Package: solvency2 (via r-universe)

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Type Package

Title Offline Solvency II Calculations and Regulatory Parameters

Version 0.5.1

Description Native, offline components for insurance solvency calculations under Solvency II, including valuation, technical provisions, market and underwriting risks, capital aggregation, own funds, groups and archived reporting checks. Provides explicit dated rule profiles, regulatory parameters, correlation matrices, synthetic reference cases, local discount curve adapters and traceable analyst overrides. Implements components of Directive 2009/138/EC, European Parliament and Council (2009) <https://eur-lex.europa.eu/eli/dir/2009/138/oj>, and Delegated Regulation (EU) 2015/35, European Commission (2014) <https://eur-lex.europa.eu/eli/reg_del/2015/35/oj>. Users provide portfolio inputs, market observations and model results; no network connection or 'Python' runtime is required.

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Contents

solvency2-package . . . 11
aggregate_risk . . . 12
api_catalogue . . . 13
assigned_credit_eligibility_screen . . . 14
assigned_credit_issuer_financial_screen . . . 15
assigned_credit_yield_screen . . . 17
basic_scr . . . 18
best_estimate_approximation_conditions . . . 19
best_estimate_cashflows . . . 20
best_estimate_contract_cashflows . . . 22
best_estimate_with_curve . . . 23
bond_spread_stress . . . 24
CalculationError . . . 25
capital_add_on_amount . . . 26
capital_breach_requirements . . . 27
capital_recovery_plan_evidence_check . . . 29
captive_interest_currency . . . 30
captive_interest_duration . . . 32
captive_nonlife_aggregation . . . 33
captive_nonlife_segment . . . 34
captive_simplification_conditions . . . 35
catastrophe_effective_sum . . . 36
catastrophe_group_weighted_sum . . . 38
catastrophe_region_aggregation . . . 39
catastrophe_weighted_sum . . . 40
catastrophe_zone_aggregation . . . 41
catastrophe_zone_ordinal . . . 42
coinvestment_numeric_screen . . . 43
concentration_adjusted_exposure . . . 45
concentration_asset_loss . . . 46
concentration_assets . . . 47
concentration_credit_quality . . . 48
concentration_excess . . . 49
concentration_exposure_sum . . . 50
concentration_factor . . . 51
concentration_risk . . . 52
concentration_single_name_quality . . . 53
concentration_threshold . . . 54
Context . . . 55
contract_boundary_exclusion . . . 56

contract_recognition_due . . . 57
contract_unilateral_right . . . 59
counterparty_solvency_ratio . . . 60
coverage . . . 61
credit_cat_default_loss . . . 62
credit_cat_recession_loss . . . 63
credit_derivative_scenario_charge . . . 64
credit_spread_stress . . . 65
currency_participation_bof_change . . . 67
currency_peg_factor . . . 68
currency_peg_rate_stress . . . 69
currency_rate_stress . . . 70
currency_risk . . . 71
currency_scenario_charge . . . 72
de_branch_minimum_amount . . . 74
de_cover_assets_minimum . . . 75
de_cover_property_value . . . 77
de_liquidity_coverage . . . 78
default_ccp_fund_lgd_2027 . . . 80
default_clearing_conditions . . . 81
default_collateral_factor . . . 82
default_collateral_market_adjustment . . . 83
default_defaulted_loan_lgd_2027 . . . 84
default_derivative_lgd . . . 86
default_derivative_netting_value . . . 87
default_exposure_type . . . 88
default_mortgage_lgd . . . 90
default_other_lgd . . . 91
default_pool_lgd . . . 92
default_pool_member_ratio . . . 94
default_pool_solvency_ratio . . . 95
default_pool_type_a_lgd . . . 96
default_probability . . . 98
default_protected_probability . . . 99
default_reinsurance_lgd . . . 100
default_risk_adjusted_collateral . . . 102
default_risk_adjusted_mortgage . . . 104
default_risk_mitigation . . . 105
default_securities_financing_lgd_2027 . . . 106
default_single_name_count . . . 107
default_single_name_lgd . . . 109
default_single_name_pd . . . 110
default_type1 . . . 111
default_type2_shock . . . 112
default_type2_shock_2027 . . . 113
discount_curve_from_spot_rates . . . 114
DiscountCurve . . . 115
documentation . . . 117

Engine . . . 117
equity_shock . . . 118
equity_stress_amount_2027 . . . 119
export_resources . . . 121
external_model_checked_value . . . 122
financial_issuer_spread_stress . . . 123
governance_evidence_check . . . 125
governance_remuneration_deferral_years . . . 126
group_combined_component_surplus_2027 . . . 128
group_combined_currency_exposure_2027 . . . 129
group_consolidated_best_estimate . . . 131
group_consolidated_minimum . . . 132
group_consolidated_risk_margin . . . 133
group_consolidated_scr . . . 134
group_consolidated_surplus . . . 136
group_immaterial_participation_screen_2027 . . . 137
group_insurance_holding_conditions_2027 . . . 138
group_long_term_equity_limit_2027 . . . 140
group_method2_best_estimate_sum . . . 141
group_method2_component_surplus . . . 142
group_minority_excess_2027 . . . 144
group_model_scr_contribution . . . 145
group_nonavailable_own_funds_cap . . . 147
group_orsa_evidence_check . . . 148
group_orsa_method1_scr_difference . . . 149
group_own_funds_transfer_timing_screen . . . 151
group_pre_acquisition_scr_exception_2027 . . . 152
group_reinsurance_elimination . . . 153
group_required_shortfall . . . 155
group_sector_capital_requirement_2027 . . . 156
group_sector_contribution_2027 . . . 158
group_significant_branch_screen . . . 159
group_simplified_participation_scr_2027 . . . 160
group_standard_scr_contribution . . . 162
guaranteed_sts_securitisation_spread_stress . . . 163
health_accident_benefit_mean . . . 164
health_accident_benefit_sum . . . 165
health_accident_concentration_loss . . . 167
health_accident_country_aggregation . . . 168
health_adc_recovery_2027 . . . 169
health_adc_reserve_factor_2027 . . . 170
health_biometric_selection . . . 172
health_biometric_stress . . . 173
health_disability_risk . . . 174
health_expense_inflation_stress . . . 176
health_expense_level_stress . . . 177
health_hres_mixed_sigma . . . 178
health_hres_sigma_bound . . . 179

health_income_incidence_stress . . . 180
health_income_transition_stress . . . 181
health_lapse_option_stress . . . 182
health_lapse_risk . . . 183
health_mass_accident_loss . . . 184
health_mass_lapse_factor . . . 186
health_medical_inflation_stress . . . 187
health_medical_payment_stress . . . 188
health_medical_risk . . . 189
health_module_scope . . . 190
health_nslt_lapse_factor . . . 191
health_pandemic_income_exposure . . . 192
health_pandemic_loss . . . 193
health_pandemic_medical_cost . . . 194
health_premium_reserve_risk . . . 195
health_premium_volume . . . 196
health_reserve_volume . . . 198
health_revision_stress . . . 199
infrastructure_corporate_eligibility_screen . . . 200
infrastructure_project_eligibility_screen . . . 202
insured_deposit_concentration_factor . . . 203
insurer_solvency_spread_stress . . . 205
intangible_risk . . . 206
interest_additive_shift_2027 . . . 207
interest_down_floor_2027 . . . 208
interest_down_stress_2027 . . . 209
interest_participation_bof_change . . . 210
interest_relative_factor_2027 . . . 211
interest_scenario_charge . . . 212
interest_stress . . . 214
interest_ufr_stress_2027 . . . 215
lac_dt . . . 216
lac_dt_profit_assumptions_check . . . 217
lac_dt_stress_amount . . . 218
lac_tp . . . 219
lapse_stress . . . 220
liability_cat_claim_count . . . 221
liability_cat_loss . . . 222
life_biometric_selection . . . 223
life_biometric_stress . . . 225
life_cashflow_grouping_conditions . . . 226
life_catastrophe_rate_stress . . . 227
life_expense_inflation_stress . . . 228
life_expense_level_stress . . . 229
life_lapse_option_stress . . . 230
life_lapse_risk . . . 231
life_mass_lapse_factor . . . 232
life_mass_lapse_special_eligibility . . . 233

life_revision_stress . . . 235
load_discount_curve_json . . . 236
lookthrough_exposure_amount . . . 237
lookthrough_fallback_conditions . . . 238
lookthrough_grouping_limit . . . 239
manmade_concentration_loss . . . 241
market_risk_from_interest_scenarios . . . 242
matching_fundamental_spread_increase . . . 243
mcr_absolute_floor . . . 245
mcr_capital_at_risk . . . 246
mcr_combined . . . 247
mcr_life . . . 248
mcr_linear . . . 249
mcr_nonlife . . . 250
mcr_notional_requirement . . . 251
mcr_notional_scr . . . 252
model_va_scr_floor_2027 . . . 253
mortgage_type2_eligibility_screen . . . 255
motor_assumed_limit . . . 256
motor_cat_loss . . . 257
motor_vehicle_count . . . 258
natural_cat_event_loss . . . 259
natural_cat_insured_sum . . . 260
natural_cat_other_diversification . . . 262
natural_cat_other_loss . . . 263
natural_cat_scenario_risk . . . 264
natural_cat_weighted_cap . . . 265
non_snc_proportionality_size_screen_2027 . . . 267
nonlife_adc_recovery_2027 . . . 268
nonlife_adc_reserve_factor_2027 . . . 270
nonlife_lapse_factor . . . 271
nonlife_premium_volume . . . 272
nonlife_reserve_volume . . . 273
nonprop_property_cat_loss . . . 275
numeric_overrides_from_dict . . . 276
NumericOverride . . . 277
obligation_derecognition_condition . . . 278
operational_risk . . . 279
orsa_additional_macro_analysis_required_2027 . . . 280
orsa_biennial_captive_conditions_2027 . . . 282
orsa_climate_scenario_requirement_2027 . . . 283
orsa_climate_scenario_structure_2027 . . . 284
orsa_conditional_evidence_check . . . 286
orsa_core_evidence_check . . . 287
orsa_guidance_evidence_check . . . 288
orsa_max_assessment_interval_2027 . . . 290
orsa_phase_in_currency_exemption_2027 . . . 291
orsa_report_evidence_check . . . 292

other_nonlife_cat_loss . . . 294
own_funds_basic_before_adjustments . . . 295
own_funds_classification_evidence_check . . . 296
own_funds_distribution_policy_amount . . . 298
own_funds_distribution_policy_ratio . . . 299
own_funds_expected_future_fee_profit_2027 . . . 300
own_funds_expected_future_premium_profit . . . 302
own_funds_financial_deduction_tier . . . 303
own_funds_financial_exemption_screen . . . 304
own_funds_financial_participation_deduction . . . 305
own_funds_foreseeable_distributions_2027 . . . 307
own_funds_mcr_allocation . . . 308
own_funds_reconciliation_reserve . . . 309
own_funds_restricted_deduction . . . 311
own_funds_scr_allocation . . . 312
own_funds_step_up_limit . . . 313
own_funds_tier1_loss_absorption_trigger . . . 315
own_funds_tier1_mechanism_requirements . . . 316
parameter . . . 318
partial_model_bscr . . . 319
partial_public_guarantee_zero_amount_2027 . . . 320
premium_future_component . . . 321
premium_net_of_reinsurance . . . 323
premium_reserve_diversification . . . 324
premium_reserve_geographic_region . . . 325
premium_reserve_parameterised_risk . . . 327
premium_reserve_risk . . . 328
print.Result . . . 329
property_value_stress . . . 330
proportionality_application_evidence_2027 . . . 331
prudent_deterministic_best_estimate_2027 . . . 333
prudent_deterministic_eligibility_2027 . . . 334
prudent_deterministic_non_snc_size_screen_2027 . . . 336
public_counter_guarantee_conditions_2027 . . . 337
public_exposure_zero_factor . . . 339
reference_case . . . 340
reference_cases . . . 341
reference_datasets . . . 341
reference_portfolios . . . 342
regular_supervisory_report_interval . . . 342
regulatory_euro_amount_indexation . . . 344
reinsurance_adjusted_recoverable . . . 345
reinsurance_counterparty_recognition_factor . . . 346
reinsurance_default_adjustment . . . 348
reinsurance_default_loss . . . 349
reinsurance_nonlife_allocation . . . 351
reinsurance_recoverable_cashflows . . . 352
reinsurance_recoverables_from_net . . . 353

replicated_cashflow_value . . . 354
reporting_bound_rule_check . . . 356
reporting_captive_itemised_exemption_2027 . . . 357
reporting_catalog . . . 358
reporting_closed_rule_check . . . 359
reporting_data . . . 360
reporting_instance . . . 360
reporting_metric_value_check . . . 362
reporting_rule_precondition . . . 362
reporting_table . . . 363
reporting_validation_status . . . 364
restricted_portfolio_scenario_charge . . . 364
restricted_portfolio_scr_sum . . . 366
rfr_archived_corporate_pd . . . 367
rfr_archived_corporate_spread . . . 369
rfr_archived_government_spread . . . 370
rfr_archived_ltas . . . 371
rfr_archived_spot_rate . . . 373
rfr_credit_risk_adjustment . . . 374
rfr_credit_spread_sensitivity . . . 375
rfr_currency_risk_adjustment . . . 376
rfr_curve_spot_2027 . . . 378
rfr_default_adjusted_cashflow . . . 380
rfr_default_loss_on_market_value . . . 381
rfr_downgrade_expected_loss . . . 382
rfr_equivalent_annual_rate . . . 383
rfr_extrapolated_forward_2027 . . . 384
rfr_extrapolated_spot_2027 . . . 386
rfr_extrapolation_alpha_2027 . . . 387
rfr_fsp_currency_percentage_2027 . . . 388
rfr_fundamental_spread . . . 390
rfr_fundamental_spread_other_than_pd . . . 391
rfr_last_liquid_forward_2027 . . . 392
rfr_macro_country_factor . . . 394
rfr_macro_volatility_adjustment . . . 395
rfr_market_rate_adjustment . . . 396
rfr_matching_adjustment . . . 398
rfr_matching_mortality_headroom . . . 399
rfr_matching_mortality_selected_be . . . 400
rfr_matching_mortality_stress . . . 402
rfr_monthly_data . . . 403
rfr_pegged_credit_spread_sensitivity . . . 404
rfr_portfolio_risk_correction . . . 405
rfr_reference_portfolio_spread . . . 406
rfr_risk_corrected_spread . . . 408
rfr_risk_correction_2027 . . . 409
rfr_smith_wilson_spot . . . 410
rfr_spot_discount_factor . . . 412

