aggregate.Severity Cheat Sheet

The `Severity` call signature follows the corresponding DecL clauses, using prefixes for exposure (including limit sub-clause), severity, occurrence reinsurance, frequency, aggregate reinsurance, and note. `sev_xs, sev_ps` equal `dsev` outcomes and probabilities, and `(occ|agg)_reins` clauses are lists of (share, limit, attachment) triples.

ⓜ `Severity(name, exp_el=0, exp_premium=0, exp_lr=0, exp_en=0, exp_attachment=0, exp_limit=np.inf, sev_name='', sev_a=np.nan, sev_b=0, sev_mean=0, sev_cv=0, sev_loc=0, sev_scale=0, sev_xs=None, sev_ps=None, sev_wt=1, sev_conditional=True, occ_reins=None, occ_kind='', freq_name='', freq_a=0, freq_b=0, freq_zm=False, freq_p0=np.nan, agg_reins=None, agg_kind='', note='')`[0]

The following tables show all ⓜ `methods`, and fields or properties (used interchangeably). Comments elucidate the meaning of more obscure entries.

1. Specification & creation

`a`, `attachment`, `b`, `badvalue`, `conditional`, `detachment`, `extradoc`, `limit`, `long_name`, `name`, `note`, `numargs`, `program`, `sev_loc`, `sev_name`, `sev_wt`, `shapes`,

2. Update

ⓜ `cv_to_shape`, ⓜ `mean_to_scale`, `pattach`, `pdetach`,

3. Moments

ⓜ `generic_moment`, ⓜ `mean`, ⓜ `median`, ⓜ `moment`, ⓜ `moment_type`, ⓜ `moms`, `sev1`, `sev2`, `sev3`, ⓜ `stats`, ⓜ `std`, ⓜ `support`, ⓜ `var`,

4. Statistical functions

ⓜ `cdf`, ⓜ `entropy`, ⓜ `expect`, ⓜ `interval`, ⓜ `isf`, ⓜ `logcdf`, ⓜ `logpdf`, ⓜ `logsf`, ⓜ `nnlf`, ⓜ `pdf`, ⓜ `ppf`, ⓜ `rvs`, ⓜ `sf`, ⓜ `vecentropy`,

5. Validation

6. Output dataframes

7. Reinsurance

8. Visualization

ⓜ `plot`,

9. Risk and pricing

10. Approximations

ⓜ `fit`, ⓜ `fit_loc_scale`, ⓜ `freeze`,

11. Meta

`fz`, `random_state`, `xtol`,

Notes:

[0]: Arguments `sev_pick_attachments=None, sev_pick_losses=None,` omitted; see help.

[1]: matches `Portfolio`

Any vectorizable input accepts numeric or iterable datatypes.

Abbreviations: gcn=gross (subject), ceded, and net; stats: m=mean, cv=coefficient of variation, sd=standard deviation, var=variance, skew(ness); VaR=value-at-risk

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`aggregate` version 0.18.0