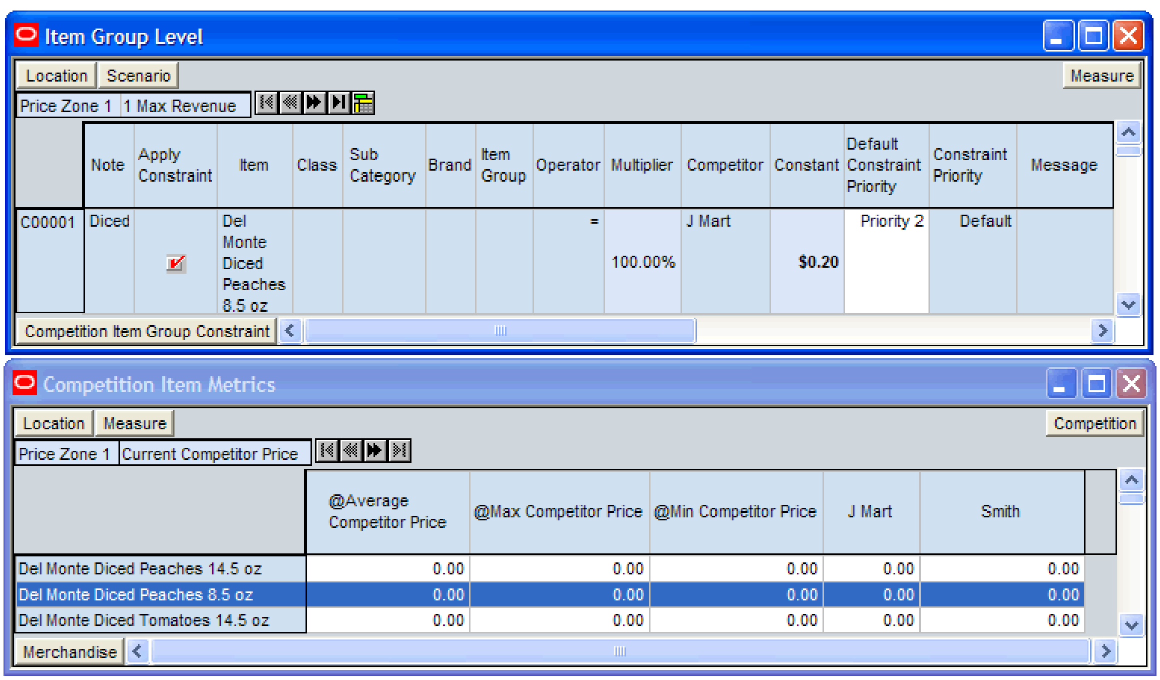
Competition Constraints Tab

This tab provides two worksheets to create competition constraints: Item Group Level and Competition Item Metrics.

Item Group Level and Competition Item Metrics Worksheets

Use the Item Group Level and Competition Item Metrics worksheets to create competition constraints at the item group level. Competition constraints describe a relationship among your items and the competitor items. For instance, you could create a competition constraint that specifies that your canned peach item is priced less expensive than a competitor's.

Figure 5–11 Item Group Level and Competition Item Metrics Worksheets



Before creating competitor constraints, review the Competition Item Metrics worksheet to see the competitor prices and metrics. Then, use the Item Group Level worksheet to create constraints around those competitor prices and metrics.

To create competitor constraints, perform the following steps in the Item Group Level worksheet:

1. In the Note measure, enter a short description of the constraint.
2. Select the item component or components for the constraint equation. You can select an item, class, sub category, item group, brand, or combination of these components.
3. In the Operator measure, select the operator for the equation. The options are less than or equal to, equal, and greater than or equal.
4. In the Competitor measure, select the competitor or competitor metric that you want to compare the item to.
5. In the Multiplier measure, specify the percentage of the competitor's item price to be used in the constraint equation.
6. In the Constant measure, enter the amount to add or subtract from the competitor side of the equation. For instance, if the constraint equation specifies

   ```
   Item 100% = Competitor A 100% , Constant $0.20
   ```

   then the competitor item would be at least $0.20 more than your item item.
7. In the Constraint Priority measure, enter the priority level for the constraint. Use the Default Constraint Level measure as a reference. For more information about constraints, see the Default Priority Setting Worksheet section.
8. If you want to apply the constraint to the optimization, select the check box in the Apply Constraint measure. Otherwise, the constraint can be saved in this worksheet for later use.

Table 5–10 lists the measures in this worksheet.

Table 5–10 Item Group Level Worksheet Measures

Measure	Description
Apply Constraint	Select this option to apply the competition constraint to the optimization.
Brand	Use this measure to specify the brand to be used in the constraint equation. This measure can be used in combination with any product measure.
Class	Use this measure to specify the class to be used in the constraint equation. This measure can be used in combination with any product measure.
Constraint Priority	Use this measure to override the default priority level for the competition constraint. The default priority level is displayed in the Default Constraint Level measure.
Default Constraint Level	This read-only measure displays the priority level you set for all competition constraints in the Default Priority Setting Worksheet.
Item	Use this measure to specify your item to be used in the constraint equation. This measure can be used in combination with any product measure.
Item Group	Use this measure to specify the item group to be used in the constraint equation. This measure can be used in combination with any product measure.
Message	After RPO has run the optimization, this measure displays any rule relaxations or violations that occurred for the constraint.

Table 5–10 (Cont.) Item Group Level Worksheet Measures

Measure	Description
Multiplier	Use this measure to specify the percentage of the competitor item price or metric to be used in the constraint equation.
Note	Use this measure to enter a description of the constraint.
Operator	Use this measure to specify the operator that relates the LHS with the RHS merchandise.
RHS Constant	Use this measure to specify the amount to add or subtract from the competitor price or metric.
Sub Category	Use this measure to specify the sub category to be used in the constraint equation. This measure can be used in combination with any product measure.

Table 5–11 lists the measure in this worksheet.

Table 5–11 Competition Item Metrics Worksheet Measures

Measure	Description
Current Competitor Price	The current price of the competitor item at a particular location. This is a read-only measure. This data is loaded during the batch load process.

After you have set the competition constraints, continue to the Optimization Dashboard Tab to run the optimization of scenarios and review the results.

Optimization Dashboard Tab

Use the worksheets in this tab to select the scenarios to optimize, copy scenario selections, and worksheet the optimization and validation status of the optimization run.

This tab contains these worksheets:

- Group Objective Diagnostics Worksheet
- Scenario Objective Diagnostics Worksheet
- Select Scenario Worksheet
- Select Price Zones Worksheet
- Copy Scenario Selection Worksheet
- Optimization/Validation Status Worksheet
- Item Constraints Diagnostics Worksheet

Group Objective Diagnostics Worksheet

Use this read-only worksheet to review the desired and recommended item group objectives. If the objective for a certain metric is not met, a message is displayed.

Figure 5–12 Group Objective Diagnostics Worksheet

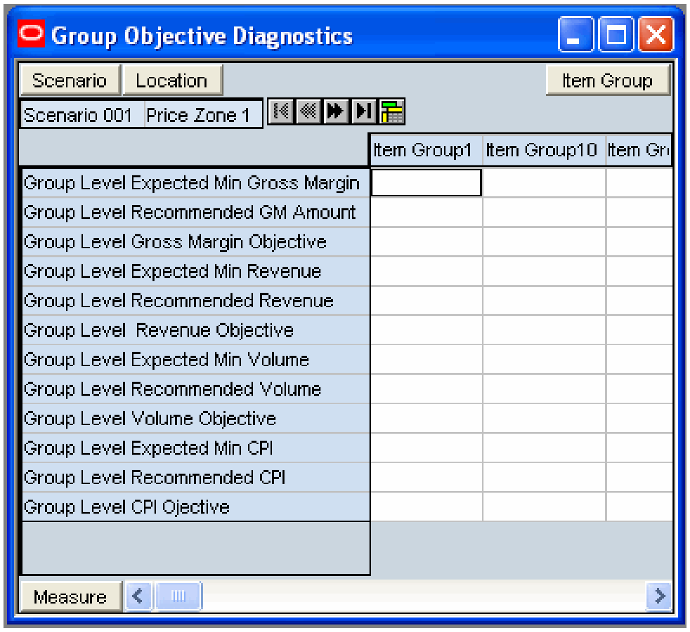


Table 5–12 lists the measures in this worksheet.

Table 5–12 Group Objective Diagnostics Worksheet Measures

Measure	**Description**
Group Level Expected Min Gross Margin	This measure represents the lesser of the Group Level Min Gross Margin and Group Level Min Gross Margin (% of Current) objectives set in the Group Goals and Constraints Worksheet.
Group Level Expected Min Revenue	This measure represents the lesser of the Group Level Min Revenue and Group Level Min Revenue (% of Current) objectives set in the Group Goals and Constraints Worksheet.
Group Level Expected Min Volume	This measure represents the lesser of the Group Level Min Volume and Group Level Min Volume (% of Current) objectives set in the Group Goals and Constraints Worksheet.
Group Level Gross Margin Objective	This measure indicates whether or not the objective was met, that is, if the recommended gross margin is higher than the expected gross margin. When the objective is met, no message is displayed. When the objective is not met, the message displays, *Relaxed*.
Group Level Recommended CPI	This measure represents the CPI achieved with the recommended prices for the selected item group.
Group Level Recommended GM Amount	This measure represents the gross margin achieved with the recommended prices for the selected item group.
Group Level Recommended Revenue	This measure represents the revenue achieved with the recommended prices for the selected item group.

Table 5–12 (Cont.) Group Objective Diagnostics Worksheet Measures

Measure	Description
Group Level Recommended Volume	This measure represents the volume achieved with the recommended prices for the selected item group.
Group Level Revenue Objective	This measure indicates whether or not the objective was met, that is, if the recommended revenue is higher than the expected revenue When the objective is met, no message is displayed. When the objective is not met, the message displays, *Relaxed*.
Group Level Volume Objective	This measure indicates whether or not the objective was met, that is, if the recommended volume is higher than the expected revenue When the objective is met, no message is displayed. When the objective is not met, the message displays, *Relaxed*.