rfr_transitional_spot_rate . . . 413
rfr_ultimate_forward_rate . . . 414
rfr_va_pvbp . . . 416
rfr_volatility_adjustment . . . 417
rfr_volatility_adjustment_2027 . . . 418
risk_margin . . . 420
risk_margin_adjusted_duration_2027 . . . 421
risk_margin_duration . . . 422
risk_margin_internal_model_required . . . 424
risk_margin_lob_allocation . . . 425
risk_margin_percentage . . . 426
risk_margin_proportional_scr . . . 428
risk_margin_reference_asset_balance . . . 429
risk_margin_reference_evidence_check . . . 430
risk_margin_reserve_scr . . . 432
risk_mitigation_recognition_factor . . . 433
rsr_long_term_equity_extra_disclosure_2027 . . . 435
rule_profiles . . . 436
scenario_loss . . . 437
scope_ancillary_risk_conditions . . . 438
scope_volume_conditions . . . 439
scope_volume_entry_trigger . . . 441
scope_volume_release_history . . . 442
scr_standard_formula . . . 443
secured_bond_spread_stress . . . 445
securitisation_spread_stress . . . 446
select_scenario . . . 447
sfcr_balance_sheet_audit_required_2027 . . . 448
sfcr_captive_disclosure_conditions_2027 . . . 450
sfcr_content_evidence_check . . . 451
sfcr_publication_evidence_check . . . 453
significant_cross_border_activity_2027 . . . 454
simplification_proportionality_conditions . . . 456
simplification_share_screen_2027 . . . 457
simplified_bond_spread_risk . . . 458
simplified_bond_spread_stress . . . 459
simplified_capital_at_risk . . . 461
simplified_default_group_pd . . . 462
simplified_disability_risk . . . 463
simplified_ead_mitigation_2027 . . . 465
simplified_expense_risk . . . 466
simplified_fire_risk . . . 468
simplified_immaterial_risk_2027 . . . 469
simplified_lapse_risk . . . 471
simplified_life_catastrophe_risk . . . 472
simplified_longevity_risk . . . 473
simplified_mortality_risk . . . 475
simplified_pool_external_best_estimate . . . 476

simplified_pool_external_mitigation . . . 477
simplified_pool_member_best_estimate . . . 479
simplified_proportional_mitigation . . . 480
simplified_reinsurance_default_adjustment . . . 481
simplified_reinsurance_mitigation . . . 483
simplified_single_segment_mitigation . . . 484
simplified_submodule_mitigation . . . 486
small_non_complex_annual_conditions_2027 . . . 487
small_non_complex_group_annual_conditions_2027 . . . 488
specific_exposure_spread_stress . . . 489
spread_risk . . . 491
spv_recoverable_cap . . . 492
supervisory_reporting_deadline_weeks . . . 493
supervisory_reporting_evidence_check . . . 495
symmetric_adjustment . . . 496
symmetric_adjustment_average . . . 497
technical_provision_assumptions_evidence_check . . . 499
technical_provision_data_evidence_check . . . 500
technical_provision_projection_evidence_check . . . 501
technical_provision_validation_evidence_check . . . 503
technical_provisions_sum . . . 504
technical_provisions_transitional_value . . . 505
underwriting_currency_basis_risk . . . 507
unlisted_equity_beta . . . 508
unlisted_equity_portfolio_screen . . . 509
unrated_bond_simplification_conditions . . . 511
usp_credibility_factor . . . 512
usp_data_evidence_check . . . 513
usp_excess_of_loss_estimate . . . 515
usp_excess_of_loss_group_weighting . . . 516
usp_lognormal_credibility_blend . . . 517
usp_lognormal_fit . . . 519
usp_lognormal_sigma . . . 520
usp_method_data_evidence_check . . . 522
usp_nonproportional_credibility_blend . . . 523
usp_parameter_scope_check . . . 524
usp_reinsurance_contract_conditions . . . 526
usp_reserve2_credibility_blend . . . 527
usp_reserve2_estimate . . . 528
usp_revision_compound_quantile . . . 529
usp_revision_credibility_blend . . . 531
usp_revision_moments . . . 532
usp_standard_method_selection . . . 533
valuation_accounting_equity_adjustment . . . 535
valuation_accounts_method_conditions . . . 536
valuation_adjusted_equity_component . . . 537
valuation_balance_sheet_excess . . . 538
valuation_contingent_liability . . . 540

valuation_deferred_tax_net 541
valuation_intangible_value 543
valuation_liability_excluding_own_credit 544
valuation_method_checked_value 545
valuation_participation_value 547
valuation_short_term_deposit_cost_2027 548

Index **550**

`solvency2-package` *Offline Solvency II Calculations and Regulatory Parameters*

Description

Native R components for insurance solvency analysis, with explicit rule profiles, regulatory parameters, synthetic reference data and auditable results. Individual formulas can be used independently of the graph engine.

Getting started

Create a `Context()` to select valuation date, information date, currency and rule profile. Call a granular function such as `intangible_risk()` and inspect its `value`, `unit`, `sources`, `details` and `status`. Monetary amounts use the context currency, without an implicit thousands multiplier. Rates and ratios are decimal fractions unless the individual help page states otherwise.

Finding functions and data

`api_catalogue()` lists the reference API and `coverage()` describes the supported scope. `rule_profiles()` exposes dated rule sets. `parameter()` reads scalars, tables and correlation or catastrophe resources. `reference_cases()`, `reference_case()`, `reference_portfolios()` and `reference_dataset()` provide synthetic inputs and fixed expected outcomes. `vignette("getting-started", package = "solvency2")` introduces the workflow; `documentation()` provides additional installed, offline documentation.

Main interfaces

Valuation and capital calculations include `best_estimate_cashflows()`, `aggregate_risk()`, `basic_scr()`, `scr_standard_formula()` and `mcr_combined()`. Use `Engine()` or `calculate()` for explicitly linked calculations. `DiscountCurve()` and the local JSON/CSV adapters accept user-supplied curves. `NumericOverride()` records context-local sensitivities without changing installed regulatory resources. `reporting_catalog()`, `reporting_data()`, `reporting_bound_rule_check()` and `reporting_instance()` expose archived definitions, component checks and draft XBRL generation.

Scope and responsibility

Runtime is offline. The package does not obtain market observations, develop insurer-specific internal models, infer approvals or submit filings. Synthetic examples are not production market data. Profile validity and documented qualification limits remain explicit; a successful calculation or software test is not supervisory approval. Invalid or unsupported inputs produce structured `CalculationError()` conditions. See the individual function's assumptions and `documentation("LIMITATIONS")` before use.

Author(s)

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References

European Parliament and Council (2009), Directive 2009/138/EC, https://eur-lex.europa.eu/eli/dir/2009/138/oj. European Commission (2014), Delegated Regulation (EU) 2015/35, https://eur-lex.europa.eu/eli/reg_del/2015/35/oj.

See Also

`Context()`, `api_catalogue()`, `documentation()`

Examples

```
ctx <- Context("2025-01-17", "2026-09-23", "EUR",
  "EU-S2-DOCUMENTS-2024-2025-v0.1")
charge <- intangible_risk(100, context = ctx)
charge$value
charge$unit
parameter("scalars/intangible", context = ctx)$value
```

---

aggregate_risk *Aggregate already determined module charges using an explicit regulatory matrix.*

Description

Aggregate already determined module charges using an explicit regulatory matrix.

Usage

```
aggregate_risk(components, matrix_id, context, ...)
```

Arguments

components	Components. Reference type: Mapping[str, float]. Supply a named R list with the keys shown in the example/reference case.
matrix_id	Matrix id. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("default-baseline-matrix-3-4")
result <- do.call(aggregate_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

api_catalogue *Catalogue of Golden Source APIs*

Description

Catalogue of Golden Source APIs

Usage

```
api_catalogue()
```

Value

Named list of functions, domains, source signatures and contracts. Source signatures use Python notation; the R help pages give R signatures.

Examples

```
names(api_catalogue())
```

`assigned_credit_eligibility_screen` *Return eligibility for the CHOSEN route, never an internally modelled CQS.*

Description

Route3 excludes already assigned176a(1)-CQS2 instruments, not every instrument that might hypothetically qualify for2. Choice and substantive assessments are explicit external inputs. Existing numeric screens remain authoritative for their limited arithmetic and profile-specific analyst overrides.

Usage

```
assigned_credit_eligibility_screen(
  issuer_financials,
  yield_inputs,
  conditions,
  target_cqs,
  qualification_reference,
  context,
  assessment = NULL,
  ...
)
```

Arguments

`issuer_financials`
: Issuer financials. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.

`yield_inputs`
: Yield inputs. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.

`conditions`
: Conditions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.

`target_cqs`
: Target cqs. Reference type: `str`.

`qualification_reference`
: Qualification reference. Reference type: `str`.

context	Explicit Context() selecting currency, dates, rule profile and overrides.
assessment	Assessment. Reference type: Mapping | None. Supply a named R list with the keys shown in the example/reference case.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("assigned-credit-eligibility-baseline-financial-fails")
result <- do.call(assigned_credit_eligibility_screen,
  c(case$kwargs, list(context = context)))
result$value
```

---

assigned_credit_issuer_financial_screen

Screen seven numeric issuer criteria on qualified EUR financial values.

Description

Rows are oldest to newest, consecutive completed financial years. All supplied rows are validated; only the latest prescribed windows are used. EUR inputs remain EUR even if Context.currency differs. Definitions, chronology, latest-value alignment and currency-revenue scope are external. A pass does not satisfy other Article176a conditions or assign a CQS.

Usage

```
assigned_credit_issuer_financial_screen(
  financial_years,
  latest_financials,
  eligible_currency_revenue_share,
  years_without_credit_event,
  qualification_reference,
  context,
  ...
)
```

Arguments

financial_years	Financial years. Reference type: `list`. Supply an ordered R list or the documented numeric vector.
latest_financials	Latest financials. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
eligible_currency_revenue_share	Eligible currency revenue share. Reference type: `float`.
years_without_credit_event	Years without credit event. Reference type: `float`.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
```

```
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("assigned-credit-baseline-one-small-year")
result <- do.call(assigned_credit_issuer_financial_screen,
  c(case$kwargs, list(context = context)))
result$value
```

`assigned_credit_yield_screen` *Check every qualified issue against both prescribed yield ceilings.*

Description

Index keys are 2/4 or 3/4, not sorted by observed yield. All rates are absolute decimal rates, allowing negative yields. Complete comparable own issues, issue-date indices, maturity/currency and any adjustments under paragraphs8/9 must be supplied and qualified externally.

Usage

```
assigned_credit_yield_screen(
  yield_observations,
  index_yields,
  current_issue_id,
  target_cqs,
  qualification_reference,
  context,
  ...
)
```

Arguments

`yield_observations`	Yield observations. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`index_yields`	Index yields. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`current_issue_id`	Current issue id. Reference type: `str`.
`target_cqs`	Target cqs. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("assigned-credit-baseline-yield-not-capped-at-one")
result <- do.call(assigned_credit_yield_screen,
  c(case$kwargs, list(context = context)))
result$value
```

---

basic_scr — *Five-module aggregation plus the charge on recognised intangible assets.*

Description

Five-module aggregation plus the charge on recognised intangible assets.

Usage

```
basic_scr(components, intangible_charge, context, ...)
```

Arguments

`components`	Components. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`intangible_charge`	Intangible charge. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("bscr-2027-five-modules")
result <- do.call(basic_scr,
  c(case$kwargs, list(context = context)))
result$value
```

---

best_estimate_approximation_conditions

Check declared data-deficiency exception, not create an approximation.

Description

Inadequate internal processes cannot justify this exception. Neither an invented materiality percentage nor a preferred actuarial model is supplied.

Usage

```
best_estimate_approximation_conditions(
  conditions,
  qualification_reference,
  context,
  ...
)
```

Arguments

conditions	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("be-approx-baseline-combination-31")
result <- do.call(best_estimate_approximation_conditions,
  c(case$kwargs, list(context = context)))
result$value
```

---

best_estimate_cashflows

Discount already probability-weighted, gross-of-reinsurance cashflows.

Description

No projection model, curve interpolation or compounding convention is invented here. Discount factors must match the payment dates and currency. Inflows include premiums, not separately valued reinsurance recoverables.

Usage

```
best_estimate_cashflows(
  cashflows,
  runoff_complete,
  cashflow_reference,
  curve_reference,
  context,
  ...
)
```

Arguments

cashflows	Cashflows. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
runoff_complete	Runoff complete. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
cashflow_reference	Cashflow reference. Reference type: `str`.
curve_reference	Curve reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("be-at-valuation-date")
result <- do.call(best_estimate_cashflows,
```

```
  c(case$kwargs, list(context = context)))
result$value
```

`best_estimate_contract_cashflows` *Select entire qualified obligations, never truncate by a payment date.*

Description

Every row identifies a disjoint obligation or contract part. Its evidence qualifies legal enforceability, unilateral rights, full-risk reflection, profile-specific life rules, discernibility and any unbundling. Accepted reinsurance is assessed independently of underlying contract boundaries. These substantive qualifications remain external, not certified here.

Usage

```
best_estimate_contract_cashflows(
  obligations,
  runoff_complete,
  cashflow_reference,
  curve_reference,
  context,
  ...
)
```

Arguments

`obligations`	Obligations. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`runoff_complete`	Runoff complete. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`cashflow_reference`	Cashflow reference. Reference type: `str`.
`curve_reference`	Curve reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Article18(5)(c) is cross-checked against the same-version English text; the incomplete German source is preserved. Paid premiums, discernible cover/guarantee or enforceable future premiums disapply this exception. Unbundled parts are independently qualified, not inferred from cash flows.

