ICRFSTM INPORTER



IIIII



FAST ACCESS TO LOSS DEVELOPMENT ARRAYS AND MODELING AT ANY LEVEL OF GRANULARITY

CLAIMS DATA REPOSITORY

Claims data typically reside in an Oracle, Netezza, or other data warehouse. Each claim is associated with many attributes; these attributes could be used to specify outcome subcategories containing significant corporate intelligence when skillfully analyzed. It is impossible to specify beforehand which combinations of attributes will yield the richest findings. The choice should be entirely in the hands of the analyst.

An example of some claims data that a client provided to Insureware:

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Each row represents a claim and includes, along with the payment specifiers, accompanying details like:

- Division
- Line
- Major Industry
- Minor Industry
- Pricing State
- Retention Range
- Company, and
- Many other attributes

The claims database contains over 40 variables, each of which can have numerous values.

In the ICRFS[™] database, individual claims are aggregated into triangles and are grouped in Triangle Groups (TGs). TGs are assigned classification variable attributes (values) in the database.

The ICRFS[™] Importer provides the mechanism to convert the claims table into loss development triangles based on a meaningful grouping of attributes.

ICRFS™ IMPORTER

ICRFS[™] Importer queries the claims data repository and enables the creation of loss development arrays based on user-selected attributes. You can think of it as a friendly robot data-librarian that can combine any or all of three ways of summarizing the loss development data according to your instructions:

- 1. Aggregating across all values of a variable, eg. Pricing State [if analyzing data USA Wide];
- 2. Selecting particular values, eg. Division ABC;
- 3. Grouping certain values together, eg. Division = ABC with Major Industry = Construction.

Related loss development arrays are stored in Triangle Groups (TGs) – a collection of triangles (Paid Losses, Incurred Losses, Case Reserve Estimates, Number of Claims Reported, Number of Claims Closed, etc), exposures, and premiums that all relate to the same attribute set.

The ICRFS[™] Importer utility interfaces with a big database of unit record transaction data, technically one that is ODBC enabled, such as Oracle, SQL or Netezza. The utility issues queries into the claims database and assembles the responses into data arrays which form objects in a Triangle Group. The utility has a simple, intuitive interface and is designed around four simple steps:

- 1. Configuring the data source and destination connections;
- 2. Selecting the data attributes [variables] which define a Triangle Group;
- 3. Selecting the fields which define the available loss data [triangles/loss development arrays];
- 4. Defining the dimensions of the triangles in the Triangle Groups.

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The ICRFS[™] Importer swiftly imports the data from the Claims Data Repository into an ICRFS[™] database format in a form suitable for analyses. Typical import speeds in testing are clocking in at up to 2,000 TGs per minute.

A real ICRFS[™] database to be used for analysis would contain a few hundred TGs and can be imported in a matter of minutes, if not seconds.

ICRFS™ DATABASE

Accessing data and information through the ICRFS[™] system is a pleasure. All the information in the database including data, models, and results, are right at your fingertips.

WHAT IS AN ICRFS™ DATABASE?

An ICRFS[™] database is a framework for storing all loss development arrays [triangles], exposure vectors, premium vectors, and other data connected with analysis in a simple, structured system.

FLEXIBLE STRUCTURE

A large number (4000+) of user-defined classification variables can be used. An effectively unlimited number of values can be associated with each variable providing maximum flexibility. In addition, there are four system defined variables.

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See the ICRFS[™] Database brochure for more information.

DATA, MODELS, AND REPORTS

Models, forecasts, and data relevant to a Line of Business (LOB) or segment (including notes) are associated via triangle groups providing ready access to data and results. Triangle groups contain:

- Triangles;
- Premiums;
- Exposures;
- Inflation;
- Datasets;
- Models;
- Forecast scenarios; and
- Links to reports.

Composite triangle groups collate data from multiple triangle groups and form the basis for a single composite model for all the LOBs or segments within the company.

ICRFS™ + ICRFS™ IMPORTER: THE ULTIMATE TOOL FOR STATISTICAL ANALYSIS

Users of the ICRFS[™] software package know how to rapidly expose the internals of any data array used in P&C actuarial work by placing it within the Probabilistic Trend Family (PTF) or Multiple Probabilistic Trend Family (MPTF) modelling frameworks. The result is a set of pictures showing how the operative trends split among the three directions of account, and the precise pattern of data volatility relative to those trends. The process volatility and parameter uncertainty are clearly distinguished and correlations between lines are estimated from the data.

The single identified composite model produces all the metrics you need to understand the business.

One thing you couldn't do, up to now, unless it had already been done for you, is to slice up your data according to any available category.

GIVES YOU A STRATEGIC ADVANTAGE IN UNDERWRITING

An example: say you've analysed some Workers Compensation data and found higher than expected inflation in recent years. The identified model below shows an example, with a high calendar year trends post 2008.



You wonder whether this is driven by a particular manufacturing type eg: Construction.

Now you can split the data by Major industry to determine which industry is the principal driver of the huge (social) inflation. The principle driver(s) are very likely to have a much higher rate of inflation than the 21.6%+_measured - say 30%+. You probably don't want to continue writing such business but, if you do continue writing the segment, the premiums must be increasing at at least the same rate as the inflation.

Another example: you want to find optimal retentions for reinsurance. Data can be imported splitting the claims into different layers. The optimal models can be identified and the strategy which provides the best insurance (or reinsurance) outcome is easily selected. Solutions can be presented side-by-side for ready comparison.

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