Scenario Objective Diagnostics Worksheet

Use this read-only worksheet to review the desired and recommended scenario objectives. If the objective for a certain metric is not met, a message is displayed.

Figure 5–13 Scenario Objective Diagnostics Worksheet

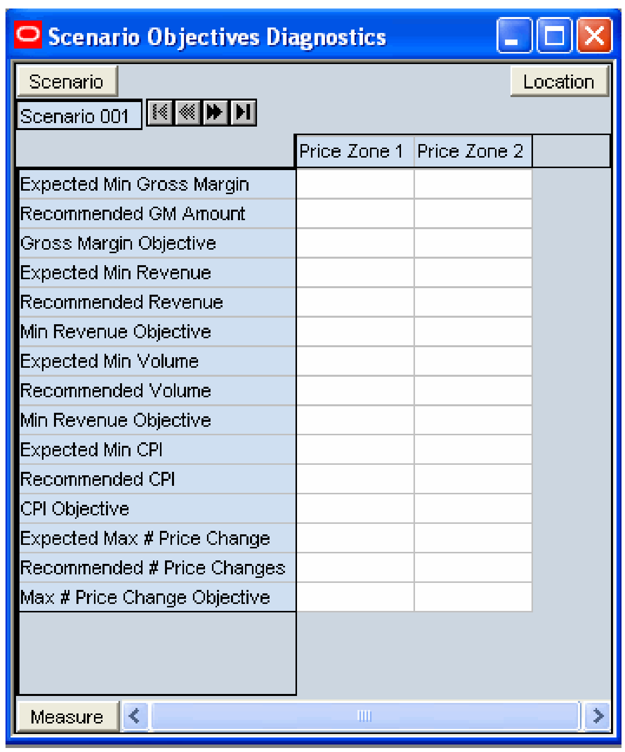


Table 5–13 lists the measures in this worksheet.

Table 5–13 Scenario Objective Diagnostics Measures

Measure	Description
Expected Max % Price	This measure represents the lesser of the Max # Price Changes (Absolute) and Max # Price Changes (% of Total Prices) objectives set in the Scenario Goals and Constraints Worksheet.
Expected Min Gross Margin	This measure represents the lesser of the Min Gross Margin (Absolute) and Min Gross Margin (% of Original) objectives set in the Scenario Goals and Constraints Worksheet.
Expected Min Revenue	This measure represents the lesser of the Min Revenue (Absolute) and Min Revenue (% of Original) objectives set in the Scenario Goals and Constraints Worksheet.
Expected Min Volume	This measure represents the lesser of the Min Volume (Absolute) and Min Volume (% of Original) objectives set in the Scenario Goals and Constraints Worksheet.
Gross Margin Objective	This measure indicates whether or not the objective was met, that is, if the recommended gross margin is higher than the expected gross margin. When the objective is met, no message is displayed. When the objective is not met, the message displays, *Relaxed*.
Max # Price Change	This measure indicates whether or not the objective was met, that is, if the recommended number of price changes is less than the expected number of price changes. When the objective is met, no message is displayed. When the objective is not met, the message displays, *Relaxed*.
Min Revenue Objective	This measure indicates whether or not the objective was met, that is, if the recommended revenue is higher than the expected revenue. When the objective is met, no message is displayed. When the objective is not met, the message displays, *Relaxed*.
Min Volume Objective	This measure indicates whether or not the objective was met, that is, if the recommended volume is higher than the expected revenue. When the objective is met, no message is displayed. When the objective is not met, the message displays, *Relaxed*.
Recommended # Price	This measure represents the actual number of price changes for the selected scenario.
Recommended GM Amount	This measure represents the gross margin achieved with the recommended prices for the selected scenario.
Recommended Revenue	This measure represents the revenue achieved with the recommended prices for the selected scenario.
Recommended Volume	This measure represents the volume achieved with the recommended prices for the selected scenario.

Select Scenario Worksheet

Use this worksheet to select the scenario you want to optimize.

Figure 5–14 Select Scenario Worksheet

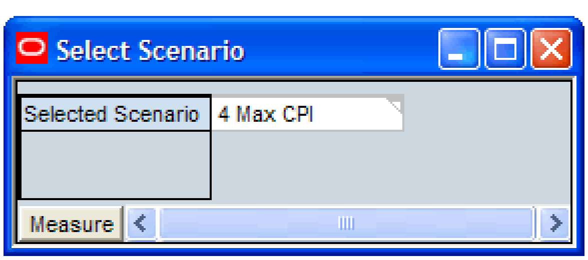


Table 5–14 lists the measure in this worksheet.

Table 5–14 Select Scenario Worksheet Measure

Measure	**Description**
Selected Scenario	Use this measure to select the scenario to optimize.

After you have selected the scenario, click **Calculate**. Then, continue to the Select Price Zones Worksheet.

Select Price Zones Worksheet

Use this worksheet to select the price zones of the scenario selected in the Select Scenario Worksheet that you want to optimize.

Figure 5–15 Select Price Zones Worksheet

Table 5–15 lists the measure in this worksheet.

Table 5–15 Select Price Zones Worksheet Measure

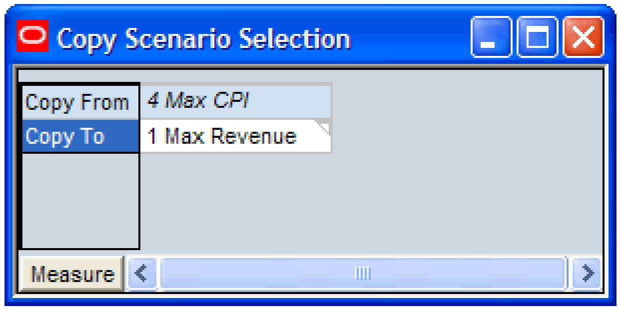
Measure	**Description**
Selected Price Zones	Use this measure to select the price zones of the scenario selected in the Select Scenario worksheet.

After you have selected the price zones, continue to the Copy Scenario Selection Worksheet.

Copy Scenario Selection Worksheet

If you want to create a scenario that is similar to one you have already created, you can use this worksheet to copy the constraints of one scenario to another.

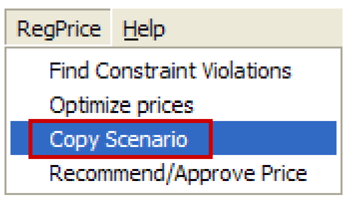
Figure 5–16 Copy Scenario Selection Worksheet



To copy a scenario selection, perform the following steps:

1. In the Copy From measure, select the scenario that has the constraints you want to copy to another scenario.
2. In the Copy To measure, select the scenario to receive the copied constraints.
3. From the RegPrice menu, click **Copy Scenario**.

Figure 5–17 Copy Scenario Option



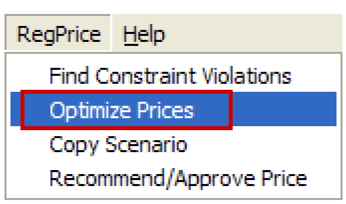
After you have copied the scenario selections, you can return to the previous tabs in the Price Analysis workbook to customize the new scenario.

When finished copying scenarios, continue to the Optimization/Validation Status Worksheet.

Optimization/Validation Status Worksheet

After you have selected the scenario and price zones you want to optimize, click the **Optimize Prices** option in the RegPrice menu (Figure 5–18). RPO will run the optimization on the selected scenario/price zone combinations.

Figure 5–18 Optimize Prices Option



Then, use the Optimization/Validation Status worksheet to review the results. The optimization measures display the optimization results. The validation measures describe the What-if scenarios you created in the Price Entry Worksheet.

Figure 5–19 Optimization/Validation Status Worksheet

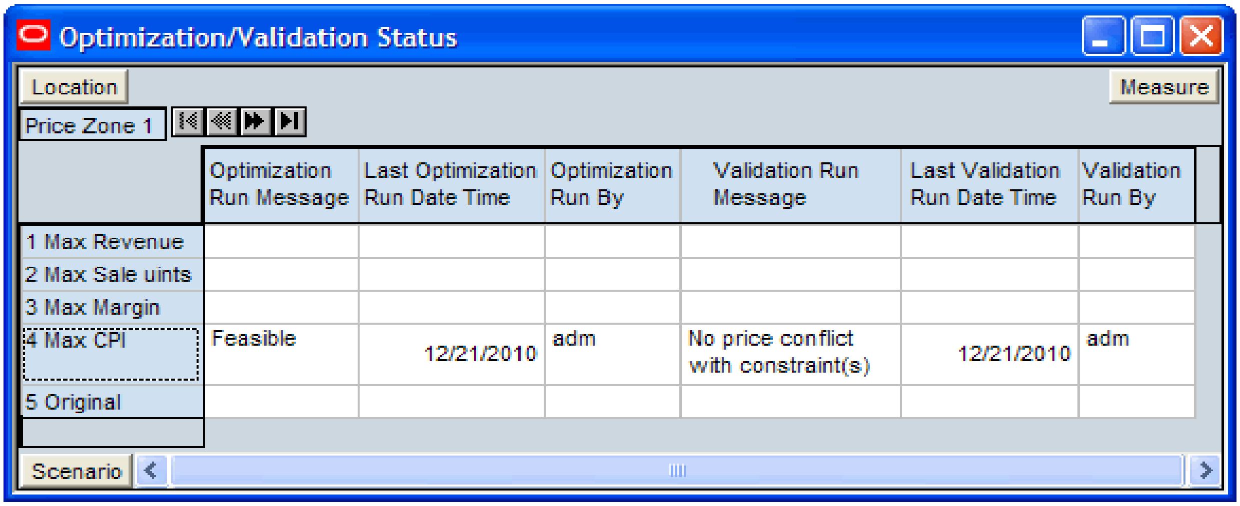


Table 5–16 lists the measures in this worksheet.