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("contract-exception-baseline-enforceable")
result <- do.call(best_estimate_contract_cashflows,
  c(case$kwargs, list(context = context)))
result$value
```

---

best_estimate_with_curve

Bind a local discount curve to externally projected cashflows

---

Description

Bind a local discount curve to externally projected cashflows

Usage

```
best_estimate_with_curve(
  cashflows,
  curve,
  runoff_complete,
  cashflow_reference,
  context
)
```

Arguments

`cashflows`	Named list keyed by payment date with `expected_inflows` and `expected_outflows` in context currency.
`curve`	Validated `DiscountCurve()` with an explicit point for every payment date.
`runoff_complete`	Explicit completeness declaration.
`cashflow_reference`	External cashflow provenance.
`context`	Explicit `Context()` matching the curve date and currency.

Value

A `Result`, including the user curve's metadata and content hash.

Examples

```
ctx <- Context("2025-01-17", "2026-09-23", "EUR", "EU-S2-DOCUMENTS-2024-2025-v0.1")
curve <- DiscountCurve("example", ctx$as_of, "EUR", "custom",
  "synthetic example", list(list("2026-01-17", 0.97)))
best_estimate_with_curve(list("2026-01-17" = list(expected_inflows = 0,
  expected_outflows = 100)), curve, TRUE, "synthetic cashflows", ctx)$value
```

---

bond_spread_stress *Use modified duration, floored at1; floats need externally assessed equivalent fixed duration.*

Description

Assigned CQS eligibility and exclusions are external. The published CQS4 jump above20 years is retained, not interpolated away. The 2027 scope explicitly excludes defaulted and forborne loans; callers must qualify that scope before supplying a position to this factor API.

Usage

```
bond_spread_stress(
  modified_duration,
  category,
  classification_reference,
  credit_quality_step = NULL,
  context,
  assigned_eligibility = NULL,
  coinvestment = NULL,
  ...
)
```

Arguments

`modified_duration`
: Modified duration. Reference type: `float`.

`category`
: Category. Reference type: `str`.

`classification_reference`
: Classification reference. Reference type: `str`.

`credit_quality_step`
: Credit quality step. Reference type: `str | None`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`assigned_eligibility`
: Assigned eligibility. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

coinvestment	Coinvestment. Reference type: Mapping | None. Supply a named R list with the keys shown in the example/reference case.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: ratio.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("simplified-market-baseline-captive-quality")
result <- do.call(bond_spread_stress,
  c(case$kwargs, list(context = context)))
result$value
```

CalculationError *Structured calculation failure*

Description

Structured calculation failure

Usage

```
CalculationError(code, field, message)
```

Arguments

code	Machine-readable error code.
field	Offending input or resource field.
message	Human-readable explanation.

Value

An R condition inheriting from `CalculationError`, `s2_error`, `error` and `condition`. Constructing it does not signal it; use `stop()` to signal.

Examples

```
error <- CalculationError("INVALID_INPUT", "amount", "finite amount required")
error$code
```

---

capital_add_on_amount *Prescribed add-on arithmetic, not a supervisory imposition or risk model.*

Description

SCR inputs exclude prior/concurrent add-ons. Modified valuations and any permitted offsetting under283(7) are externally qualified. Article279's risk-profile significance thresholds are separate from imposing an add-on. No quantitative governance/additional2027 Article37(1)e formula is invented.

Usage

```
capital_add_on_amount(
  base_scr,
  modified_scr,
  method,
  qualification_reference,
  context,
  base_eligible_own_funds = NULL,
  modified_eligible_own_funds = NULL,
  rebuttal_established = NULL,
  ...
)
```

Arguments

`base_scr`	Base scr. Reference type: `float`.
`modified_scr`	Modified scr. Reference type: `float`.
`method`	Method. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`base_eligible_own_funds`	Base eligible own funds. Reference type: `float | None`.
`modified_eligible_own_funds`	Modified eligible own funds. Reference type: `float | None`.

`rebuttal_established`
: Rebuttal established. Reference type: `bool | None`.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("capital-addon-baseline-risk-zero-base")
result <- do.call(capital_add_on_amount,
  c(case$kwargs, list(context = context)))
result$value
```

`capital_breach_requirements`
: *Select notification/plan duties using externally established breach facts.*

Description

Future MCR plans also respond to prospective breach; historical MCR and SCR plans here respond to actual breach. No grace period for notification, calendar deadline, automatic extension, filing or approval is produced. Optional Article136 evidence adds its independent notification trigger; absence is not evidence that financial deterioration has been ruled out. Combined-group minimum breaches use233a(6) only in the2027 profile; SCR own funds never substitute for minimum-eligible basic own funds.

Usage

```
capital_breach_requirements(
  capital_requirement,
  actual_breach,
  breach_risk_within_horizon,
  qualification_reference,
  deterioration = NULL,
  consolidated_own_funds = NULL,
  consolidated_scr = NULL,
  transition_measures = NULL,
  transition_plan_active = NULL,
  context,
  ...
)
```

Arguments

`capital_requirement`	Capital requirement. Reference type: `str`.
`actual_breach`	Actual breach. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`breach_risk_within_horizon`	Breach risk within horizon. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualification_reference`	Qualification reference. Reference type: `str`.
`deterioration`	Deterioration. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`consolidated_own_funds`	Consolidated own funds. Reference type: `float | None`.
`consolidated_scr`	Consolidated scr. Reference type: `float | None`.
`transition_measures`	Transition measures. Reference type: `list[str] | None`. Supply an ordered R list or the documented numeric vector.
`transition_plan_active`	Transition plan active. Reference type: `bool | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("capital-breach-baseline-scr-11")
result <- do.call(capital_breach_requirements,
  c(case$kwargs, list(context = context)))
result$value
```

---

capital_recovery_plan_evidence_check

Inventory the five common plan contents; do not project or approve them.

Description

Inventory the five common plan contents; do not project or approve them.

Usage

```
capital_recovery_plan_evidence_check(
  evidence,
  plan_kind,
  assessment_reference,
  scope_reference,
  context,
  ...
)
```

Arguments

`evidence`	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`plan_kind`	Plan kind. Reference type: `str`.
`assessment_reference`	Assessment reference. Reference type: `str`.

`scope_reference`
: Scope reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("capital-breach-baseline-scr_recovery-empty")
result <- do.call(capital_recovery_plan_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

`captive_interest_currency` *Evaluate one currency's literal asset-minus-BE formula for a declared scenario.*

Description

Relative stresses, rate/duration consistency and eligibility are externally qualified. Signed inputs are preserved: there is no hidden down-direction sign flip, floor or stress-curve generation (including blocked 2027 curves). All five asset bands and all 36 Annex I LoBs must be supplied explicitly.

Usage

```
captive_interest_currency(
  assets,
  technical_provisions,
  direction,
  eligibility_reference,
  valuation_reference,
  stress_reference,
  context,
  ...
)
```

Arguments

assets	Assets. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
technical_provisions	Technical provisions. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
direction	Direction. Reference type: `str`.
eligibility_reference	Eligibility reference. Reference type: `str`.
valuation_reference	Valuation reference. Reference type: `str`.
stress_reference	Stress reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("captive-interest-baseline-zero")
result <- do.call(captive_interest_currency,
  c(case$kwargs, list(context = context)))
result$value
```

`captive_interest_duration`

Look up an explicitly qualified lettered band; do not invent boundary rules.

Description

Look up an explicitly qualified lettered band; do not invent boundary rules.

Usage

```
captive_interest_duration(band, qualification_reference, context, ...)
```

Arguments

`band`	Band. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: years.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("captive-interest-baseline-duration-a")
result <- do.call(captive_interest_duration,
  c(case$kwargs, list(context = context)))
result$value
```

`captive_nonlife_aggregation` *Aggregate all twelve DR90 segment charges, with explicit inactive zeros.*

Description

Weights are separate profile parameters, not ordinary nonlife correlations. A full set prevents omitted exposures from silently becoming zero.

Usage

```
captive_nonlife_aggregation(
  segment_charges,
  eligibility_reference,
  context,
  ...
)
```

Arguments

`segment_charges`	Segment charges. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("captive-baseline-aggregate-zero")
result <- do.call(captive_nonlife_aggregation,
  c(case$kwargs, list(context = context)))
result$value
```

---

captive_nonlife_segment

Calculate a segment charge from already qualified Article116 volumes.

Description

Normalising before squaring avoids overflow for representable charges; neither reinsurance adjustments nor geographic diversification are repeated.

Usage

```
captive_nonlife_segment(
  premium_volume,
  reserve_volume,
  eligibility_reference,
  volume_reference,
  context,
  ...
)
```

Arguments

`premium_volume`	Premium volume. Reference type: `float`.
`reserve_volume`	Reserve volume. Reference type: `float`.
`eligibility_reference`	Eligibility reference. Reference type: `str`.

volume_reference	Volume reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("captive-baseline-zero")
result <- do.call(captive_nonlife_segment,
  c(case$kwargs, list(context = context)))
result$value
```

---

captive_simplification_conditions

Check externally assessed DR89 facts, not substantive eligibility itself.

Description

Absent insurance/reinsurance business must be explicitly qualified by the caller; missing evidence never means that a condition is met.

Usage

```
captive_simplification_conditions(
  conditions,
  qualification_reference,
  context,
  ...
)
```

Arguments

conditions	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("captive-baseline-eligible")
result <- do.call(captive_simplification_conditions,
  c(case$kwargs, list(context = context)))
result$value
```

---

catastrophe_effective_sum

Qualified recovery subtraction or explicit gross fallback for inadequate risk capture.

Description

Recoveries conditional on unrelated claims must have been excluded externally. For vessel components apply separately; for other perils use the qualified combined object/group sum. The returned amount is not a BOF loss or SCR.

Usage

```
catastrophe_effective_sum(
  gross_sum,
  recoverable,
  use_gross,
  peril,
  qualification_reference,
  context,
  ...
)
```

Arguments

gross_sum	Gross sum. Reference type: float.
recoverable	Recoverable. Reference type: float.
use_gross	Use gross. Reference type: bool | None.
peril	Peril. Reference type: str.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("concentration-2027-fire-gross")
result <- do.call(catastrophe_effective_sum,
  c(case$kwargs, list(context = context)))
result$value
```

`catastrophe_group_weighted_sum` *Q*max(group zone weights)*qualified group SI; never invent a group matrix.*

Description

The named region fixes the common regional scope. Source-blocked weights remain blocked through the ordinary selector. A group amount cannot be repeated into every original matrix zone: downstream group treatment must be qualified separately. Future90b(6) requires120(1a) evidence for wind/soil.

Usage

```
catastrophe_group_weighted_sum(
  peril,
  region,
  zone_ordinals,
  insured_sum,
  qualification_reference,
  exposure_basis_reference = NULL,
  context,
  ...
)
```

Arguments

`peril`	Peril. Reference type: `str`.
`region`	Region. Reference type: `str`.
`zone_ordinals`	Zone ordinals. Reference type: `list[int]`. Supply an ordered R list or the documented numeric vector.
`insured_sum`	Insured sum. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`exposure_basis_reference`	Exposure basis reference. Reference type: `str | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2026-10-05",
  known_at = "2026-10-06",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("simpl-close-baseline-group-single")
result <- do.call(catastrophe_group_weighted_sum,
  c(case$kwargs, list(context = context)))
result$value
```

---

catastrophe_region_aggregation

Aggregate externally determined regional catastrophe charges plus other-region charge.

Description

Aggregate externally determined regional catastrophe charges plus other-region charge.

Usage

```
catastrophe_region_aggregation(
  peril,
  region_charges,
  other_charge,
  context,
  ...
)
```

Arguments

`peril`	Peril. Reference type: `str`.
`region_charges`	Region charges. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`other_charge`	Other charge. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-cat-region-subsidence-zero")
result <- do.call(catastrophe_region_aggregation,
  c(case$kwargs, list(context = context)))
result$value
```

---

catastrophe_weighted_sum

QWSI for an externally qualified zone ordinal, not an address-to-zone mapping.

Description

Future subsidence uses Annex VIIIA Q. Unqualified future geographic links stay explicitly absent instead of inheriting historical labels.

Usage

```
catastrophe_weighted_sum(
  peril,
  region,
  zone_ordinal,
  insured_sum,
  context,
  ...
)
```

Arguments

`peril`	Peril. Reference type: `str`.
`region`	Region. Reference type: `str`.
`zone_ordinal`	Zone ordinal. Reference type: `int`.
`insured_sum`	Insured sum. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-cat-weight-zero-si")
result <- do.call(catastrophe_weighted_sum,
  c(case$kwargs, list(context = context)))
result$value
```

`catastrophe_zone_aggregation` *sqrt(WSI' C WSI) for one Annex XXII–XXVI peril/region; WSI supplied externally.*

Description

sqrt(WSI' C WSI) for one Annex XXII–XXVI peril/region; WSI supplied externally.

Usage

```
catastrophe_zone_aggregation(peril, region, weighted_sums, context, ...)
```

Arguments

peril	Peril. Reference type: str.
region	Region. Reference type: str.
weighted_sums	Weighted sums. Reference type: Mapping[str, float]. Supply a named R list with the keys shown in the example/reference case.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-cat-zone-earthquake-GU-one")
result <- do.call(catastrophe_zone_aggregation,
  c(case$kwargs, list(context = context)))
result$value
```

---

catastrophe_zone_ordinal

Resolve an explicitly supplied published code to its zone ordinal.

Description

Callers must first apply the region's documented postcode/province rule. This function never guesses a prefix from a full address or repairs source conflicts; the latter produce REVIEW_REQUIRED for the affected code only.

Usage

```
catastrophe_zone_ordinal(region, geographic_code, context, ...)
```

Arguments

region	Region. Reference type: str.
geographic_code	Geographic code. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: zone_ordinal.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-cat-geography-BE-1")
result <- do.call(catastrophe_zone_ordinal,
  c(case$kwargs, list(context = context)))
result$value
```

---

coinvestment_numeric_screen

Check strict issuer size/revenue and inclusive retention for EACH security.

Description

Model approvals, contract requirements, CQS/PD mapping, consolidated issuer scope, fiscal-year selection and EUR conversion remain external. There is no averaging of retention across securities and no internal credit model.

Usage

```
coinvestment_numeric_screen(
  revenue_currency_share,
  financial_years,
  retentions,
  qualification_reference,
  context,
  ...
)
```

Arguments

`revenue_currency_share`	Revenue currency share. Reference type: `float`.
`financial_years`	Financial years. Reference type: `documented input`.
`retentions`	Retentions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("coinvestment-baseline-employee-route")
result <- do.call(coinvestment_numeric_screen,
  c(case$kwargs, list(context = context)))
result$value
```

`concentration_adjusted_exposure` *Ei excluding zero-gi counterparties; does not alter Assets or quality weights.*

Description

Ei excluding zero-gi counterparties; does not alter Assets or quality weights.

