

OVERVIEW

In Arius 2020c and subsequent, you can use the **Stochastic Table Mapper** to point the Arius Stochastic tools to source tables other than the system defaults. A common example of this might be to use the ODP Bootstrap model to project distributions using claims data rather than with paid loss data, or perhaps to run any of the models on a user-defined table rather than paid loss or incurred loss.

USING THE TABLE MAPPER

The **Stochastic Table Mapper** is found on the fourth tab of the **Model Options** dialog box, launched from the **Home** ribbon. The tables are mapped at the project level.

Model Options

Options | Term Discount | Default Model Selection | Table Mapper

Using the dropdowns below, identify which Arius objects should be utilized in the stochastic models

Model Field	Arius Table
Paid Loss	Paid Loss
Incurred Loss	Incurred Loss
Earned Premium	Earned Premium
Ultimate Premiums	Ultimate Premiums
Exposures	Exposures
Reported Claims	Reported Claims
Ultimate Claims	Ultimate Claims

Note that for the ODP Bootstrap model, the "Incurred Loss" models are converted to estimates of unpaid losses using a payment pattern derived from the "Paid Loss" model, so consistency between these objects must be preserved for results to be comparable across "Paid" and "Incurred" ODP models.

Reset System Defaults

OK Cancel

The left column of the grid shows the **Model Fields** required by the Arius stochastic tools. The right column of the grid shows which table within the Arius **Object Library** will be used in the models. By default, these columns will be equivalent. To change the table used by the models, click the drop-down that corresponds to the **Model Field**, and select the desired table. Note that Arius will automatically filter the drop-downs to include only appropriate table types. It will not, however, verify if the selected Arius table is populated.

Clicking **OK** will confirm your selections. Subsequent **Run Diagnostics**, **Select Hetero Groups**, or **Run Simulations** commands will utilize the mapped Arius table for the corresponding Model Field.

Note that Arius will continue to use the **Model Field** names throughout the stochastic model objects; the **Stochastic Table Mapper** only changes these fields' sources.

EXPECTED TABLE TYPES

Arius will filter the right column of the Table Mapper grid to show objects with applicable data structures, including **User Defined Objects**:

- Paid Loss, Incurred Loss, and Reported Claims require a triangular input.
- Earned Premium, Ultimate Premiums, Ultimate Claims, and Exposures require a columnar input.

For tables that require a columnar input, Arius will allow you to map columnar objects, formula-driven assumption objects, or triangular objects. For these fields, when mapping to formula-driven assumption objects, the value in the far right column will be utilized; with mapped triangular objects, the last diagonal of the cumulative view of the triangle will be used.

REQUIRED MODEL FIELDS

Not all stochastic tools require each of the **Model Fields**. For many of the tools, simply mapping a paid loss triangle is sufficient. However, with additional information, you can leverage additional functions.

ODP Bootstrap

All varieties of the ODP Bootstrap model require the **Paid Loss** field. Other fields can be mapped for additional functionality:

- **Incurred Loss:** allows you to use the three incurred loss variants of the ODP Bootstrap model.
- **Exposures:** allows you to use the **Exposure Adjustment** options on the **Model Assumptions** object or to use an a priori pure premium in the Bornhuetter-Ferguson variants.
- **Earned Premium/Ultimate Premium** Ultimate premiums (if provided) will be used in the loss ratio exhibits. If earned (but not ultimate) premiums are provided, they will be used in the loss ratio exhibits in place of ultimate premiums.

Mack Bootstrap

- **Exposures:** allows you to use the **Exposure Adjustment** options on the **Model Assumptions** object.
- **Earned Premium/Ultimate Premium:** Ultimate premiums (if provided) will be used in the loss ratio exhibits. If earned (but not ultimate) premiums are provided, they will be used in the loss ratio exhibits in place of ultimate premiums.

Refer to the *Stochastic Users Guide* for more information on how premium types are used for projects with partial periods.

Generalized Linear Models and Hayne MLE

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Refer to the *Stochastic Users Guide* for more information on how premium types are used for projects with partial periods.