Table 5–16 Optimization/Validation Status Worksheet Measures

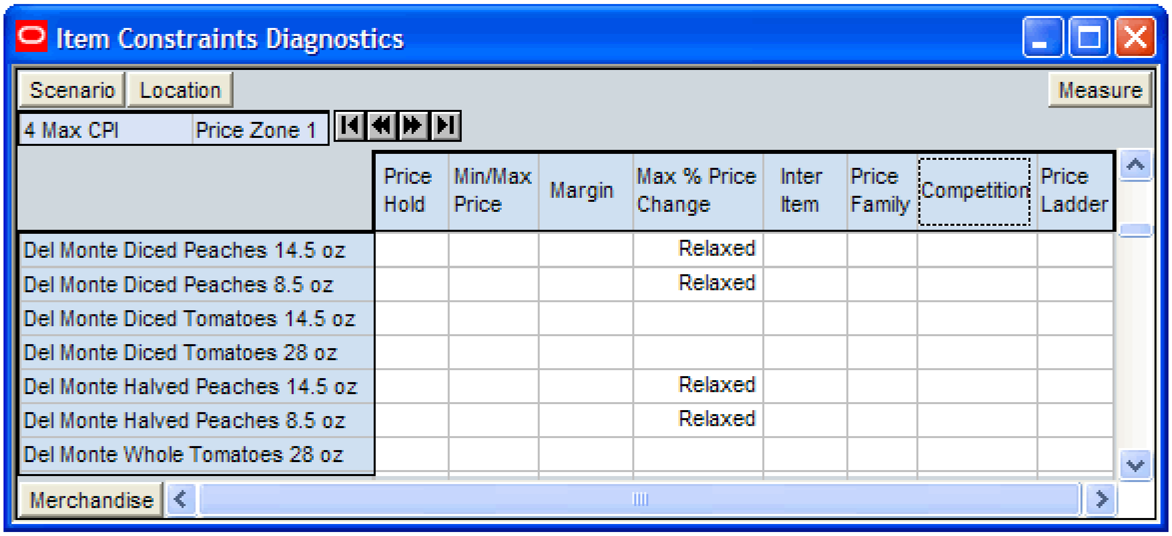
Measure	Description
Last Optimization Run Date Time	This measure displays the last date that the optimization was run.
Last Validation Run Date Time	This measure displays the last date that the validation was run.
Optimization Run By	This measure displays the user who ran the last optimization.
Optimization Run Message	This measure displays the results of the optimization run. The results are messages such as Feasible, Range infeasibility, and so on.
Validation Run By	This measure displays the user who ran the last validation.
Validation Run Message	This measure displays the results of the validation run.

After you have reviewed the results of the optimization or validation, continue to the Item Constraints Diagnostics Worksheet to see if any constraints were relaxed to attain the optimization.

Item Constraints Diagnostics Worksheet

Use this read-only worksheet to review the constraints that were relaxed or violated for items in the scenario/location combination.

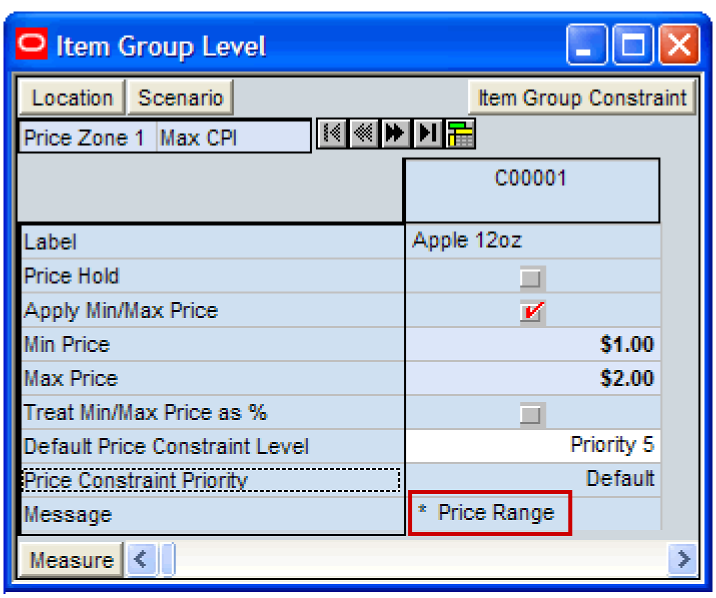
Figure 5–20 Item Constraints Diagnostics Worksheet



If a constraint was relaxed or violated for an item, as shown in Figure 5–20, return to that constraint tab to see more details about the relaxation or violation.

For example, many of the items in Item Group 01 were relaxed. This item group had a minimum/maximum price constraint applied to it. In Figure 5–21, the Message measure for this constraint shows that the price range was the aspect of the constraint that was relaxed to achieve the Max CPI (Competitive Price Index) optimization.

Figure 5–21 Relaxed Constraints Example



To see the optimization results at a high level, continue to the Recommendations and What–If Tab.

Recommendations and What–If Tab

This tab is used to analyze price recommendations beside the What-if price overrides. These metrics include gross margin dollars, volume, revenue, and CPI (Competitive

Price Index). The workbook also includes the percent change from the original and recommended prices and the total number of price changes made in each case.

The Recommendations and What-if tab contain five worksheets:

- Group Metrics Worksheet
- Scenario Metrics Worksheet
- Detail Metrics Worksheet
- Price Entry Worksheet
- Recommend and Approve Scenario Worksheet
- Future Plan Metrics Worksheet

Group Metrics Worksheet

Use this worksheet to review the results of the optimization at the price zone and item group level. This worksheet displays data about the original, recommended, and user (What-if) simulations.

After reviewing this worksheet, continue to the Detail Metrics Worksheet.

Figure 5–22 Group Metrics Worksheet

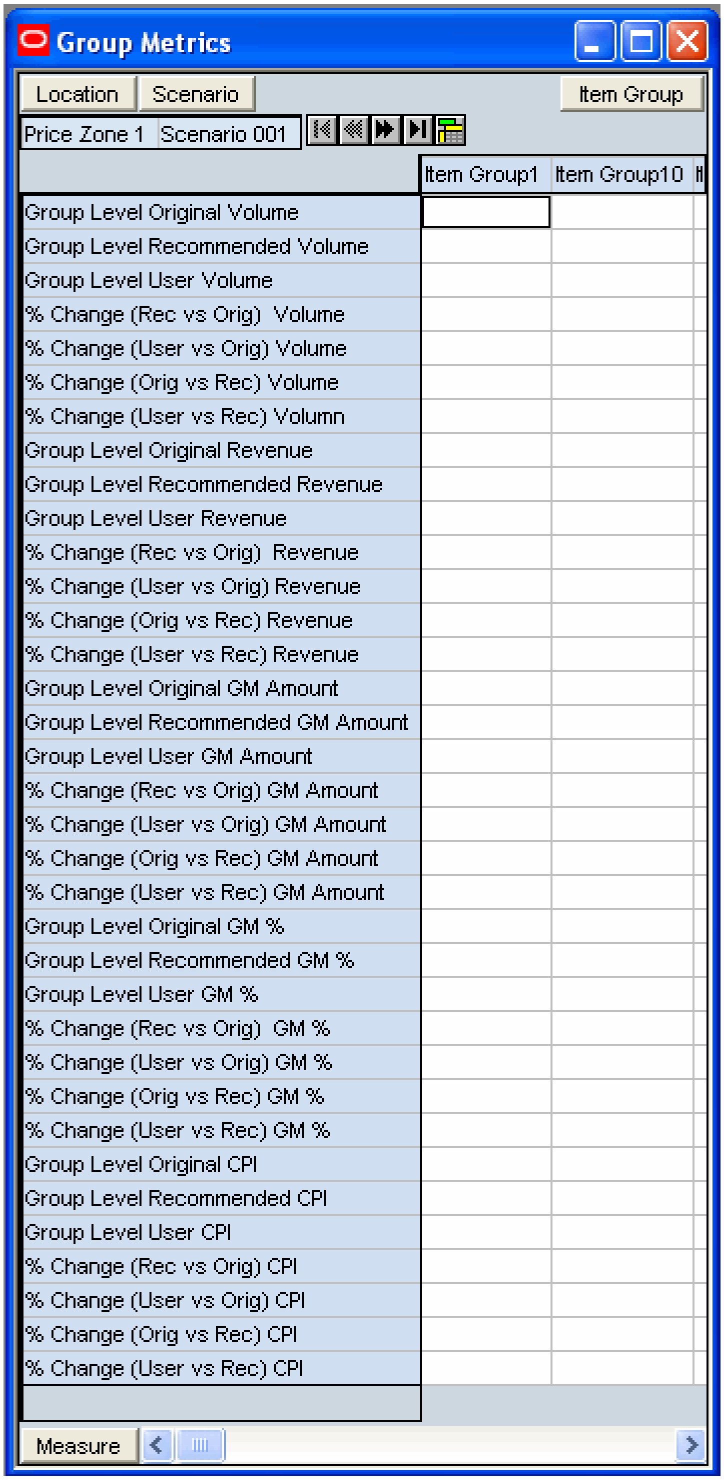


Table 5–17 lists the measures in this worksheet.