Usage

```
concentration_adjusted_exposure(exposures, grouping_reference, context, ...)
```

Arguments

`exposures`	Exposures. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`grouping_reference`	Grouping reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-concentration-adjusted-zero")
result <- do.call(concentration_adjusted_exposure,
  c(case$kwargs, list(context = context)))
result$value
```

`concentration_asset_loss`

Immediate asset-value loss, explicitly NOT the resulting BOF capital charge.

Description

Immediate asset-value loss, explicitly NOT the resulting BOF capital charge.

Usage

```
concentration_asset_loss(excess, risk_factor, context, ...)
```

Arguments

`excess`	Excess. Reference type: `float`.
`risk_factor`	Risk factor. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-concentration-core-5")
result <- do.call(concentration_asset_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`concentration_assets` *Select Assets from externally classified holdings; intragroup needs all five flags.*

Description

Exclusions are not inferred from names. Intragroup category itself asserts group membership externally; a failed exclusion condition retains the asset.

Usage

```
concentration_assets(assets, classification_reference, context, ...)
```

Arguments

`assets`	Assets. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`classification_reference`	Classification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-concentration-assets-all-excluded")
result <- do.call(concentration_assets,
  c(case$kwargs, list(context = context)))
result$value
```

`concentration_credit_quality` *Position quality before single-name weighting/ceiling; eligibility is external.*

Description

Here the quality itself is interpolated, unlike Article180 stress-factor interpolation. MCR/SFCR routing in Article182(6-8) concerns unrated insurers.

Usage

```
concentration_credit_quality(
  category,
  qualification_reference,
  credit_quality_step = NULL,
  solvency_ratio = NULL,
  mcr_compliant = NULL,
  sfcr_published = NULL,
  context,
  ...
)
```

Arguments

`category`	Category. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`credit_quality_step`	Credit quality step. Reference type: `str | float | None`.
`solvency_ratio`	Solvency ratio. Reference type: `float | None`.
`mcr_compliant`	Mcr compliant. Reference type: `bool | None`.
`sfcr_published`	Sfcr published. Reference type: `bool | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: credit_quality_step.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-concentration-quality-residual")
result <- do.call(concentration_credit_quality,
  c(case$kwargs, list(context = context)))
result$value
```

---

concentration_excess *Threshold excess on already scoped Assets and zero-factor-adjusted exposure.*

Description

Threshold excess on already scoped Assets and zero-factor-adjusted exposure.

Usage

```
concentration_excess(exposure, assets, threshold, context, ...)
```

Arguments

exposure	Exposure. Reference type: float.
assets	Assets. Reference type: float.
threshold	Threshold. Reference type: float.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-concentration-core-3")
result <- do.call(concentration_excess,
  c(case$kwargs, list(context = context)))
result$value
```

`concentration_exposure_sum` *Sum externally grouped counterparty/single-name exposures, not all Assets.*

Description

Sum externally grouped counterparty/single-name exposures, not all Assets.

Usage

```
concentration_exposure_sum(exposures, grouping_reference, context, ...)
```

Arguments

`exposures`	Exposures. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`grouping_reference`	Grouping reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-concentration-core-13")
result <- do.call(concentration_exposure_sum,
  c(case$kwargs, list(context = context)))
result$value
```

---

concentration_factor *gi selection, not grouping or CT selection; regional CQS2 reference affects gi only.*

Description

gi selection, not grouping or CT selection; regional CQS2 reference affects gi only.

Usage

```
concentration_factor(
  category,
  qualification_reference,
  credit_quality_step = NULL,
  context,
  ...
)
```

Arguments

category	Category. Reference type: str.
qualification_reference	Qualification reference. Reference type: str.
credit_quality_step	Credit quality step. Reference type: str | float | None.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: ratio.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-concentration_factor-property-none")
result <- do.call(concentration_factor,
  c(case$kwargs, list(context = context)))
result$value
```

---

concentration_risk *Euclidean norm of already valued single-name BOF charges; not asset losses.*

Description

Euclidean norm of already valued single-name BOF charges; not asset losses.

Usage

```
concentration_risk(single_name_charges, context, ...)
```

Arguments

single_name_charges	Single name charges. Reference type: Mapping[str, float]. Supply a named R list with the keys shown in the example/reference case.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-concentration-core-7")
result <- do.call(concentration_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

concentration_single_name_quality

Ceil value-weighted quality only after aggregation, without epsilon rounding.

Description

Exact arithmetic on validated binary inputs protects integer boundaries and avoids overflow in weighted products. Input qualities may be fractional.

Usage

```
concentration_single_name_quality(exposures, grouping_reference, context, ...)
```

Arguments

`exposures`	Exposures. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`grouping_reference`	Grouping reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: credit_quality_step.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-concentration-core-9")
result <- do.call(concentration_single_name_quality,
  c(case$kwargs, list(context = context)))
result$value
```

---

concentration_threshold

CT on externally established single-name quality or qualified special exposure.

Description

CT on externally established single-name quality or qualified special exposure.

Usage

```
concentration_threshold(
  category,
  qualification_reference,
  credit_quality_step = NULL,
  context,
  ...
)
```

Arguments

`category`	Category. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`credit_quality_step`	Credit quality step. Reference type: `str | float | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-concentration_threshold-property-none")
result <- do.call(concentration_threshold,
  c(case$kwargs, list(context = context)))
result$value
```

`Context` *Explicit calculation context*

Description

Select a dated rule profile and optional numeric analyst overrides. No current date, currency, rule profile or external approval is inferred.

Usage

```
Context(
  as_of,
  known_at,
  currency,
  profile_id,
  mode = "REFERENCE_ONLY",
  overrides = list()
)
```

Arguments

as_of, known_at	ISO dates for valuation and information availability.
currency	Three-letter uppercase currency identifier.
profile_id	Explicit profile identifier; inspect rule_profiles().
mode	Must be "REFERENCE_ONLY"; a result is not supervisory approval.
overrides	List of NumericOverride() entries.

Value

An immutable-by-convention S3 Context list. Functions validate it before calculation; modifying a copy does not affect other contexts.

See Also

parameter(), rule_profiles()

Examples

```
context <- Context("2025-01-17", "2026-09-23", "EUR",
                   "EU-S2-DOCUMENTS-2024-2025-v0.1")
intangible_risk(100, context = context)$value
```

---

contract_boundary_exclusion

Only the Article 18(3) negative screen; zero never proves contract membership.

Description

'After' concerns coverage, not payment dates. Qualification of unilateral rights, repricing and legal enforceability is supplied externally.

Usage

```
contract_boundary_exclusion(
  coverage_after_qualifying_right,
  premium_payment_enforceable,
  assessment_reference,
  context,
  ...
)
```

Arguments

`coverage_after_qualifying_right`	Coverage after qualifying right. Reference type: `bool | None`.
`premium_payment_enforceable`	Premium payment enforceable. Reference type: `bool | None`.
`assessment_reference`	Assessment reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-boundary-exclusion-true-true")
result <- do.call(contract_boundary_exclusion,
  c(case$kwargs, list(context = context)))
result$value
```

---

contract_recognition_due

Has the first recognition time arrived? This does not reverse later derecognition.

Description

Has the first recognition time arrived? This does not reverse later derecognition.

Usage

```
contract_recognition_due(
  contract_party_date,
  coverage_start_date,
  evidence_reference,
  context,
  ...
)
```

Arguments

`contract_party_date`	Contract party date. Reference type: `str`.
`coverage_start_date`	Coverage start date. Reference type: `str`.
`evidence_reference`	Evidence reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-recognition-party-first")
result <- do.call(contract_recognition_due,
  c(case$kwargs, list(context = context)))
result$value
```

`contract_unilateral_right` *Guideline2 unilateral-right screen, not full contract-boundary membership.*

Description

Restrictions must be externally qualified effective restrictions, including the Article18 economic-effect assessment. Relevant third parties exclude supervisors/governance bodies. Mere reputation or competition is not a veto. Full risk reflection and the profile-specific life repricing clause remain separate for an amendment right, even when this screen returns1.

Usage

```
contract_unilateral_right(
  right_type,
  facts,
  assessment_reference,
  context,
  ...
)
```

Arguments

`right_type`	Right type. Reference type: `str`.
`facts`	Facts. Reference type: `Mapping[str, bool | None]`. Supply a named R list with the keys shown in the example/reference case.
`assessment_reference`	Assessment reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("unilateral-baseline-amend-31")
result <- do.call(contract_unilateral_right,
  c(case$kwargs, list(context = context)))
result$value
```

`counterparty_solvency_ratio`
Divide externally qualified latest eligible funds by latest positive SCR.

Description

Values must refer to the correct counterparty, currency and unit. Their recency and regulatory eligibility are not established by this division. Signed funds are preserved; neither MCR compliance nor a rating is inferred.

Usage

```
counterparty_solvency_ratio(
  eligible_own_funds,
  scr,
  qualification_reference,
  context,
  ...
)
```

Arguments

`eligible_own_funds`	Eligible own funds. Reference type: `float`.
`scr`	Scr. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: ratio.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("counterparty-ratio-baseline-zero")
result <- do.call(counterparty_solvency_ratio,
  c(case$kwargs, list(context = context)))
result$value
```

---

coverage *Declared regulatory coverage and limitations*

Description

Declared regulatory coverage and limitations

Usage

```
coverage()
```

Value

Named list inherited from the Golden Source. This describes regulatory scope, not certification or approval of a company's inputs or capital result.

Examples

```
names(coverage())
```

`credit_cat_default_loss` *Select largest NET default exposures and report their gross scenario claims.*

Description

Each recovery is externally valued against this exposure's default claim, not against its full insured sum. Ambiguous cutoff ties with differing gross amounts require explicit selection, still constrained to largest net losses.

Usage

```
credit_cat_default_loss(
  exposures,
  qualification_reference,
  selected_exposure_ids = NULL,
  context,
  ...
)
```

Arguments

`exposures`	Exposures. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`selected_exposure_ids`	Selected exposure ids. Reference type: `Sequence[str] | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("credit-cat-empty")
result <- do.call(credit_cat_default_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`credit_cat_recession_loss`

Sudden gross claim from next12month earned LOB9/21 premiums, not capital.

Description

Sudden gross claim from next12month earned LOB9/21 premiums, not capital.

Usage

```
credit_cat_recession_loss(gross_premium, qualification_reference, context, ...)
```

Arguments

`gross_premium`	Gross premium. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("liability-credit-2027-credit-recession")
result <- do.call(credit_cat_recession_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`credit_derivative_scenario_charge` *Select gross credit-derivative charge by maximal net-FDB scenario loss.*

Description

Widening/tightening BOF valuations and Article179(3) hedge exclusions must be qualified externally. This is neither derivative pricing nor hedge approval. Article180(9) can instead use an explicitly qualified public debt underlying; no partial guarantee, other underlying or missing scenarios implies zero.

Usage

```
credit_derivative_scenario_charge(
  gross_losses,
  net_losses,
  valuation_reference,
  tie_break = NULL,
  public_underlying = NULL,
  hedge_exemption = NULL,
  context,
  ...
)
```

Arguments

`gross_losses`	Gross losses. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`net_losses`	Net losses. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`valuation_reference`	Valuation reference. Reference type: `str`.
`tie_break`	Tie break. Reference type: `str | None`.

`public_underlying`
: Public underlying. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`hedge_exemption`
: Hedge exemption. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("credit-derivative-select-baseline-equal")
result <- do.call(credit_derivative_scenario_charge,
  c(case$kwargs, list(context = context)))
result$value
```

---

credit_spread_stress *Absolute widening versus relative tightening; hedge exclusions require separate assessment.*

Description

Absolute widening versus relative tightening; hedge exclusions require separate assessment.

Usage

```
credit_spread_stress(
  spread,
  direction,
  category,
  qualification_reference,
  credit_quality_step = NULL,
  context,
  ...
)
```

Arguments

spread	Spread. Reference type: float.
direction	Direction. Reference type: str.
category	Category. Reference type: str.
qualification_reference	Qualification reference. Reference type: str.
credit_quality_step	Credit quality step. Reference type: str | None.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: annual_rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-credit-spread-tighten-0")
result <- do.call(credit_spread_stress,
  c(case$kwargs, list(context = context)))
result$value
```

currency_participation_bof_change
Signed FX BOF change: deducted holdings contribute gains but not losses.

Description

Inputs are externally valued BOF deltas for each holding's Art68-deducted and non-deducted parts, not market values or deduction amounts. Apply the positive-part rule per holding before summation; do not net excluded losses.

Usage

```
currency_participation_bof_change(
  participations,
  qualification_reference,
  context,
  ...
)
```

Arguments

participations	Participations. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("currency-participation-baseline-empty")
result <- do.call(currency_participation_bof_change,
  c(case$kwargs, list(context = context)))
result$value
```

`currency_peg_factor` *Historical document-profile pair factor, not confirmation of a current currency peg.*

Description

All 15 unordered pairs are explicit original values, not cross-rate-derived estimates. External evidence must establish date-specific applicability.

Usage

```
currency_peg_factor(foreign_currency, qualification_reference, context, ...)
```

Arguments

`foreign_currency`	Foreign currency. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("currency-peg-factor-EUR-DKK")
result <- do.call(currency_peg_factor,
  c(case$kwargs, list(context = context)))
result$value
```

`currency_peg_rate_stress` *Apply a qualified original peg factor to local currency per one foreign unit.*

Description

Apply a qualified original peg factor to local currency per one foreign unit.

Usage

```
currency_peg_rate_stress(
  exchange_rate,
  foreign_currency,
  direction,
  qualification_reference,
  valuation_reference,
  context,
  ...
)
```

Arguments

`exchange_rate`	Exchange rate. Reference type: `float`.
`foreign_currency`	Foreign currency. Reference type: `str`.
`direction`	Direction. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: exchange_rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("currency-peg-rate-EUR-DKK-up")
result <- do.call(currency_peg_rate_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

currency_rate_stress *Stress local currency per one foreign unit, not its reciprocal or a BOF amount.*

Description

Stress local currency per one foreign unit, not its reciprocal or a BOF amount.