Table 5–17 Group Metrics Worksheet Measures

Measure	Description
% Change (Orig vs Rec) CPI	The percent of change between the original and recommended Competitive Price Index for the items in the selected item group.
% Change (Orig vs Rec) GM %	The percent of change between the original and recommended gross margin percentage for the items in the selected item group.
% Change (Orig vs Rec) GM Amount	The percent of change between the original and recommended gross margin for the items in the selected item group.
% Change (Orig vs Rec) Revenue	The percent of change between the original and recommended revenue for the items in the selected item group.
% Change (Orig vs Rec) Volume	The percent of change between the original and recommended volume for the items in the selected item group.
% Change (Rec vs Orig) CPI	The percent of change between the recommended and original Competitive Price Index for the items in the selected item group.
% Change (Rec vs Orig) GM %	The percent of change between the recommended and original gross margin percentage for the items in the selected item group.
% Change (Rec vs Orig) GM Amount	The percent of change between the recommended and original gross margin for the items in the selected item group.
% Change (Rec vs Orig) Revenue	The percent of change between the recommended and original revenue for the items in the selected item group.
% Change (Rec vs Orig) Volume	The percent of change between the recommended and original volume for the items in the selected item group.
% Change (User vs Orig) CPI	The percent of change between the What-if and recommended Competitive Price Index for the items in the selected item group.
% Change (User vs Orig) GM %	The percent of change between the What-if and recommended gross margin percentage for the items in the selected item group.
% Change (User vs Orig) GM Amount	The percent of change between the What-if and recommended gross margin for the items in the selected item group.
% Change (User vs Orig) Revenue	The percent of change between the What-if and recommended revenue for the items in the selected item group.
% Change (User vs Orig) Volume	The percent of change between the What-if and recommended volume for the items in the selected item group.
% Change (User vs Rec) CPI	The percent of change between the What-if and recommended Competitive Price Index for the items in the selected item group.
% Change (User vs Rec) GM %	The percent of change between the What-if and recommended gross margin percentage for the items in the selected item group.
% Change (User vs Rec) GM Amount	The percent of change between the What-if and recommended gross margin for the items in the selected item group.
% Change (User vs Rec) Revenue	The percent of change between the What-if and recommended revenue for the items in the selected item group.
% Change (User vs Rec) Volume	The percent of change between the What-if and recommended volume for the items in the selected item group.
Group Level Original CPI	The original Competitor Price Index loaded in the batch load for the items in the selected item group.
Group Level Original GM %	The original gross margin percentage loaded in the batch load for the items in the selected item group.
Group Level Original GM Amount	The original gross margin loaded in the batch load for the items in the selected item group.

Table 5–17 (Cont.) Group Metrics Worksheet Measures

Measure	Description
Group Level Original Revenue	The original revenue loaded in the batch load for the items in the selected item group.
Group Level Original Volume	The original volume loaded in the batch load for the items in the selected item group.
Group Level Recommended CPI	The Competitor Price Index that the optimization recommends for the items in the selected item group.
Group Level Recommended GM %	The gross margin percentage that the optimization recommends for the items in the selected item group.
Group Level Recommended GM Amount	The gross margin that the optimization recommends for the items in the selected item group.
Group Level Recommended Revenue	The revenue that the optimization recommends for the items in the selected item group.
Group Level Recommended Volume	The volume that the optimization recommends for the items in the selected item group.
Group Level User CPI	The Competitive Price Index that the What-if simulation recommends for the items in the selected item group.
Group Level User GM %	The gross margin percentage that the What-if simulation recommends for the items in the selected item group.
Group Level User GM Amount	The gross margin that the What-if simulation recommends for the items in the selected item group.
Group Level User Revenue	The revenue that the What-if simulation recommends for the items in the selected item group.
Group Level User Volume	The volume that the What-if simulation recommends for the items in the selected item group.

Scenario Metrics Worksheet

Use this worksheet to review the results of the optimization at the price zone level. This worksheet displays data about the original, recommended, and user (What-if) simulations. After reviewing this worksheet, continue to the Detail Metrics Worksheet.

Figure 5–23 Scenario Metrics Worksheet

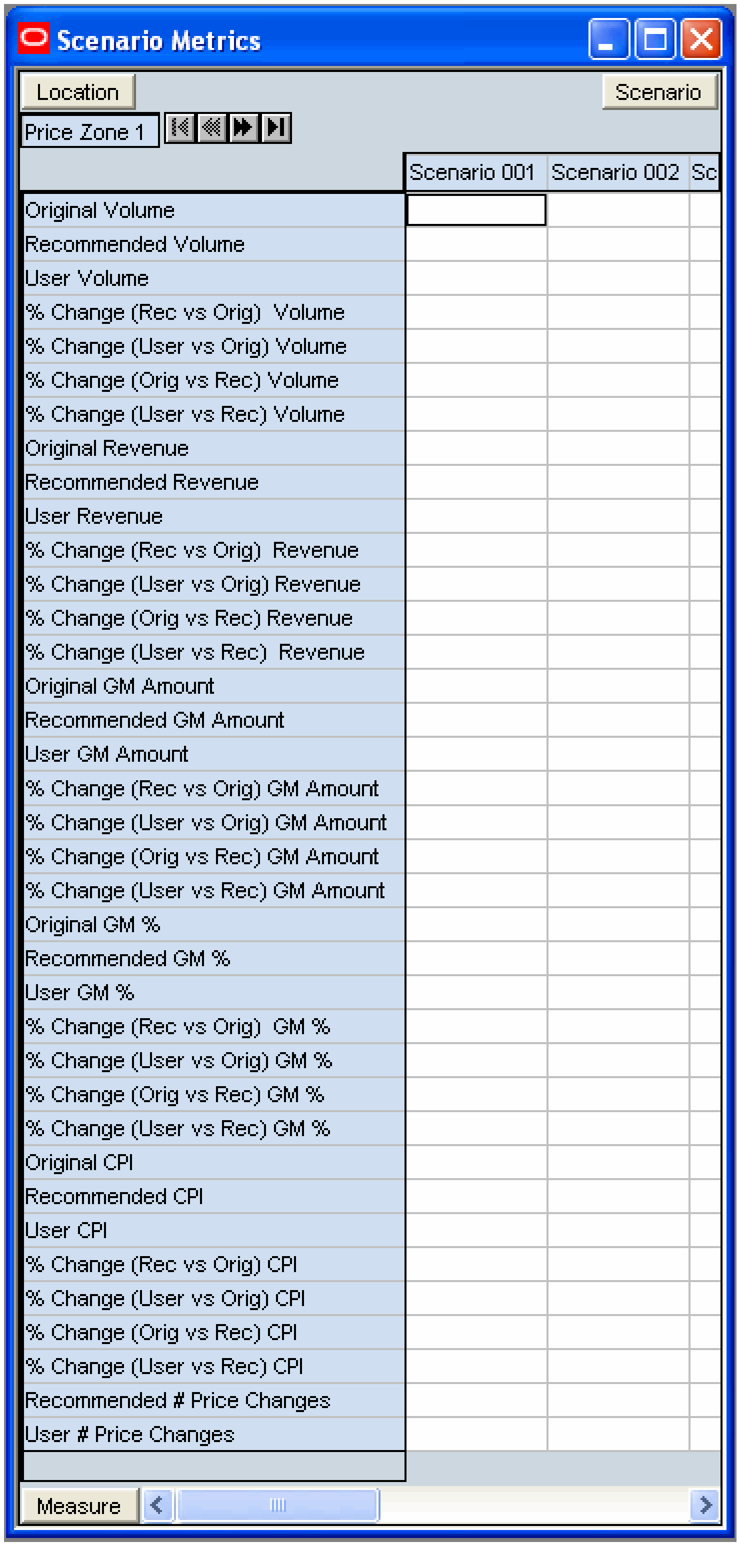


Table 5–18 lists the measures in this worksheet.

Table 5–18 Scenario Metrics Worksheet Measures

Measure	Description
% Change (Orig vs Rec) CPI	The percent of change between the original and recommended Competitive Price Index.
% Change (Orig vs Rec) GM %	The percent of change between the original and recommended gross margin percentage.
% Change (Orig vs Rec) GM %	The percent of change between the original and recommended gross margin percentage.
% Change (Orig vs Rec) GM Amount	The percent of change between the original and recommended gross margin.
% Change (Orig vs Rec) Revenue	The percent of change between the original and recommended revenue.
% Change (Orig vs Rec) Volume	The percent of change between the original and recommended volume.
% Change (Rec vs Orig) CPI	The percent of change between the recommended and original Competitive Price Index.
% Change (Rec vs Orig) GM %	The percent of change between the recommended and original gross margin percentage.
% Change (Rec vs Orig) GM %	The percent of change between the recommended and original gross margin percentage.
% Change (Rec vs Orig) GM Amount	The percent of change between the recommended and original gross margin.
% Change (Rec vs Orig) Revenue	The percent of change between the recommended and original revenue.
% Change (Rec vs Orig) Volume	The percent of change between the recommended and original volume.
% Change (User vs Orig) CPI	The percent of change between the What-if and recommended Competitive Price Index.
% Change (User vs Orig) GM %	The percent of change between the What-if and recommended gross margin percentage.
% Change (User vs Orig) GM %	The percent of change between the What-if and recommended gross margin percentage.
% Change (User vs Orig) GM Amount	The percent of change between the What-if and recommended gross margin.
% Change (User vs Orig) Revenue	The percent of change between the What-if and recommended revenue.
% Change (User vs Orig) Volume	The percent of change between the What-if and recommended volume.
% Change (User vs Rec) CPI	The percent of change between the What-if and recommended Competitive Price Index.
% Change (User vs Rec) GM %	The percent of change between the What-if and recommended gross margin percentage.
% Change (User vs Rec) GM %	The percent of change between the What-if and recommended gross margin percentage.
% Change (User vs Rec) GM Amount	The percent of change between the What-if and recommended gross margin.
% Change (User vs Rec) Revenue	The percent of change between the What-if and recommended revenue.
% Change (User vs Rec) Volume	The percent of change between the What-if and recommended volume.
Original CPI	The original Competitor Price Index loaded in the batch load.
Original GM %	The original gross margin percentage loaded in the batch load.
Original GM %	The original gross margin percentage loaded in the batch load.

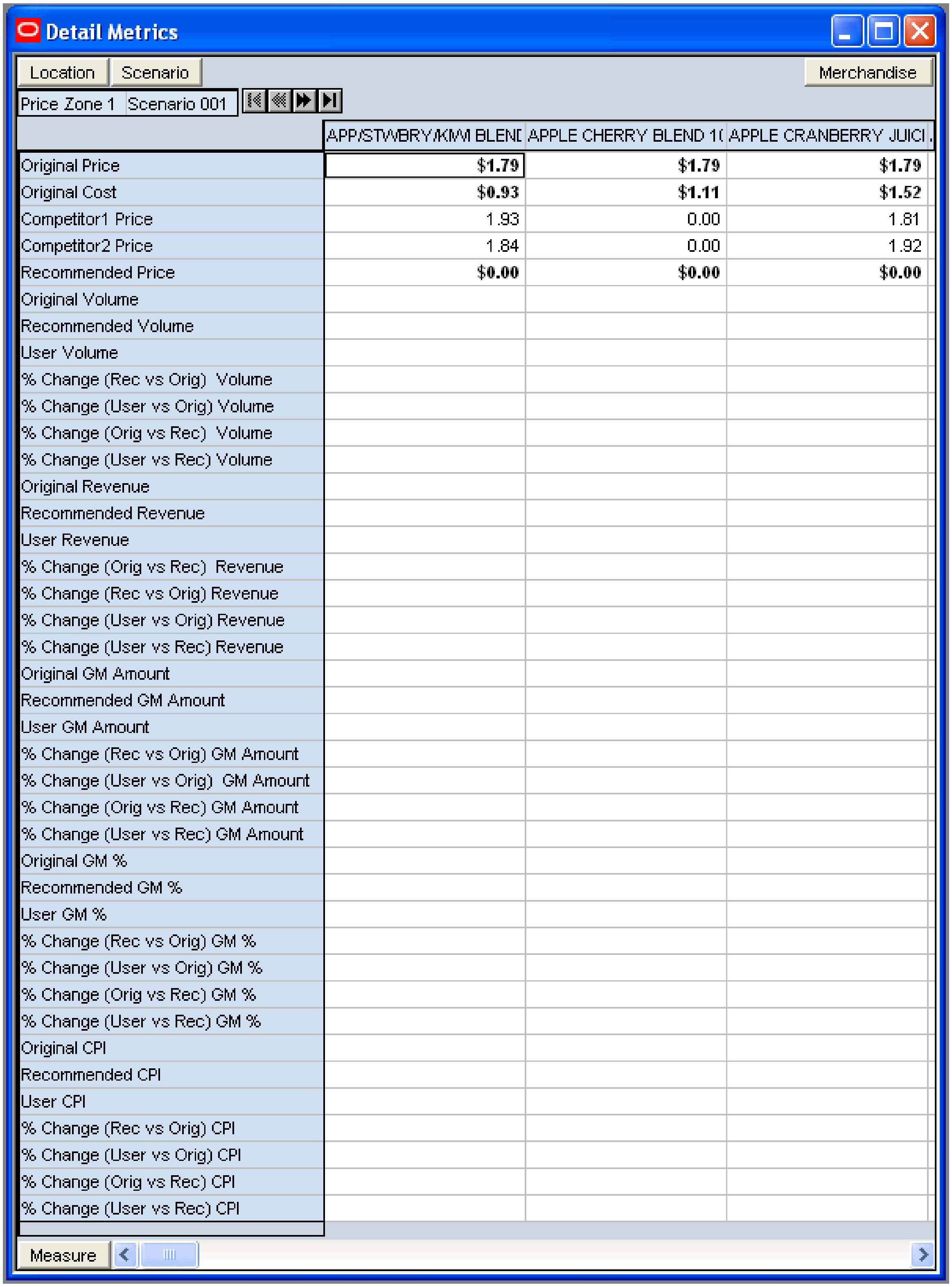
Table 5–18 (Cont.) Scenario Metrics Worksheet Measures

Measure	Description
Original GM Amount	The original gross margin loaded in the batch load.
Original Revenue	The original revenue loaded in the batch load.
Original Volume	The original volume loaded in the batch load.
Recommended CPI	The Competitor Price Index that the optimization recommends.
Recommended GM %	The gross margin percentage that the optimization recommends.
Recommended GM %	The gross margin percentage that the optimization recommends.
Recommended GM Amount	The gross margin that the optimization recommends.
Recommended Revenue	The revenue that the optimization recommends.
Recommended Volume	The volume that the optimization recommends.
User # Price Changes	The number of price changes that the What-if simulation changed.
User CPI	The Competitive Price Index that the What-if simulation recommends.
User GM %	The gross margin percentage that the What-if simulation recommends.
User GM %	The gross margin percentage that the What-if simulation recommends.
User GM Amount	The gross margin that the What-if simulation recommends.
User Revenue	The revenue that the What-if simulation recommends.
User Volume	The volume that the What-if simulation recommends.

Detail Metrics Worksheet

Use this worksheet to review the results of the optimization for each item. This worksheet displays data about the original, recommended, and user (What-if) simulations. After reviewing this worksheet, continue to the Price Entry Worksheet.

Figure 5–24 Detail Metrics Worksheet



	APP/STWBRY/KIWI BLENI	APPLE CHERRY BLEND 1(	APPLE CRANBERRY JUICI
Original Price	$1.79	$1.79	$1.79
Original Cost	$0.93	$1.11	$1.52
Competitor1 Price	1.93	0.00	1.81
Competitor2 Price	1.84	0.00	1.92
Recommended Price	$0.00	$0.00	$0.00
Original Volume			
Recommended Volume			
User Volume			
% Change (Rec vs Orig) Volume			
% Change (User vs Orig) Volume			
% Change (Orig vs Rec) Volume			
% Change (User vs Rec) Volume			
Original Revenue			
Recommended Revenue			
User Revenue			
% Change (Orig vs Rec) Revenue			
% Change (Rec vs Orig) Revenue			
% Change (User vs Orig) Revenue			
% Change (User vs Rec) Revenue			
Original GM Amount			
Recommended GM Amount			
User GM Amount			
% Change (Rec vs Orig) GM Amount			
% Change (User vs Orig) GM Amount			
% Change (Orig vs Rec) GM Amount			
% Change (User vs Rec) GM Amount			
Original GM %			
Recommended GM %			
User GM %			
% Change (Rec vs Orig) GM %			
% Change (User vs Orig) GM %			
% Change (Orig vs Rec) GM %			
% Change (User vs Rec) GM %			
Original CPI			
Recommended CPI			
User CPI			
% Change (Rec vs Orig) CPI			
% Change (User vs Orig) CPI			
% Change (Orig vs Rec) CPI			
% Change (User vs Rec) CPI			

Table 5–19 lists the measures in this worksheet.

Table 5–19 Detail Metrics Worksheet Measures

Measure	Description
% Change (Orig vs Rec) CPI	The percent of change between the original and recommended Competitive Price Index.
% Change (Orig vs Rec) GM %	The percent of change between the original and recommended gross margin percentage.
% Change (Orig vs Rec) GM %	The percent of change between the original and recommended gross margin percentage.
% Change (Orig vs Rec) GM Amount	The percent of change between the original and recommended gross margin.
% Change (Orig vs Rec) Revenue	The percent of change between the original and recommended revenue.
% Change (Orig vs Rec) Volume	The percent of change between the original and recommended volume.
% Change (Rec vs Orig) CPI	The percent of change between the recommended and original Competitive Price Index.
% Change (Rec vs Orig) GM %	The percent of change between the recommended and original gross margin percentage.
% Change (Rec vs Orig) GM %	The percent of change between the recommended and original gross margin percentage.
% Change (Rec vs Orig) GM Amount	The percent of change between the recommended and original gross margin.
% Change (Rec vs Orig) Revenue	The percent of change between the recommended and original revenue.
% Change (Rec vs Orig) Volume	The percent of change between the recommended and original volume.
% Change (User vs Orig) CPI	The percent of change between the What-if and recommended Competitive Price Index.
% Change (User vs Orig) GM %	The percent of change between the What-if and recommended gross margin percentage.
% Change (User vs Orig) GM %	The percent of change between the What-if and recommended gross margin percentage.
% Change (User vs Orig) GM Amount	The percent of change between the What-if and recommended gross margin.
% Change (User vs Orig) Revenue	The percent of change between the What-if and recommended revenue.
% Change (User vs Orig) Volume	The percent of change between the What-if and recommended volume.
% Change (User vs Rec) CPI	The percent of change between the What-if and recommended Competitive Price Index.
% Change (User vs Rec) GM %	The percent of change between the What-if and recommended gross margin percentage.
% Change (User vs Rec) GM %	The percent of change between the What-if and recommended gross margin percentage.
% Change (User vs Rec) GM Amount	The percent of change between the What-if and recommended gross margin.
% Change (User vs Rec) Revenue	The percent of change between the What-if and recommended revenue.
% Change (User vs Rec) Volume	The percent of change between the What-if and recommended volume.
Competitor 1 Price	Displays the price of Competitor 1.
Competitor 2 Price	Displays the price of Competitor 2.
Original Cost	The original cost of the item loaded in the batch load.

Table 5–19 (Cont.) Detail Metrics Worksheet Measures

Measure	Description
Original CPI	The original Competitive Price Index loaded in the batch load.
Original GM %	The original gross margin percentage loaded in the batch load.
Original GM %	The original gross margin percentage loaded in the batch load.
Original GM Amount	The original gross margin loaded in the batch load.
Original Price	The original price of the item loaded in the batch load.
Original Revenue	The original revenue loaded in the batch load.
Original Volume	The original volume of the item loaded in the batch load.
Recommended CPI	The Competitive Price Index that the optimization recommends.
Recommended GM %	The gross margin percentage that the optimization recommends.
Recommended GM %	The gross margin percentage that the optimization recommends.
Recommended GM Amount	The gross margin that the optimization recommends.
Recommended Revenue	The revenue that the optimization recommends.
Recommended Volume	The volume that the optimization recommends.
User CPI	The Competitive Price Index that the What-if simulation recommends.
User GM %	The gross margin percentage that the What-if simulation recommends.
User GM %	The gross margin percentage that the What-if simulation recommends.
User GM Amount	The gross margin that the What-if simulation recommends.
User Revenue	The revenue that the What-if simulation recommends.
User Volume	The volume that the What-if simulation recommends.

Price Entry Worksheet

Use this worksheet to perform What-if simulations by overriding recommended prices.

Figure 5–25 Price Entry Worksheet

Table 5–20 lists the measures in this worksheet.

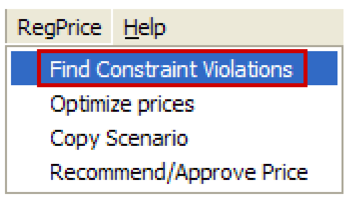
Table 5–20 Price Entry Worksheet Measures

Measures	Description
Original Price	A read-only measure that displays the original price of the item.
Recommended Price	A read-only measure that displays the item price recommended by the optimization.
User Price	Use this measure to enter a new price for the item. The value in this field is the recommended value unless you change it.