Usage

```
currency_rate_stress(
  exchange_rate,
  direction,
  valuation_reference,
  context,
  ...
)
```

Arguments

exchange_rate	Exchange rate. Reference type: float.
direction	Direction. Reference type: str.
valuation_reference	Valuation reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: exchange_rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("currency-rate-1-up")
result <- do.call(currency_rate_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

currency_risk *Sum already net-scenario-selected gross charges, all valued in Context.currency.*

Description

Sum already net-scenario-selected gross charges, all valued in Context.currency.

Usage

```
currency_risk(currency_charges, classification_reference, context, ...)
```

Arguments

currency_charges	Currency charges. Reference type: Mapping[str, float]. Supply a named R list with the keys shown in the example/reference case.
classification_reference	Classification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("currency-sum-zero")
result <- do.call(currency_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

currency_scenario_charge

One currency: select gross charge by the largest externally valued net-FDB loss.

Description

Each mapping contains exactly up/down in the context's local currency. This does not value exposures or approve their currency classification.

Usage

```
currency_scenario_charge(
  gross_losses,
  net_losses,
  valuation_reference,
  tie_break = NULL,
  context,
  ...
)
```

Arguments

gross_losses	Gross losses. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
net_losses	Net losses. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
valuation_reference	Valuation reference. Reference type: str.
tie_break	Tie break. Reference type: str | None.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("currency-select-baseline-equal")
result <- do.call(currency_scenario_charge,
  c(case$kwargs, list(context = context)))
result$value
```

`de_branch_minimum_amount` *Calculate a qualified German branch asset minimum or domestic deposit.*

Description

The input is the unhalved applicable AMCR, not the branch MCR. A German deposit waiver does not waive the deposit at the chosen supervisory state. Asset location, admissibility and any higher actual SCR/MCR stay separate.

Usage

```
de_branch_minimum_amount(
  unadjusted_absolute_floor,
  requirement,
  reinsurance_branch,
  domestic_deposit_relief,
  relief_reference = NULL,
  source_version,
  applicability_reference,
  context,
  ...
)
```

Arguments

`unadjusted_absolute_floor`	Unadjusted absolute floor. Reference type: `float`.
`requirement`	Requirement. Reference type: `str`.
`reinsurance_branch`	Reinsurance branch. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`domestic_deposit_relief`	Domestic deposit relief. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`relief_reference`	Relief reference. Reference type: `str | None`.
`source_version`	Source version. Reference type: `str`.
`applicability_reference`	Applicability reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: EUR.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2026-10-05",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("de-close-baseline-reinsurer")
result <- do.call(de_branch_minimum_amount,
  c(case$kwargs, list(context = context)))
result$value
```

---

de_cover_assets_minimum

German book-value cover pool minimum, distinct from Solvency-II TP.

Description

Gross direct-insurance figures precede reinsurance deductions. Eligible current pool value must already reflect the separate Article126 rules. Extra supervisory requirements under127(2) are not inferred here.

Usage

```
de_cover_assets_minimum(
  components,
  source_version,
  applicability_reference,
  current_cover_assets = NULL,
  foreign_security_exception = 0,
  foreign_security_reference = NULL,
  context,
  ...
)
```

Arguments

components	Components. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
source_version	Source version. Reference type: str.
applicability_reference	Applicability reference. Reference type: str.
current_cover_assets	Current cover assets. Reference type: float | None.
foreign_security_exception	Foreign security exception. Reference type: float.
foreign_security_reference	Foreign security reference. Reference type: str | None.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: EUR.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2026-10-05",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("cover-close-baseline-minimum")
result <- do.call(de_cover_assets_minimum,
  c(case$kwargs, list(context = context)))
result$value
```

`de_cover_property_value` *Book/market minimum, or explicitly supervisor-determined property value.*

Description

A doubled market-to-book threshold permits review of an increase; it does not prescribe the increase. Encumbered property always needs an external supervisory value. Neither value may feed a Solvency-II market valuation merely because this separate cover-pool rule accepts it.

Usage

```
de_cover_property_value(
  book_value,
  market_value,
  encumbered,
  supervisory_value = NULL,
  supervisory_reference = NULL,
  expert_valuation_reference = NULL,
  source_version,
  applicability_reference,
  context,
  ...
)
```

Arguments

`book_value`	Book value. Reference type: `float`.
`market_value`	Market value. Reference type: `float`.
`encumbered`	Encumbered. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`supervisory_value`	Supervisory value. Reference type: `float | None`.
`supervisory_reference`	Supervisory reference. Reference type: `str | None`.
`expert_valuation_reference`	Expert valuation reference. Reference type: `str | None`.
`source_version`	Source version. Reference type: `str`.
`applicability_reference`	Applicability reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: EUR.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2026-10-05",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("cover-close-baseline-property-low")
result <- do.call(de_cover_property_value,
  c(case$kwargs, list(context = context)))
result$value
```

---

de_liquidity_coverage *Coverage, cash-flow gap and liquidity level for one qualified horizon.*

Description

Inflows and cash are disjoint sources; no netting or double counting. Projections, liquidation assumptions and scenarios are insurer inputs. The circular specifies no universal minimum ratio or fixed time bands.

Usage

```
de_liquidity_coverage(
  gross_inflows,
  gross_outflows,
  realisable_cash,
  total_investments,
  source_version,
  applicability_reference,
  horizon_reference,
  context,
  ...
)
```

Arguments

`gross_inflows`	Gross inflows. Reference type: `float`.
`gross_outflows`	Gross outflows. Reference type: `float`.
`realisable_cash`	Realisable cash. Reference type: `float`.
`total_investments`	Total investments. Reference type: `float`.
`source_version`	Source version. Reference type: `str`.
`applicability_reference`	Applicability reference. Reference type: `str`.
`horizon_reference`	Horizon reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2026-10-05",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("de-close-baseline-liquidity-zero-assets")
result <- do.call(de_liquidity_coverage,
  c(case$kwargs, list(context = context)))
result$value
```

default_ccp_fund_lgd_2027 *LGD of an externally qualified CCP default-fund contribution, not CCP eligibility.*

Description

LGD of an externally qualified CCP default-fund contribution, not CCP eligibility.

Usage

```
default_ccp_fund_lgd_2027(
  contribution,
  prefunded,
  qualification_reference,
  context,
  ...
)
```

Arguments

contribution	Contribution. Reference type: float.
prefunded	Prefunded. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("default-2027-ccp-fund-true")
result <- do.call(default_ccp_fund_lgd_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_clearing_conditions

Check one externally selected clearing route, not legal eligibility.

Description

A failed declaration screen never implies zero capital or a fallback LGD branch. The client joint-default exception relaxes only the named joint failure case. Historical legal opinions must not substitute for the changed 2027 legal-review requirement. Direct own-account clearing is future-only.

Usage

```
default_clearing_conditions(
  route,
  conditions,
  qualification_reference,
  context,
  ...
)
```

Arguments

`route`	Route. Reference type: `str`.
`conditions`	Conditions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("clearing-conditions-future-member_own_account-all")
result <- do.call(default_clearing_conditions,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_collateral_factor

Select a coefficient, not an insolvency-law interpretation or collateral valuation.

Description

Select a coefficient, not an insolvency-law interpretation or collateral valuation.

Usage

```
default_collateral_factor(
  factor_type,
  collateral_ignored_in_estate_share,
  legal_reference,
  context,
  ...
)
```

Arguments

`factor_type`	Factor type. Reference type: `str`.
`collateral_ignored_in_estate_share`	Collateral ignored in estate share. Reference type: `bool | None`.
`legal_reference`	Legal reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-lgd-factor-F-true")
result <- do.call(default_collateral_factor,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_collateral_market_adjustment

Literal document-profile order; signed adjustment, not collateral eligibility.

Description

External valuations must assess FX against exposure/loan currency. Do not silently reverse this source's subtraction or apply the Article196 floor.

Usage

```
default_collateral_market_adjustment(
  scr_without,
  scr_with,
  valuation_reference,
  context,
  ...
)
```

Arguments

`scr_without`	Scr without. Reference type: `float`.
`scr_with`	Scr with. Reference type: `float`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-collateral-adjustment-negative")
result <- do.call(default_collateral_market_adjustment,
  c(case$kwargs, list(context = context)))
result$value
```

`default_defaulted_loan_lgd_2027`

Article192(4a) floor; Loan is the source-defined qualified mortgage value.

Description

Classification and guideline-compliant recovery valuation are external. This does not extend the source-defined scope to arbitrary unsecured loans.

Usage

```
default_defaulted_loan_lgd_2027(
  loan,
  recoverables,
  qualification_reference,
  context,
  ...
)
```

Arguments

`loan`	Loan. Reference type: `float`.
`recoverables`	Recoverables. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("default-2027-loan-0-0")
result <- do.call(default_defaulted_loan_lgd_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`default_derivative_lgd`

Four externally qualified variants, with explicit market/risk-adjusted collateral.

Description

For a qualified netting set, RM and collateral must be assessed at set level; summing stand-alone risk mitigation is not justified by this function.

Usage

```
default_derivative_lgd(
  derivative_value,
  risk_mitigation,
  collateral_value,
  variant,
  collateral_basis,
  collateral_ignored_in_estate_share,
  qualification_reference,
  context,
  ...
)
```

Arguments

`derivative_value`	Derivative value. Reference type: `float`.
`risk_mitigation`	Risk mitigation. Reference type: `float`.
`collateral_value`	Collateral value. Reference type: `float`.
`variant`	Variant. Reference type: `str`.
`collateral_basis`	Collateral basis. Reference type: `str`.
`collateral_ignored_in_estate_share`	Collateral ignored in estate share. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-lgd-derivative-3-true")
result <- do.call(default_derivative_lgd,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_derivative_netting_value

Combine market values, never stand-alone RM, collateral stress or LGD.

Description

All values must already be in context currency and Article75-compatible. Netting eligibility and completeness of the set remain externally assessed. Fraction over decimal float representations prevents intermediate overflow and preserves signed cancellation. Only the final value becomes float.

Usage

```
default_derivative_netting_value(
  positions,
  netting_qualified,
  liabilities_settled_before_clearing,
  qualification_reference,
  context,
  ...
)
```

Arguments

positions	Positions. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
netting_qualified	Netting qualified. Reference type: bool | None.
liabilities_settled_before_clearing	Liabilities settled before clearing. Reference type: bool | None.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("derivative-netting-baseline-single")
result <- do.call(default_derivative_netting_value,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_exposure_type *Return1/2 for default types or0 for exclusion FROM THIS MODULE ONLY.*

Description

The category must already describe the precise qualified contractual risk, including any spread/mortgage/CCP/guarantee conditions. An excluded risk may attract capital elsewhere; zero is a routing code, not a capital value. Only cedant deposits and called-unpaid commitments use the declared count and optional legal election. Article190 grouping and Article189(5) provider substitution, and the all-relevant-exposures scope of the election, remain external prerequisites; no count is inferred from arbitrary asset IDs.

Usage

```
default_exposure_type(
  category,
  qualification_reference,
  single_name_count = NULL,
  elect_type1 = NULL,
  context,
  ...
)
```

Arguments

`category`	Category. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`single_name_count`	Single name count. Reference type: `int | None`.
`elect_type1`	Elect type1. Reference type: `bool | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: exposure_type.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("default-type-future-securities_financing")
result <- do.call(default_exposure_type,
  c(case$kwargs, list(context = context)))
result$value
```

`default_mortgage_lgd` *Use a qualified stress guarantee, not an arbitrary guarantee nominal amount.*

Description

The future Article192(4) adds a floor on the non-guaranteed loan value. Historical results retain the published zero floor, not the new 5% floor.

Usage

```
default_mortgage_lgd(
  loan_value,
  risk_adjusted_mortgage,
  eligible_guarantee,
  qualification_reference,
  context,
  guarantee_conditions = NULL,
  ...
)
```

Arguments

`loan_value`	Loan value. Reference type: `float`.
`risk_adjusted_mortgage`	Risk adjusted mortgage. Reference type: `float`.
`eligible_guarantee`	Eligible guarantee. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`guarantee_conditions`	Guarantee conditions. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("lgd-mortgage-10")
result <- do.call(default_mortgage_lgd,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_other_lgd *Two externally classified nonnegative valuation conventions; no hidden offsetting.*

Description

Two externally classified nonnegative valuation conventions; no hidden offsetting.

Usage

```
default_other_lgd(
  recognised_value,
  exposure_type,
  classification_reference,
  nominal_value = NULL,
  context,
  ...
)
```

Arguments

`recognised_value`	Recognised value. Reference type: `float`.
`exposure_type`	Exposure type. Reference type: `str`.
`classification_reference`	Classification reference. Reference type: `str`.
`nominal_value`	Nominal value. Reference type: `float | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-lgd-other-receivable-0")
result <- do.call(default_other_lgd,
  c(case$kwargs, list(context = context)))
result$value
```

`default_pool_lgd` *Externally qualified type B/C pool formula, not pool classification.*

Description

B uses already net BEC/BEU; C uses the whole pool's BECE. The recovery threshold is inclusive, unlike Article192(2). DeltaRM is not halved.

Usage

```
default_pool_lgd(
  best_estimate,
  risk_mitigation_contribution,
  risk_adjusted_collateral,
  variant,
  encumbered_asset_fraction,
  collateral_ignored_in_estate_share,
  qualification_reference,
  undertaking_share = NULL,
  counterparty_share = NULL,
  context,
  ...
)
```

Arguments

`best_estimate`	Best estimate. Reference type: `float`.
`risk_mitigation_contribution`	Risk mitigation contribution. Reference type: `float`.
`risk_adjusted_collateral`	Risk adjusted collateral. Reference type: `float`.
`variant`	Variant. Reference type: `str`.
`encumbered_asset_fraction`	Encumbered asset fraction. Reference type: `float`.
`collateral_ignored_in_estate_share`	Collateral ignored in estate share. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`undertaking_share`	Undertaking share. Reference type: `float | None`.
`counterparty_share`	Counterparty share. Reference type: `float | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-pool-C-boundary")
result <- do.call(default_pool_lgd,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_pool_member_ratio

Select the pool SR convention, not the counterparty PD table.