To create a What-if simulation, perform the following steps:

1. In the User Price measure, enter new prices for items.
2. Click **Calculate**. The optimization metrics such as user volume and revenue are calculated.
3. In the RegPrice menu, click **Find Constraint Violations**. This compares the user prices to the constraints.

Figure 5–26 Find Constraint Violations Option



Return to the Optimization/Validation Status Worksheet and review the validation measures to see if the What-if simulation is valid. Then, return to the Scenario Metrics Worksheet and Detail Metrics Worksheet and review the user measures to see the results of the What-if simulation. If you like the results, continue to the Recommend and Approve Scenario Worksheet.

Recommend and Approve Scenario Worksheet

If you like the results of the optimization or your What-if simulation, use this worksheet to recommended and approve a scenario. If you do not have the required permissions to recommend or approve scenarios, contact your administrator.

Notes:

- It is possible for a user to have permission to recommend a price but not to approve it. However, if a user has permission to approve a price, that user automatically has permission to recommend as well.
- For a user to be able to recommend or approve scenarios in this worksheet, that user must have permission. Permission is granted by enabling that user in the Recommend Price and Approve Price measures in the Measure Analysis workbook. This must be performed in a local domain.

Figure 5–27 Recommend and Approve Scenario Worksheet

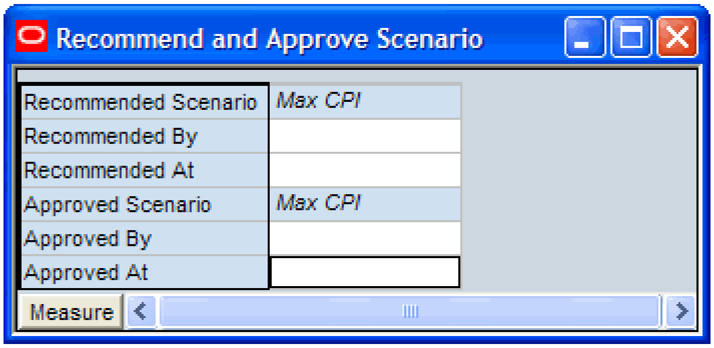


Table 5–21 lists the measures in this worksheet.

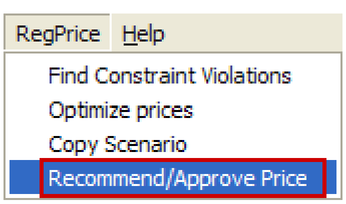
Table 5–21 Recommend and Approve Scenario Worksheet Measures

Measures	Description
Approved Scenario	Use this measure to approve the recommended scenario.
Recommended At	Displays the date of the last recommendation.
Recommended At	Displays the date of the last approval.
Recommended By	Displays the user name of the person who last recommended a scenario.
Recommended By	Displays the user name of the person who last approved a scenario.
Recommended Scenario	Use this measure to select the scenario you want to recommend.

To approve and recommend a scenario, perform the following steps:

1. In the Recommended Scenario measure, select the scenario to recommend.
2. If you have approval rights, use the Approved Scenario measure to approve the same scenario that you recommended. If you do not have approval rights, another user will review your recommendation and choose a scenario to approve.
3. In the RegPrice menu, select the **Recommend/Approve Price** option.

Figure 5–28 Recommend/Approve Price Option



The read-only measures are populated with the recommended and approved information. After you have recommended and approved the scenarios, continue to the Future Plan Metrics Worksheet to review the future plan metrics.

Future Plan Metrics Worksheet

Use this worksheet to review the future plan metrics.

Figure 5–29 Future Plan Metrics Worksheet

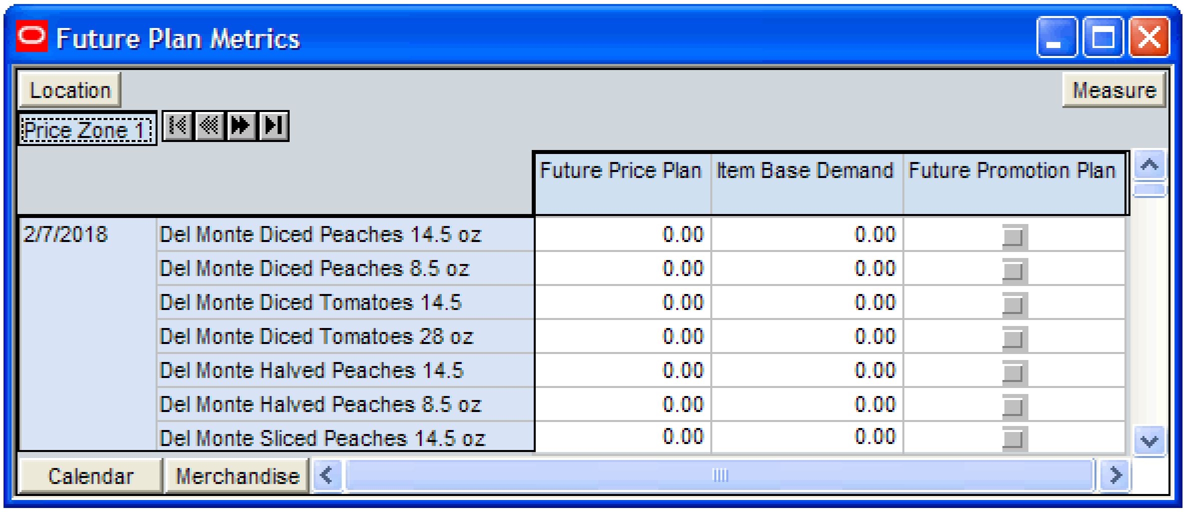


Table 5–22 lists the measures in this worksheet.

Table 5–22 Future Plan Metrics Worksheet Measures

Measure	Description
Future Price Plan	The future price that is loaded from an execution system, such as Retail Price Management.
Future Promotion Plan	This measure indicates if the item is on promotion for the week.
Item Base Demand	The forecast generated by RPO. It is the number of units that RPO projects will be sold, independent of price. This forecast is based upon historical data.

Miscellaneous Tab

This tab is used to maintain cross-item elasticities, price ladders, and item group mapping.

Cross-Item Elasticities Worksheet

Use this worksheet to review the cross-item elasticities.

Self elasticity is the relationship between an item's price and its volume. For instance, if the self elasticity of an item is a negative number, then a drop in the item's price yields an increase in the item's volume.

Cross-item elasticity, on the other hand, is the relationship between one item's price and another item's volume. For example, if the price of the 8.5 oz. sliced peaches item decreases, the demand of the 14.5 oz. sliced peaches may decrease because the 8.5 oz. price is more attractive and consumers rather buy the 8.5 oz. item rather than the 14.5 oz. item. This type of cross elasticity is known as cannibalization and is represented by a positive number in the Cross-Item Elasticities worksheet.

The other type of cross elasticity is the halo effect. This occurs when a price drop in one item increases the volume of another. For instance, if the price of hot dogs decreases and its volume increases, the volume of hot dog buns also increases.

Figure 5–30 Cross-Item Elasticities Worksheet

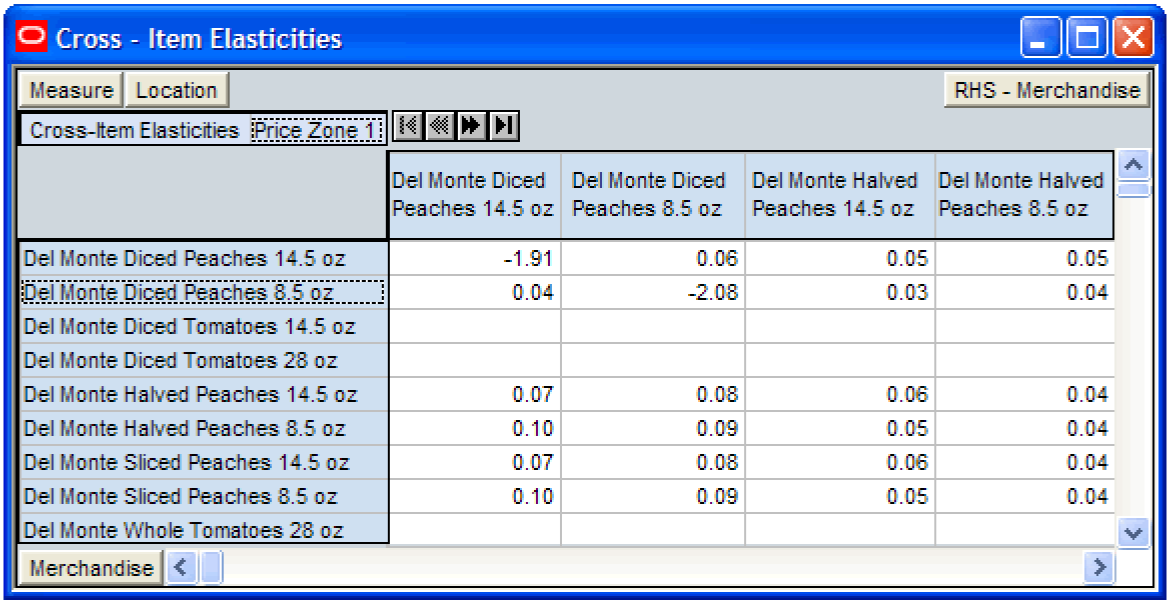


Table 5–23 lists the measure in this worksheet.

Table 5–23 Cross-Item Elasticities Worksheet Measure

Measure	Description
Cross Item Elasticities	Displays the cross-item elasticities for all items.

Price Ladder Worksheet

This worksheet is similar to the Price Ladder Maintenance Worksheet in the Business Administration Workbook. It is provided in the Price Analysis workbook for your convenience.

For more information about this worksheet, see the Price Ladder Maintenance Worksheet section.