Description

Select the pool SR convention, not the counterparty PD table.

Usage

```
default_pool_member_ratio(
  category,
  classification_reference,
  credit_quality_step = NULL,
  current_solvency_ratio = NULL,
  equivalent = NULL,
  context,
  ...
)
```

Arguments

category	Category. Reference type: str.
classification_reference	Classification reference. Reference type: str.
credit_quality_step	Credit quality step. Reference type: str | None.
current_solvency_ratio	Current solvency ratio. Reference type: float | None.
equivalent	Equivalent. Reference type: bool | None.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-pool-member-rating-0")
result <- do.call(default_pool_member_ratio,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_pool_solvency_ratio

Harmonic EOF-weighted inner group plus risk-share-weighted outer group.

Description

Membership must include any central intermediary. Zero inner SR requires a separately assessed limiting case; it is not silently replaced by zero.

Usage

```
default_pool_solvency_ratio(
  in_scope_members,
  out_of_scope_members,
  membership_reference,
  context,
  ...
)
```

Arguments

`in_scope_members`	In scope members. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`out_of_scope_members`	Out of scope members. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`membership_reference`	Membership reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-pool-ratio-outside")
result <- do.call(default_pool_solvency_ratio,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_pool_type_a_lgd

Apply type-A liability rule to an externally qualified Article192 LGD.

Description

Low SR legitimately gives a risk-share factor above1 in this source; there is no invented reduction-only clamp.

Usage

```
default_pool_type_a_lgd(
  base_lgd,
  joint_liability,
  qualification_reference,
  pool_solvency_ratio = NULL,
  context,
  ...
)
```

Arguments

base_lgd	Base lgd. Reference type: `float`.
joint_liability	Joint liability. Reference type: `bool | None`.
qualification_reference	Qualification reference. Reference type: `str`.
pool_solvency_ratio	Pool solvency ratio. Reference type: `float | None`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-pool-A-proportional")
result <- do.call(default_pool_type_a_lgd,
  c(case$kwargs, list(context = context)))
result$value
```

`default_probability` *Apply an externally qualified Article 199 category; not a rating/classification engine.*

Description

Clearing exceptions in (12)/(13) take precedence in the external category decision. A 'rated' call cannot establish that those exceptions are absent.

Usage

```
default_probability(
  category,
  classification_reference,
  credit_quality_step = NULL,
  solvency_ratio = NULL,
  mcr_compliant = NULL,
  sfcr_published = NULL,
  context,
  ...
)
```

Arguments

`category`	Category. Reference type: `str`.
`classification_reference`	Classification reference. Reference type: `str`.
`credit_quality_step`	Credit quality step. Reference type: `str | None`.
`solvency_ratio`	Solvency ratio. Reference type: `float | None`.
`mcr_compliant`	Mcr compliant. Reference type: `bool | None`.
`sfcr_published`	Sfcr published. Reference type: `bool | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: probability.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("pd-other")
result <- do.call(default_probability,
  c(case$kwargs, list(context = context)))
result$value
```

`default_protected_probability` *Select a qualified provider PD, never the minimum of two probabilities.*

Description

Full protection and Articles209–215 compliance are externally assessed. Clearing precedence is explicit. This does not regroup names under189(5), change LGD, or infer sovereign zero-PD eligibility from a provider identity.

Usage

```
default_protected_probability(
  original_pd,
  substitute_provider,
  protection,
  clearing_category,
  qualification_reference,
  context,
  central_government_guarantee = NULL,
  ...
)
```

Arguments

`original_pd`	Original pd. Reference type: `float`.
`substitute_provider`	Substitute provider. Reference type: `bool | None`.
`protection`	Protection. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`clearing_category`
: Clearing category. Reference type: `str | None`.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`central_government_guarantee`
: Central government guarantee. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: probability.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("protected-pd-baseline-original")
result <- do.call(default_protected_probability,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_reinsurance_lgd

Choose standard/high-encumbrance formula; input includes corresponding receivables.

Description

This SCR LGD is distinct from the technical-provisions loss in Article42. Netting, collateral eligibility and contract qualifications remain external.

Usage

```
default_reinsurance_lgd(
  recoverables,
  risk_mitigation,
  risk_adjusted_collateral,
  counterparty_is_insurer,
  collateral_ignored_in_estate_share,
  qualification_reference,
  encumbered_asset_fraction = NULL,
  context,
  method = "standard",
  proportionality_reference = NULL,
  ...
)
```

Arguments

`recoverables`	Recoverables. Reference type: `float`.
`risk_mitigation`	Risk mitigation. Reference type: `float`.
`risk_adjusted_collateral`	Risk adjusted collateral. Reference type: `float`.
`counterparty_is_insurer`	Counterparty is insurer. Reference type: `bool | None`.
`collateral_ignored_in_estate_share`	Collateral ignored in estate share. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`encumbered_asset_fraction`	Encumbered asset fraction. Reference type: `float | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`method`	Method. Reference type: `str`.
`proportionality_reference`	Proportionality reference. Reference type: `str | None`.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("lgd-ri-full-collateral")
result <- do.call(default_reinsurance_lgd,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_risk_adjusted_collateral

Literal collateral branches, with signed results and explicit legal evidence.

Description

Article197(3) says neither condition is met. Mixed failure is therefore not silently treated as zero. A negative result remains visible; downstream LGD APIs explicitly reject collateral outside their nonnegative contract. Article112 is an explicit alternative on market value, not an additional haircut after a market adjustment. Article88 qualification stays external. Optional Article214(2) assessment checks the deposit institution's CQS; its legal applicability and all other Article214 conditions stay external. Omission preserves the qualified-input API, not a numeric eligibility check.

Usage

```
default_risk_adjusted_collateral(
  market_value,
  market_adjustment,
  collateral_type,
  conditions,
  qualification_reference,
  context,
  method = "standard",
  proportionality_reference = NULL,
  custodian_assessment = NULL,
  ...
)
```

Arguments

market_value	Market value. Reference type: float.
market_adjustment	Market adjustment. Reference type: float | None.
collateral_type	Collateral type. Reference type: str.
conditions	Conditions. Reference type: Mapping[str, bool | None]. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
method	Method. Reference type: str.
proportionality_reference	Proportionality reference. Reference type: str | None.
custodian_assessment	Custodian assessment. Reference type: Mapping | None. Supply a named R list with the keys shown in the example/reference case.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("risk-adjusted-collateral-baseline-title")
result <- do.call(default_risk_adjusted_collateral,
  c(case$kwargs, list(context = context)))
result$value
```

`default_risk_adjusted_mortgage` *Subtract adjustment from externally assessed Article198(2) property value.*

Description

Monitoring, prior claims and the independent valuation's market-value cap must already be reflected in property_value; no appraisal is invented here.

Usage

```
default_risk_adjusted_mortgage(
  property_value,
  market_adjustment,
  valuation_reference,
  context,
  ...
)
```

Arguments

`property_value`	Property value. Reference type: `float`.
`market_adjustment`	Market adjustment. Reference type: `float`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("risk-adjusted-mortgage-baseline-zero")
result <- do.call(default_risk_adjusted_mortgage,
  c(case$kwargs, list(context = context)))
result$value
```

`default_risk_mitigation`

Difference for the same relevant risk module; never substitute overall SCR.

Description

Difference for the same relevant risk module; never substitute overall SCR.

Usage

```
default_risk_mitigation(
  scr_without,
  scr_with,
  valuation_reference,
  context,
  ...
)
```

Arguments

`scr_without`	Scr without. Reference type: `float`.
`scr_with`	Scr with. Reference type: `float`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-lgd-rm-floor")
result <- do.call(default_risk_mitigation,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_securities_financing_lgd_2027

Qualified repo/reverse-repo/securities-lending LGD, not a netting engine.

Description

Netted inputs must already represent the same legally qualified set's economic effect; collateral is assessed at set level, not blindly summed.

Usage

```
default_securities_financing_lgd_2027(
  exposure,
  risk_adjusted_collateral,
  netting_applied,
  qualification_reference,
  context,
  ...
)
```

Arguments

`exposure`	Exposure. Reference type: `float`.
`risk_adjusted_collateral`	Risk adjusted collateral. Reference type: `float`.

`netting_applied`
: Netting applied. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-lgd-financing-zero")
result <- do.call(default_securities_financing_lgd_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_single_name_count

Count declared single names and retain every exposure-to-group assignment.

Description

None for group/pool means externally established absence, NOT unknown. Pool separation suppresses the pool edge only, not the corporate-group rule. Optional189(5) substitutions are an explicit election, restricted to this count. Original/effective legal memberships and completeness of the relevant portfolio are external qualifications, never inferred from IDs.

Usage

```
default_single_name_count(
  exposures,
  pool_treatment,
  grouping_reference,
  context,
  provider_substitutions = NULL,
  ...
)
```

Arguments

exposures	Exposures. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
pool_treatment	Pool treatment. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
grouping_reference	Grouping reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
provider_substitutions	Provider substitutions. Reference type: Mapping | None. Supply a named R list with the keys shown in the example/reference case.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: single_names.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("default-grouping-baseline-same-group")
result <- do.call(default_single_name_count,
```

```
  c(case$kwargs, list(context = context)))
result$value
```

`default_single_name_lgd` *Sum already assessed LGDs; qualified netting sets must not be counted twice.*

Description

Sum already assessed LGDs; qualified netting sets must not be counted twice.

Usage

```
default_single_name_lgd(exposure_lgds, grouping_reference, context, ...)
```

Arguments

`exposure_lgds`	Exposure lgds. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`grouping_reference`	Grouping reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-lgd-single-name-zero")
result <- do.call(default_single_name_lgd,
  c(case$kwargs, list(context = context)))
result$value
```

`default_single_name_pd`

LGD-weighted PD for one externally grouped single name, not legal grouping.

Description

LGD-weighted PD for one externally grouped single name, not legal grouping.

Usage

```
default_single_name_pd(exposures, grouping_reference, context, ...)
```

Arguments

`exposures`	Exposures. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`grouping_reference`	Grouping reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: probability.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("pd-weighted-zero")
result <- do.call(default_single_name_pd,
  c(case$kwargs, list(context = context)))
result$value
```

`default_type1` *Type-1 variance and charge; PD/LGD supplied per already grouped single name.*

Description

Type-1 variance and charge; PD/LGD supplied per already grouped single name.

Usage

```
default_type1(
  counterparties,
  context,
  method = "standard",
  proportionality_reference = NULL,
  ...
)
```

Arguments

`counterparties`	Counterparties. Reference type: `list[dict]`. Supply a named R list with the keys shown in the example/reference case.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`method`	Method. Reference type: `str`.
`proportionality_reference`	Proportionality reference. Reference type: `str | None`.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("default-2027-type1-single-0")
result <- do.call(default_type1,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_type2_shock *Value-decrease amount; BOF must still be revalued to determine the capital charge.*

Description

Value-decrease amount; BOF must still be revalued to determine the capital charge.

Usage

```
default_type2_shock(overdue_intermediary_lgd, other_lgd, context, ...)
```

Arguments

`overdue_intermediary_lgd`	Overdue intermediary lgd. Reference type: `float`.
`other_lgd`	Other lgd. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("type2-shock")
result <- do.call(default_type2_shock,
  c(case$kwargs, list(context = context)))
result$value
```

---

default_type2_shock_2027

Three disjoint2027 LGD pools; no implicit zero for defaulted/forborne loans.

Description

Inputs are qualified externally and the residual pool excludes both special pools. The result is the exposure-value shock, not a completed BOF revaluation.

Usage

```
default_type2_shock_2027(
  overdue_intermediary_lgd,
  defaulted_forborne_lgd,
  other_lgd,
  qualification_reference,
  context,
  ...
)
```

Arguments

`overdue_intermediary_lgd`
: Overdue intermediary lgd. Reference type: `float`.

`defaulted_forborne_lgd`
: Defaulted forborne lgd. Reference type: `float`.

other_lgd	Other lgd. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("default-2027-type2-4")
result <- do.call(default_type2_shock_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

discount_curve_from_spot_rates

Build explicit discount factors from externally supplied spot rates

---

Description

Build explicit discount factors from externally supplied spot rates

Usage

```
discount_curve_from_spot_rates(
  points,
  curve_id,
  curve_kind,
  source_reference,
  time_basis_reference,
  context
)
```

Arguments

points	Named list keyed by payment date, each with annual_effective_rate (decimal) and time_years (explicit year fraction).
curve_id, curve_kind, source_reference	Curve identity; see DiscountCurve().
time_basis_reference	Nonempty external year-fraction convention reference.
context	Explicit Context().

Details

No interpolation, extrapolation or calendar convention is inferred.

Value

A DiscountCurve() with raw inputs and convention fingerprinted in provenance.

Examples

```
ctx <- Context("2025-01-17", "2026-09-23", "EUR", "EU-S2-DOCUMENTS-2024-2025-v0.1")
curve <- discount_curve_from_spot_rates(
  list("2026-01-17" = list(annual_effective_rate = 0.03, time_years = 1)),
  "example", "custom", "synthetic rates", "explicit one year", ctx)
discount_curve_factor(curve, "2026-01-17")
```

DiscountCurve *Explicit local discount curve*

Description

Explicit local discount curve

Usage

```
DiscountCurve(curve_id, as_of, currency, curve_kind, source_reference, points)

discount_curve_factor(curve, payment_date)

discount_curve_to_dict(curve)

discount_curve_from_dict(payload)
```

Arguments

curve_id	Nonempty identifier supplied by the user.
as_of	Canonical valuation date, YYYY-MM-DD.
currency	Uppercase three-letter currency.
curve_kind	One of base, va, ma, stress, custom.
source_reference	User-owned provenance, not an instruction to download.
points	Ordered list of two-element lists containing payment date and discount factor. Factors must be positive; values above one are permitted.
curve	A DiscountCurve().
payment_date	Exact canonical payment date.
payload	Exact version-1 schema with metadata and date/discount_factor rows.

Details

Points are sorted by date and duplicate dates rejected. No interpolation, day-count convention, currency conversion or approval is inferred. A copy can be edited, but adapters revalidate it before use.

Value

A DiscountCurve list. Use discount_curve_factor() for exact lookup and discount_curve_to_dict() for the version-1 JSON-compatible schema.

Examples

```
curve <- DiscountCurve("example", "2025-01-17", "EUR", "custom",
  "synthetic example", list(list("2026-01-17", 0.97)))
discount_curve_factor(curve, "2026-01-17")
```

documentation *Read bundled documentation without a browser*

Description

Read bundled documentation without a browser

Usage

```
documentation(topic = "README")
```

Arguments

topic	Case-sensitive topic: README, API, DATA, PARAMETERS, RECIPES, LIMITATIONS, DEVELOPMENT, ACCEPTANCE, DISCLAIMER, SECURITY, THIRD_PARTY_NOTICES or CHANGELOG.

Value

UTF-8 Markdown text from the installed R package.

Examples

```
cat(documentation("DATA"))
```

Engine *Execute a dependency graph of granular calculations*

Description

Execute a dependency graph of granular calculations

Usage

```
Engine()

calculate(nodes, context)
```

Arguments

nodes	Named list of nodes, each containing function (an API name) and inputs (a named list). list("$ref" = "node_id") passes a dependency's numeric value into an input; provenance stays in the node results.
context	Explicit Context() shared by all nodes.

Details

Cycles and missing dependencies raise structured conditions. Cached numeric results do not suppress synthetic-data provenance. Outputs retain `PARTIAL` status: combining reference components does not approve an SCR.

Value

`Engine()` returns an object with a `run(nodes, context)` function and an instance-local cache. `calculate()` returns a list containing results, execution order, cache hits, coverage and profile scope.

Examples

```
ctx <- Context("2025-01-17", "2026-09-23", "EUR",
               "EU-S2-DOCUMENTS-2024-2025-v0.1")
nodes <- list(charge = list("function" = "intangible_risk",
                            inputs = list(value = 100)))
# Use a source reference's exact input names:
case <- Filter(function(x) x[["function"]] == "intangible_risk" &&
                 is.null(x$expected_error), reference_cases()$cases)[[1]]
nodes$charge$inputs <- case$kwargs
calculate(nodes, ctx)$results$charge$value
```

`equity_shock` *Shock factor with optional qualified168 route checks, never asset valuation.*

Description

Without classification, eligibility remains external. Optional route inputs bind market/fund scope or existing qualification screens to the chosen factor. Strategic/long-term recognition and own-funds deductions remain separate.

Usage

```
equity_shock(
  category,
  symmetric_adjustment,
  duration_based = NULL,
  context,
  classification = NULL,
  ...
)
```

Arguments

`category`	Category. Reference type: `str`.
`symmetric_adjustment`	Symmetric adjustment. Reference type: `float`.
`duration_based`	Duration based. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`classification`	Classification. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("equity-shock-type1-1")
result <- do.call(equity_shock,
  c(case$kwargs, list(context = context)))
result$value
```

---

equity_stress_amount_2027

Apply an externally qualified169 factor to the prescribed position basis.

Description

A negative investment with losses beyond the invested amount uses its absolute value; other negative non-short investments have a zero stress basis, not a zero balance-sheet value. Short pricing is deliberately not inferred from a signed value or from the absolute-value exception.

Usage

```
equity_stress_amount_2027(
  equity_value,
  shock,
  short_position,
  losses_can_exceed_investment,
  qualification_reference,
  context,
  ...
)
```

Arguments

equity_value	Equity value. Reference type: float.
shock	Shock. Reference type: float.
short_position	Short position. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
losses_can_exceed_investment	Losses can exceed investment. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("equity-position-zero")
```

```
result <- do.call(equity_stress_amount_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`export_resources` *Export local reference resources or an explicit analyst scenario*

Description

Export local reference resources or an explicit analyst scenario

Usage

```
export_resources(destination, context = NULL)
```

Arguments

`destination`	Path to a new directory. Existing paths are never overwritten.
`context`	Optional `Context()`. If supplied, only resources qualified for that profile and matching synthetic references are exported.

Details

This explicitly requested local write does not download anything. Analyst overrides are marked as scenarios, not regulatory approval. Exported JSON formatting and its hashes are R-specific; source hashes remain provenance.

Value

Exported filenames and SHA-256 hashes of their actual JSON bytes.

Examples

```
# Creates a new temporary directory only when explicitly called:
# The full offline export is intentionally opt-in: it includes all profiles.
if (identical(Sys.getenv("SOLVENCY2_FULL_EXAMPLES"), "true")) {
destination <- tempfile("solvency2-export-")
result <- export_resources(destination)
length(result$files)
# Remove only the directory just created by this example.
unlink(destination, recursive = TRUE)
}
```

`external_model_checked_value` *Forward an externally computed value after declared-evidence checks.*

Description

AVAILABLE references do not prove their contents, model approval, adequacy or lawful integration. Partial-model results must already follow the externally approved integration; this function applies no correlations. Period metadata is not a calendar-deadline monitor or submission service.

Usage

```
external_model_checked_value(
  value,
  evidence,
  model_kind,
  output_kind,
  conditions,
  model_reference,
  assessment_reference,
  scope_reference,
  context,
  ...
)
```

Arguments

`value`	Value. Reference type: `float`.
`evidence`	Evidence. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`model_kind`	Model kind. Reference type: `str`.
`output_kind`	Output kind. Reference type: `str`.
`conditions`	Conditions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`model_reference`	Model reference. Reference type: `str`.
`assessment_reference`	Assessment reference. Reference type: `str`.
`scope_reference`	Scope reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("model-standards-close-baseline-full")
result <- do.call(external_model_checked_value,
  c(case$kwargs, list(context = context)))
result$value
```

---

financial_issuer_spread_stress

Route insurer and externally qualified financial-issuer factors, not legal eligibility.

Description

After first SFCR, MCR breach takes precedence even over an available rating. Before SFCR, compliance and current solvency inputs are not used/accepted.

Usage

```
financial_issuer_spread_stress(
  modified_duration,
  category,
  qualification_reference,
  credit_quality_step = NULL,
  solvency_ratio = NULL,
  mcr_compliant = NULL,
  sfcr_published = NULL,
  context,
  ...
)
```

Arguments

`modified_duration`	Modified duration. Reference type: `float`.
`category`	Category. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`credit_quality_step`	Credit quality step. Reference type: `str | None`.
`solvency_ratio`	Solvency ratio. Reference type: `float | None`.
`mcr_compliant`	Mcr compliant. Reference type: `bool | None`.
`sfcr_published`	Sfcr published. Reference type: `bool | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-financial-issuer-spread-9")
result <- do.call(financial_issuer_spread_stress,
  c(case$kwargs, list(context = context)))
result$value
```

`governance_evidence_check` *Inventory applicable declared controls and expose versioned review periods.*

Description

No references are retrieved, substantive evidence reviewed, or actual calendar deadlines monitored. Combination eligibility is conditional on external facts. The optional29d/327d approval changes only the policy-review maximum, not function-combination approval or any other governance interval. Optional archived guidance requires its own explicit applicability reference; omission is NOT_ASSESSED, never a statement that the guidelines do not apply. Optional2027 liquidity_assessment separates solo/group plans, exemptions and supervisory measures; no cashflow projection or supervisory decision is made.

Usage

```
governance_evidence_check(
  evidence,
  conditions,
  assessment_reference,
  supervisory_policy_interval_years = NULL,
  non_snc_policy_approval_reference = NULL,
  de_ppp_assessment = NULL,
  guidance_assessment = NULL,
  liquidity_assessment = NULL,
  context,
  ...
)
```

Arguments

`evidence`	Evidence. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`conditions`	Conditions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`assessment_reference`	Assessment reference. Reference type: `str`.
`supervisory_policy_interval_years`	Supervisory policy interval years. Reference type: `float | None`.
`non_snc_policy_approval_reference`	Non snc policy approval reference. Reference type: `str | None`.
`de_ppp_assessment`	De ppp assessment. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`guidance_assessment`
: Guidance assessment. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`liquidity_assessment`
: Liquidity assessment. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("proportionality-scope-approved-policies-five")
result <- do.call(governance_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

---

governance_remuneration_deferral_years

Minimum deferral period for an externally qualified relevant staff member.

Description

No prescribed significant-deferred-share percentage is invented. This is not permission to ignore payment sustainability, vesting or malus/clawback rules.

Usage

```
governance_remuneration_deferral_years(
  annual_variable,
  annual_total,
  supervisory_exception_denied,
  qualification_reference,
  context,
  ...
)
```

Arguments

annual_variable	Annual variable. Reference type: float.
annual_total	Annual total. Reference type: float.
supervisory_exception_denied	Supervisory exception denied. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: years.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("governance-pay-baseline-zero")
result <- do.call(governance_remuneration_deferral_years,
  c(case$kwargs, list(context = context)))
result$value
```

`group_combined_component_surplus_2027` *Compose externally approved disjoint methods, not a consolidation model.*

Description

Consolidated inputs already exclude M2/sector holdings and reflect required currency sensitivity. Do not repeat pure-M2 participation-value deductions. M2 insurer subsidiary deficits retain Article221 treatment; sector amounts are already weighted and availability-adjusted under Article228.

Usage

```
group_combined_component_surplus_2027(
  consolidated_own_funds,
  consolidated_scr,
  minimum,
  method2_related,
  sector_contributions,
  method2_own_funds_adjustment,
  method2_capital_addon,
  approval_reference,
  qualification_reference,
  context,
  ...
)
```

Arguments

`consolidated_own_funds`
: Consolidated own funds. Reference type: `float`.

`consolidated_scr`
: Consolidated scr. Reference type: `float`.

`minimum`
: Minimum. Reference type: `float`.

`method2_related`
: Method2 related. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.

`sector_contributions`
: Sector contributions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.

`method2_own_funds_adjustment`
: Method2 own funds adjustment. Reference type: `float`.

`method2_capital_addon`
: Method2 capital addon. Reference type: `float`.

`approval_reference`
: Approval reference. Reference type: `str`.

qualification_reference
: Qualification reference. Reference type: `str`.

context
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

...
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-combined-negative")
result <- do.call(group_combined_component_surplus_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

group_combined_currency_exposure_2027

Positive holding excess for external consolidated currency scenarios.

Description

Amounts use the same qualified currency. This is not a currency charge and no equity shock applies to this holding under the cited combined-method rule.

Usage

```
group_combined_currency_exposure_2027(
  participation_value,
  entity_scr,
  share,
  qualification_reference,
```

```
  context,
  ...
)
```

Arguments

participation_value	Participation value. Reference type: float.
entity_scr	Entity scr. Reference type: float.
share	Share. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-combined-fx-50-0")
result <- do.call(group_combined_currency_exposure_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`group_consolidated_best_estimate` *Sum BE already adjusted externally for all intra-group transactions.*

Description

Method1 Article335(1)a/c scope and consolidation shares are external. The receiving reinsurer excludes intra-group fulfilment cashflows; the cedant excludes corresponding recoverables. This function does not perform netting.

Usage

```
group_consolidated_best_estimate(
  parent_best_estimate,
  related,
  qualification_reference,
  context,
  ...
)
```

Arguments

`parent_best_estimate`	Parent best estimate. Reference type: `float`.
`related`	Related. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-consolidated-be-positive")
result <- do.call(group_consolidated_best_estimate,
  c(case$kwargs, list(context = context)))
result$value
```

`group_consolidated_minimum` *Qualified MCR sum plus future local licence-withdrawal requirements.*

Description

Future third-country rows are explicit, including an empty mapping. They must not duplicate the EU-MCR entity set; legal scope is assessed externally.

Usage

```
group_consolidated_minimum(
  parent_mcr,
  related,
  qualification_reference,
  third_country = NULL,
  context,
  ...
)
```

Arguments

`parent_mcr`	Parent mcr. Reference type: `float`.
`related`	Related. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`third_country`	Third country. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-minimum-parent")
result <- do.call(group_consolidated_minimum,
  c(case$kwargs, list(context = context)))
result$value
```

---

group_consolidated_risk_margin

Proportionate sum of externally qualified risk margins, no added diversification.

Description

Proportionate sum of externally qualified risk margins, no added diversification.

Usage

```
group_consolidated_risk_margin(
  parent_risk_margin,
  related,
  qualification_reference,
  context,
  ...
)
```

Arguments

`parent_risk_margin`	Parent risk margin. Reference type: `float`.
`related`	Related. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-consolidated-rm-empty")
result <- do.call(group_consolidated_risk_margin,
  c(case$kwargs, list(context = context)))
result$value
```

`group_consolidated_scr`

Sum qualified Article336 amounts plus externally set group add-on.

Description

Contributions b/c already include proportional shares. Components d/e are externally determined risk amounts, not invented sums of individual SCRs. From 2027, only a-d belong here; separate Article336b additions must be explicit and disjoint from those components. Article228 sector contributions are outside this consolidated amount. Their valuation is not inferred. Apply the Article230 minimum separately. No sector/Look-through valuation or supervisory determination is implemented by this composition function.

Usage

```
group_consolidated_scr(
  components,
  capital_addon,
  qualification_reference,
  simplified_contributions = NULL,
  context,
  ...
)
```

Arguments

components	Components. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
capital_addon	Capital addon. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
simplified_contributions	Simplified contributions. Reference type: Mapping | None. Supply a named R list with the keys shown in the example/reference case.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-scr-four")
result <- do.call(group_consolidated_scr,
  c(case$kwargs, list(context = context)))
result$value
```

`group_consolidated_surplus` *External consolidated eligible EOF minus SCR after its qualified minimum.*

Description

This is not consolidation by adding individual SCRs. Input SCR must include externally required add-ons; EOF qualification and minimum coverage remain externally assessed. A negative surplus is deliberately retained. Future Article228 sectors must be excluded from consolidated inputs and added separately, after the minimum is applied to consolidated SCR only.