Figure 5–31 Price Ladder Worksheet

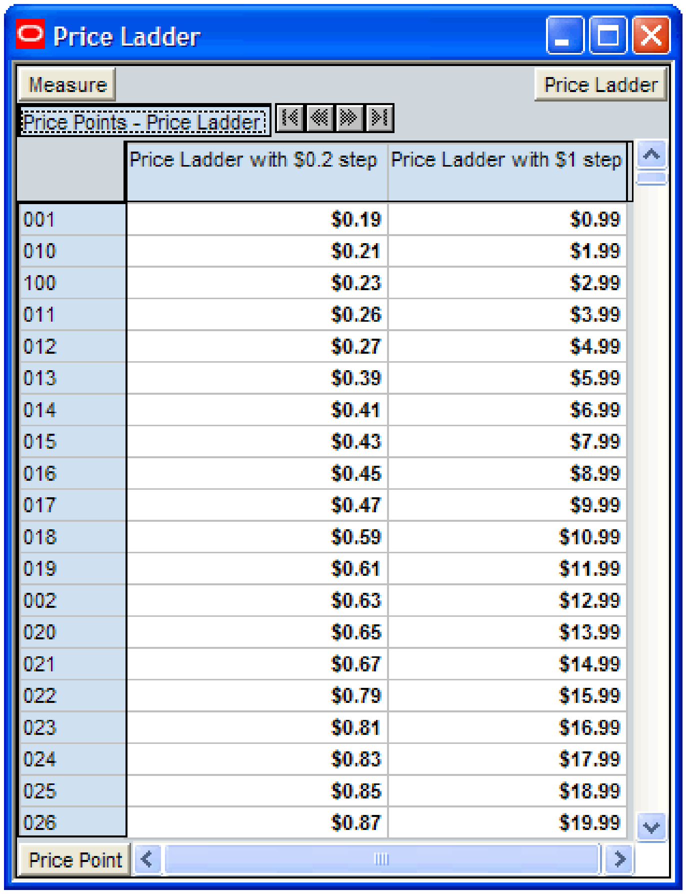


Table 5–24 lists the measure in this worksheet.

Table 5–24 Price Ladder Worksheet Measures

Measure	Description
Price Points - Price Ladder	The price points on a given price ladder. Use this measure to edit the price points.

Item - Item Group Assignment Worksheet

This worksheet is similar to the Item Group Worksheet in the Item Management Workbook. It is provided in the Price Analysis workbook for your convenience.

For more information about this worksheet, see the Item Group Worksheet section.

Figure 5–32 Item - Item Group Assignment Worksheet

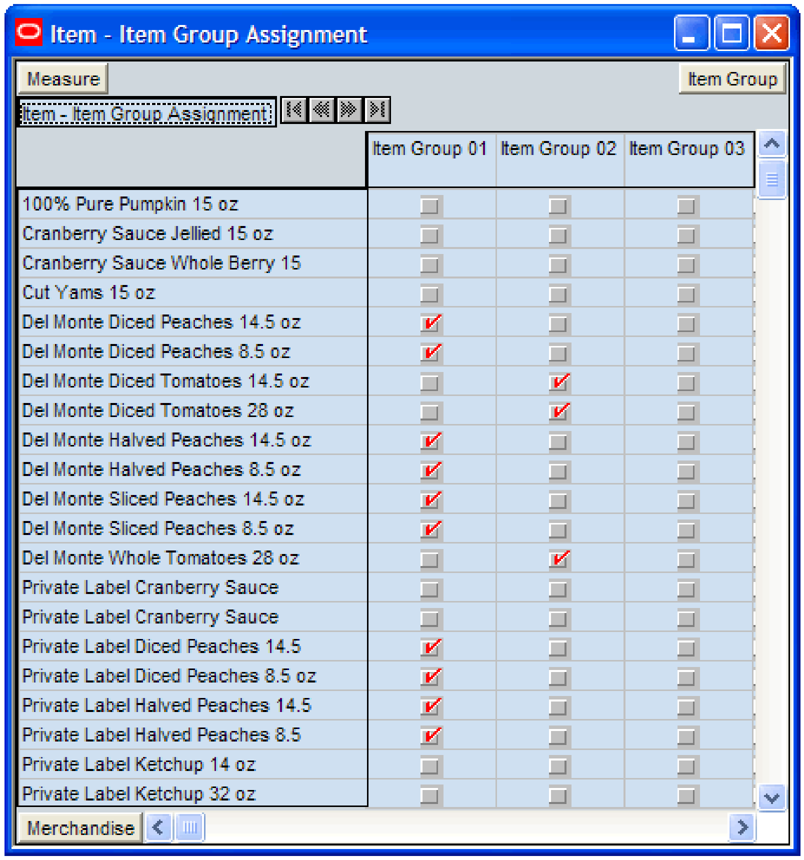


Table 5–25 lists the measure in this worksheet.

Table 5–25 Item - Item Group Assignment Worksheet Measure

Measure	Description
Item - Item Group Assignment	Use this measure to assign items to an item group.

Item Self Elasticity Information Worksheet

This worksheet displays the item self elasticity information that is imported from APC-RPO.

Figure 5–33 Item Self Elasticity Information Worksheet

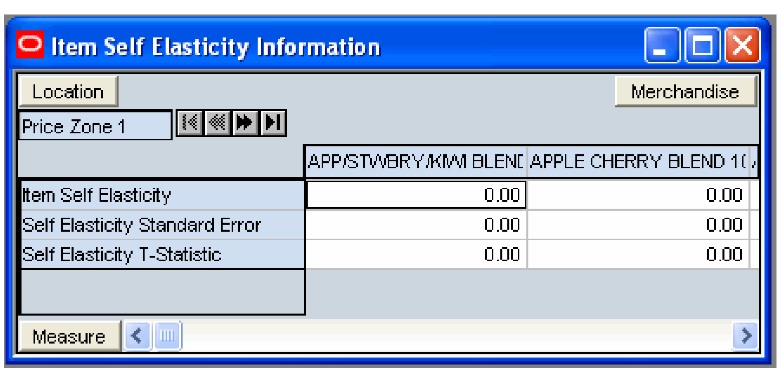


Table 5–26 lists the measures in this worksheet.

Table 5–26 Item Self Elasticity Information Worksheet

Measure	Description
Item Self Elasticity	This measure displays the item's self elasticity in the given location.
Self Elasticity Standard Error	The data in this measure is imported from the APC-RPO application. It displays the standard error information while calculating the self price elasticity for the given item/price zone in APC-RPO.
Self Elasticity T-Statistic	The data in this measure is imported from the APC-RPO application. It displays the T-statistic information while calculating the self price elasticity for the given item/price zone in APC-RPO.

Item Group Label Override Worksheet

This worksheet allows you to change the item group label.

Figure 5–34 Item Group Label Override Worksheet

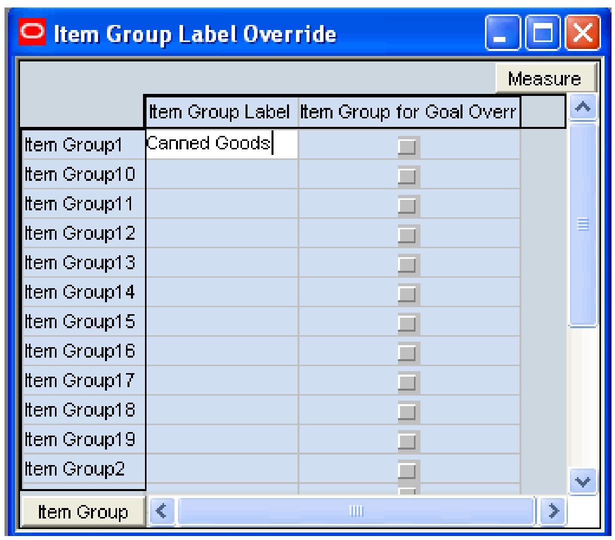


Table 5–27 lists the measure in this worksheet.

Table 5–27 Item Group Label Override Worksheet

Measure	Description
Item Group Label	Use this measure to enter the new item group labels. This label is user specific and is used for the given item group in this scenario. This label appears in Selected Item Group measure of the Item Group Level Worksheet.

VAT Worksheet

This read-only worksheet displays information for the Value Added Tax (VAT) rate.

6

Post Price Analysis Workbook

The Post Price Analysis allows you to review the time-phased historical data for your items. This workbook contains one tab:

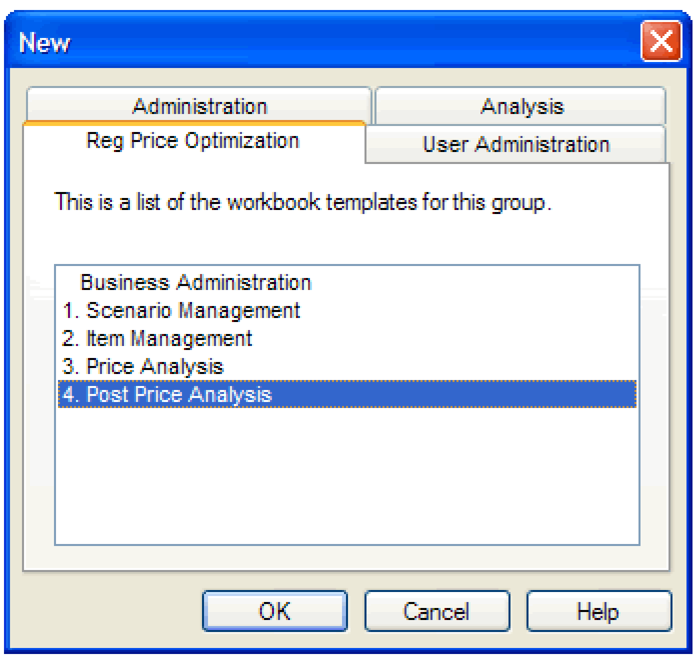
- Post Price Analysis Tab

Building the Post Price Analysis Workbook

To build the Post Price Analysis workbook, perform the following steps:

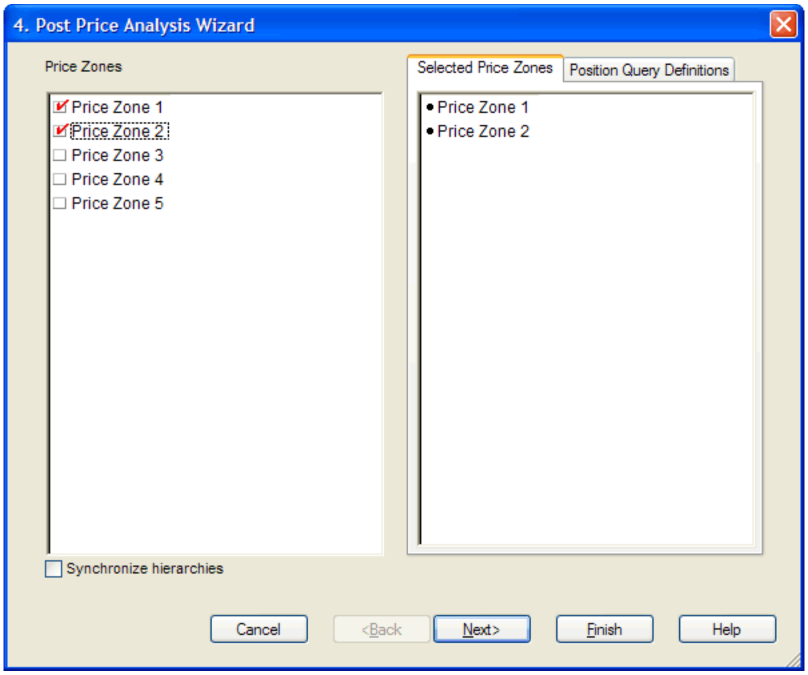
1. Select **New** from the File menu, or click the **New** toolbar button. The New window appears.
2. From the Reg Price Optimization tab, select the **Post Price Analysis** workbook, and click **OK**.

Figure 6–1 Building the Post Price Analysis Workbook



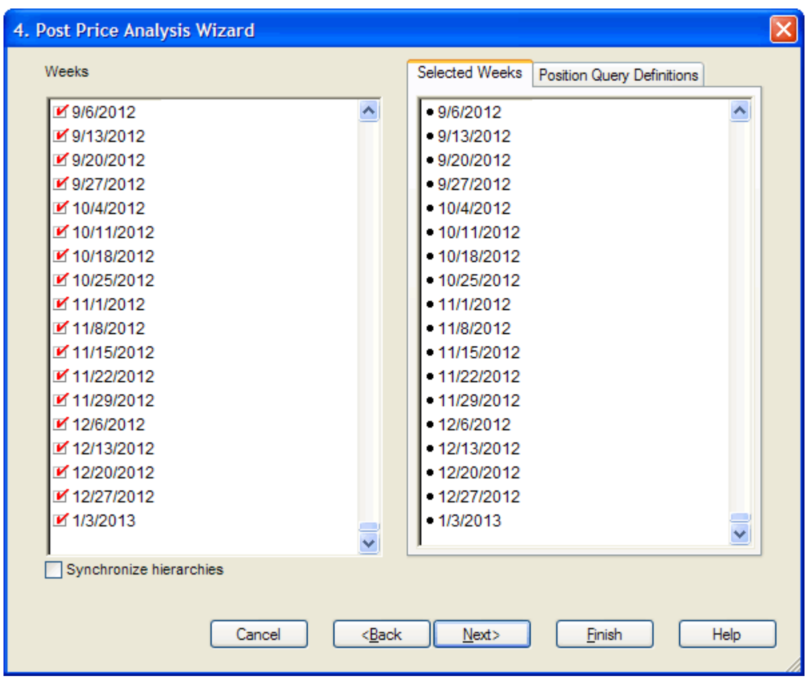
3. The Post Price Analysis wizard opens. Select the price zones you want to review. Click **Next**.

Figure 6–2 Post Price Analysis Wizard: Select Price Zones



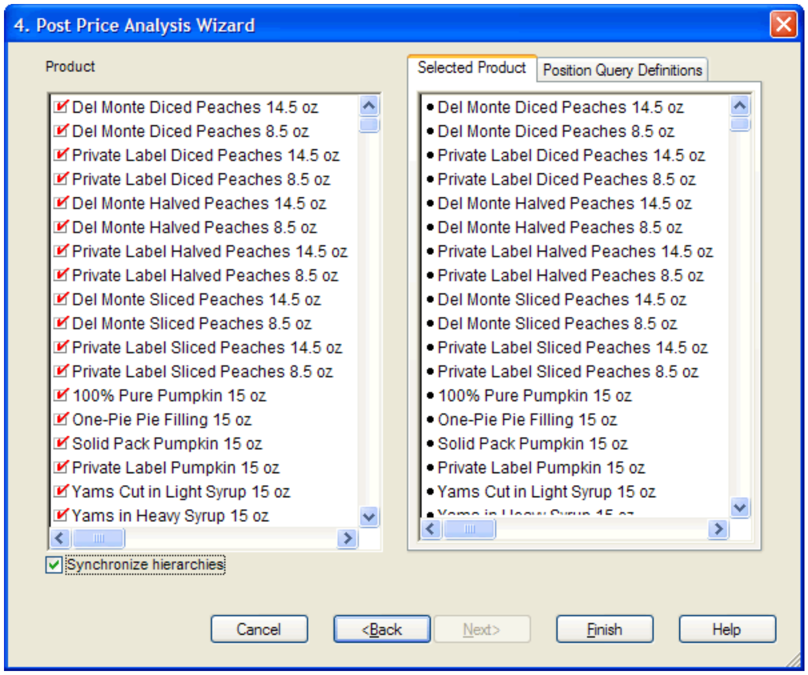
4. Select the weeks that you want to review. Click **Next**.

Figure 6–3 Post Price Analysis Wizard: Select Weeks



5. Select the products that you want to review. Click **Finish**.

Figure 6–4 Post Price Analysis Wizard: Select Products



The Post Price Analysis workbook is built.

Post Price Analysis Tab

This tab contains one worksheet: Post Price Analysis.

Post Price Analysis Worksheet

Use this worksheet to review the time-phased historical data about your items. The following data is provided:

- The Approved measures represent what you approved in the Price Analysis Workbook.
- The Actual measures represent the actual item metrics. For instance, RPO may have recommended a price (the Recommended measure), which was overwritten by the user (the Approved measure). However, the actual price, the price the item sold for in the store, may have been different from both the recommended and approved prices.
- The Recommended measures represent what RPO recommended.

Figure 6–5 Post Price Analysis Worksheet

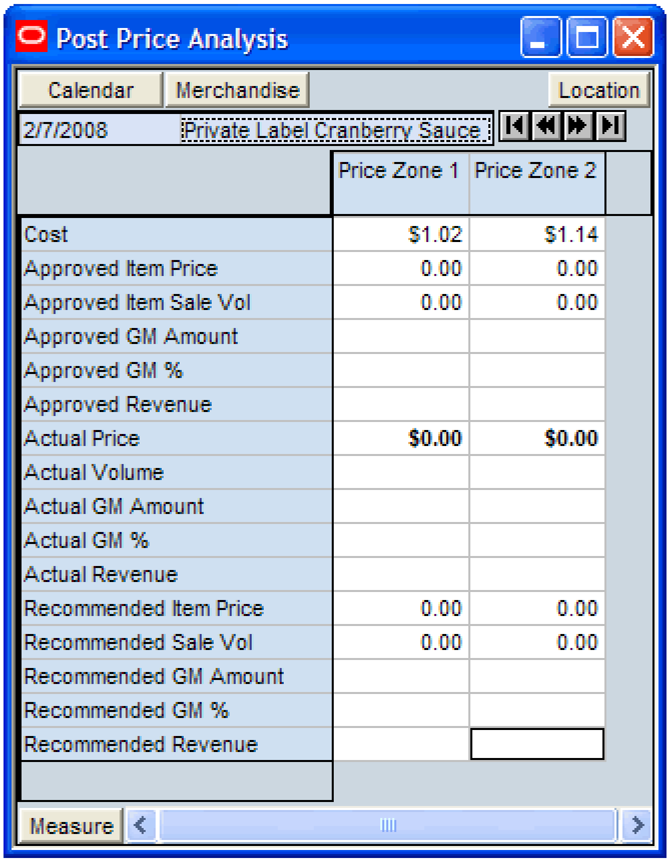


Table 6–1 lists the measures in this worksheet.

Table 6–1 Post Price Analysis Worksheet Measures

Measure	Description
Cost	The cost of the item.
Approved Item Price	The price of the item you approved.
Approve Item Sale Vol	The volume of the item based on the approved price.
Approved GM Amount	The gross margin amount based on the approved price.
Approved GM%	The gross margin percentage based on the approved price.
Approved Revenue	The revenue based on the approved price.
Actual Price	The actual price of the item.
Actual Volume	The actual volume of the item.
Actual GM Amount	The actual gross margin amount.
Actual GM%	The actual gross margin percentage.
Actual Revenue	The actual revenue.
Recommended Item Price	The price of the item that RPO recommended.
Recommended Item Sale Vol	The volume of the item that RPO recommended.
Recommended GM Amount	The gross margin amount that RPO recommended.

Table 6–1 (Cont.) Post Price Analysis Worksheet Measures

Measure	Description
Recommended GM%	The gross margin percentage that RPO recommended.
Recommended Revenue	The revenue that RPO recommended.

Glossary

competition

Competition refers to the competitor's pricing for a given item. Competition is definable by item.

item

An item in Regular Price Optimization is merchandise that is being optimized. Items are located on the same level within the product hierarchy where the demand and cross-item elasticities are produced.

item link groups

Item link groups are definitions that link one item to another. They are primarily used for inter–item constraints.

item group

Item groups are logical groupings of items within a demand group.

planning scope

Identifies the begin and end dates for the planning season and price zones for which planning is being performed.

price zone

Price zones are store clusters that have been created to support different pricing groups by merchandise division. Pricing zones are established so that all stores within the pricing zones have the same price for any single item.

scenario

A configuration of constraints and objectives. In RPO, a user can create many scenarios for a given demand group and compare these scenarios side by side in terms of the decision variables to choose a set of prices that best achieve the objectives.