Usage

```
group_consolidated_surplus(
  eligible_own_funds,
  calculated_scr,
  minimum,
  qualification_reference,
  sector_contributions = NULL,
  context,
  ...
)
```

Arguments

`eligible_own_funds`	Eligible own funds. Reference type: `float`.
`calculated_scr`	Calculated scr. Reference type: `float`.
`minimum`	Minimum. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`sector_contributions`	Sector contributions. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("group-consolidated-deficit")
result <- do.call(group_consolidated_surplus,
  c(case$kwargs, list(context = context)))
result$value
```

---

group_immaterial_participation_screen_2027

Strict numerical thresholds only, never supervisory permission.

Description

All relevant holdings and consolidated assets are externally qualified. Exact decimal comparisons avoid a rounding tolerance at either boundary.

Usage

```
group_immaterial_participation_screen_2027(
  consolidated_assets,
  book_values,
  qualification_reference,
  context,
  ...
)
```

Arguments

`consolidated_assets`	Consolidated assets. Reference type: `float`.
`book_values`	Book values. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-immaterial-zero")
result <- do.call(group_immaterial_participation_screen_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

group_insurance_holding_conditions_2027

Declared holding criteria, not an automatic group or entity classification.

Description

Shares must use the precisely qualified212(1)f(vi) consolidated perimeter. Do not cap ratios at1: offsetting consolidated amounts can change ratios. Ongoing satisfaction and the other legal conditions remain external facts.

Usage

```
group_insurance_holding_conditions_2027(
  indicator_shares,
  other_supervisory_shares,
  conditions,
  qualification_reference,
  context,
  ...
)
```

Arguments

`indicator_shares`
: Indicator shares. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.

`other_supervisory_shares`
: Other supervisory shares. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.

`conditions`
: Conditions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("holding-definition-equal")
result <- do.call(group_insurance_holding_conditions_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`group_long_term_equity_limit_2027` *Method1/combined LTE cap, not group SCR or an automatic classification.*

Description

Article335(1)a amounts enter in full,335(1)c proportionally. On a qualified supervisory request replace only1(a) with the externally recomputed amount.

Usage

```
group_long_term_equity_limit_2027(
  full_amounts,
  proportional_amounts,
  supervisory_recalculation_required,
  recalculated_full_amount,
  qualification_reference,
  context,
  ...
)
```

Arguments

`full_amounts`	Full amounts. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`proportional_amounts`	Proportional amounts. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`supervisory_recalculation_required`	Supervisory recalculation required. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`recalculated_full_amount`	Recalculated full amount. Reference type: `float | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-close-group-zero")
result <- do.call(group_long_term_equity_limit_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

group_method2_best_estimate_sum

Parent plus proportionate related BE, preserving signed external valuations.

Description

Calculate before/after removal of intra-group transactions separately; this component does not invent an EOF-adjustment sign or revalue transactions.

Usage

```
group_method2_best_estimate_sum(
  parent_best_estimate,
  related,
  qualification_reference,
  context,
  ...
)
```

Arguments

`parent_best_estimate`	Parent best estimate. Reference type: `float`.
`related`	Related. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.

context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-be-empty")
result <- do.call(group_method2_best_estimate_sum,
  c(case$kwargs, list(context = context)))
result$value
```

---

group_method2_component_surplus

Signed method2 aggregation component, not complete approved group solvency.

Description

Participation values already represent the held direct/indirect investment: never apply share twice. External EOF adjustments must not duplicate those values or the full-subsidiary-deficit correction calculated here. Group availability, tiers, intra-group transactions and scope are not inferred. Future Article228 sectors are explicit, already weighted and disjoint; their holding values are deducted once, not passed through insurer deficits.

Usage

```
group_method2_component_surplus(
  parent_own_funds,
  parent_scr,
  related,
  own_funds_adjustment,
  capital_addon,
  qualification_reference,
  sector_contributions = NULL,
  context,
  ...
)
```

Arguments

`parent_own_funds`	Parent own funds. Reference type: `float`.
`parent_scr`	Parent scr. Reference type: `float`.
`related`	Related. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`own_funds_adjustment`	Own funds adjustment. Reference type: `float`.
`capital_addon`	Capital addon. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`sector_contributions`	Sector contributions. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("group-method2-negative")
result <- do.call(group_method2_component_surplus,
  c(case$kwargs, list(context = context)))
result$value
```

`group_minority_excess_2027`

Literal 2027 minority formula, on explicitly pre-qualified net amounts.

Description

Both own-funds inputs exclude intra-group subordinated liabilities and ancillary own funds. The other-nonavailable input also excludes paragraph4 items. A negative formula result is NOT an automatic own-funds credit.

Usage

```
group_minority_excess_2027(
  eligible_own_funds_net,
  other_nonavailable_own_funds_net,
  scr_contribution,
  parent_subscribed_capital_share,
  qualification_reference,
  context,
  ...
)
```

Arguments

`eligible_own_funds_net`	Eligible own funds net. Reference type: `float`.
`other_nonavailable_own_funds_net`	Other nonavailable own funds net. Reference type: `float`.
`scr_contribution`	Scr contribution. Reference type: `float`.
`parent_subscribed_capital_share`	Parent subscribed capital share. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("group-availability-future-minority-zero")
result <- do.call(group_minority_excess_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

group_model_scr_contribution

Apply externally supplied model percentages; never develop an insurer model.

Description

The full declared entity set is checked before selecting one contribution. A1e-12 numerical sum tolerance is not regulatory materiality. Percentages are never renormalised, and neither ownership weights nor the future6a standard-formula cap are applied to this separate6b branch.

Usage

```
group_model_scr_contribution(
  entity,
  model_outputs,
  complete_scope_confirmed,
  model_reference,
  qualification_reference,
  context,
  ...
)
```

Arguments

`entity`	Entity. Reference type: `str`.
`model_outputs`	Model outputs. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`complete_scope_confirmed`	Complete scope confirmed. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`model_reference`	Model reference. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("group-model-baseline-zero-share")
result <- do.call(group_model_scr_contribution,
  c(case$kwargs, list(context = context)))
result$value
```

`group_nonavailable_own_funds_cap` *Cap ONE externally qualified availability scope, without repeating the cap.*

Description

The caller must not re-use one entity contribution across separate items and sum the individual results. This is neither an Article330(4) exemption nor a computation of total available group own funds. Historical DIR222(4) additionally limits its qualified(2)/(3)pool to the related insurer SCR. That optional scope is not imposed on other pools, nor carried into the future wording which instead uses the contribution.

Usage

```
group_nonavailable_own_funds_cap(
  amount,
  scr_contribution,
  qualification_reference,
  context,
  related_insurer_scr = NULL,
  ...
)
```

Arguments

`amount`	Amount. Reference type: `float`.
`scr_contribution`	Scr contribution. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`related_insurer_scr`	Related insurer scr. Reference type: `float | None`.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("group-availability-baseline-cap-zero")
result <- do.call(group_nonavailable_own_funds_cap,
  c(case$kwargs, list(context = context)))
result$value
```

`group_orsa_evidence_check`

Inventory group-ORSA scope, method1 and single-document evidence.

Description

No consent is inferred from availability of a group document. Subsidiary Article45 duties persist. The future profile separately includes material non-insurance activities and actual/potential risks/interdependencies.

Usage

```
group_orsa_evidence_check(
  evidence,
  method1_applied,
  single_document,
  qualification_reference,
  assessment_reference,
  context,
  ...
)
```

Arguments

`evidence`	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`method1_applied`	Method1 applied. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`single_document`	Single document. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`assessment_reference`
: Assessment reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("group-orsa-baseline-missing-conditional")
result <- do.call(group_orsa_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

---

group_orsa_method1_scr_difference

Signed related-SCR sum minus consolidated SCR, never floored.

Description

The externally qualified perimeter must match Article246(4), method1, valuation date and currency. This arithmetic is not the required substantive explanation of the difference, nor a release of diversification benefits.

Usage

```
group_orsa_method1_scr_difference(
  related_scrs,
  consolidated_scr,
  qualification_reference,
  context,
  ...
)
```

Arguments

related_scrs	Related scrs. Reference type: Mapping[str, float]. Supply a named R list with the keys shown in the example/reference case.
consolidated_scr	Consolidated scr. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("group-orsa-baseline-zero")
result <- do.call(group_orsa_method1_scr_difference,
  c(case$kwargs, list(context = context)))
result$value
```

`group_own_funds_transfer_timing_screen` *Check only the declared nine-month horizon, not effective availability.*

Description

Check only the declared nine-month horizon, not effective availability.

Usage

```
group_own_funds_transfer_timing_screen(
  months_to_availability,
  qualification_reference,
  context,
  ...
)
```

Arguments

`months_to_availability`	Months to availability. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
```

```
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("group-availability-baseline-timing-zero")
result <- do.call(group_own_funds_transfer_timing_screen,
  c(case$kwargs, list(context = context)))
result$value
```

`group_pre_acquisition_scr_exception_2027`
Future pre-acquisition exception with an explicit issuer-specific effect.

Description

The elapsed FINANCIAL-year measure is externally qualified. This screen does not rewrite MCR, assign a tier, or waive other own-funds conditions. Three YEARS of group supervision and the prescribed forward ORSA evidence are additional mandatory gates. Insurers use331/332's solo-SCR definition; qualified intermediate holdings/ancillary subsidiaries instead use333(4)'s temporary disapplication of333(2)(a). These are not interchangeable effects.

Usage

```
group_pre_acquisition_scr_exception_2027(
  related_financial_years,
  issued_before_joining,
  included_in_group_calculation,
  qualification_reference,
  context,
  group_supervision_years = NULL,
  orsa_support_confirmed = NULL,
  issuer_type = "eu_insurer",
  ...
)
```

Arguments

`related_financial_years`
: Related financial years. Reference type: `float`.

`issued_before_joining`
: Issued before joining. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`included_in_group_calculation`
: Included in group calculation. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`group_supervision_years`
: Group supervision years. Reference type: `float | None`.

`orsa_support_confirmed`
: Orsa support confirmed. Reference type: `bool | None`.

`issuer_type`
: Issuer type. Reference type: `str`.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("group-availability-future-pre-acquisition-zero")
result <- do.call(group_pre_acquisition_scr_exception_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

group_reinsurance_elimination

Remove qualified internal reinsurance values before consolidation shares.

Description

Entity gross BE and recoverables must include the supplied disjoint internal transactions, but already exclude all OTHER required intragroup adjustments. Assumed obligation PV and ceded recoverable need not agree: valuation bases and shares can differ. Neither side is inferred from the other or floored. This is a two-sided ledger adjustment, not a projection or legal approval.

Usage

```
group_reinsurance_elimination(
  entities,
  transactions,
  parent_id,
  measure,
  other_intragroup_adjustments_complete,
  qualification_reference,
  context,
  ...
)
```

Arguments

`entities`	Entities. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`transactions`	Transactions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`parent_id`	Parent id. Reference type: `str`.
`measure`	Measure. Reference type: `str`.
`other_intragroup_adjustments_complete`	Other intragroup adjustments complete. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("group-reinsurance-baseline-recoverables")
result <- do.call(group_reinsurance_elimination,
  c(case$kwargs, list(context = context)))
result$value
```

`group_required_shortfall` *Full subsidiary deficit unless an explicit externally approved exception applies.*

Description

Full subsidiary deficit unless an explicit externally approved exception applies.

Usage

```
group_required_shortfall(
  eligible_own_funds,
  scr,
  share,
  is_subsidiary,
  proportionate_deficit_approved,
  approval_reference = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`eligible_own_funds`	Eligible own funds. Reference type: `float`.
`scr`	Scr. Reference type: `float`.
`share`	Share. Reference type: `float`.
`is_subsidiary`	Is subsidiary. Reference type: `bool | None`.
`proportionate_deficit_approved`	Proportionate deficit approved. Reference type: `bool | None`.
`approval_reference`	Approval reference. Reference type: `str | None`.

qualification_reference
: Qualification reference. Reference type: `str`.

context
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

...
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-shortfall-full")
result <- do.call(group_required_shortfall,
  c(case$kwargs, list(context = context)))
result$value
```

---

group_sector_capital_requirement_2027

Select the prescribed maximum of complete externally calculated branches.

Description

Bank inputs include applicable buffers/add-ons, not just Pillar1 minima. Pension inputs cover both the required margin and national requirement. This component implements no CRR, IFR, IORP or third-country valuation.

Usage

```
group_sector_capital_requirement_2027(
  sector,
  requirements,
  qualification_reference,
  context,
  ...
)
```

Arguments

`sector`	Sector. Reference type: `str`.
`requirements`	Requirements. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-sector-bank-zero")
result <- do.call(group_sector_capital_requirement_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`group_sector_contribution_2027`
Sum disjoint qualified sector amounts using subscribed-capital shares.

Description

Eligible own funds must already reflect Article228 availability exclusions. Subgroup inclusion, exclusion of its individual members and supervisory decisions are externally qualified. Signed own funds are not floored.

Usage

```
group_sector_contribution_2027(
  entities,
  measure,
  qualification_reference,
  context,
  ...
)
```

Arguments

`entities`	Entities. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`measure`	Measure. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-sector-empty-eligible_own_funds")
result <- do.call(group_sector_contribution_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`group_significant_branch_screen` *Strict 5% group OR host-market test used by group reporting definitions.*

Description

Latest applicable accounts, currency, host-market life/nonlife scope and branch perimeter are externally qualified. No college invitation or broad materiality judgement follows automatically from this numeric indicator.

Usage

```
group_significant_branch_screen(
  branch_gross_premiums,
  group_gross_premiums,
  host_market_gross_premiums,
  qualification_reference,
  context,
  ...
)
```

Arguments

`branch_gross_premiums`	Branch gross premiums. Reference type: `float`.
`group_gross_premiums`	Group gross premiums. Reference type: `float`.
`host_market_gross_premiums`	Host market gross premiums. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2026-10-05",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("group-report-close-baseline-branch-host")
result <- do.call(group_significant_branch_screen,
  c(case$kwargs, list(context = context)))
result$value
```

---

group_simplified_participation_scr_2027

Externally approved simplified contribution; no extra ownership weighting.

Description

Article228 entities are outside scope. Third-country capital information must be supplied, never replaced with zero when unavailable.

Usage

```
group_simplified_participation_scr_2027(
  participation_risk,
  entity_type,
  capital_requirement = NULL,
  approval_reference,
  qualification_reference,
  context,
  ...
)
```

Arguments

participation_risk	Participation risk. Reference type: float.
entity_type	Entity type. Reference type: str.
capital_requirement	Capital requirement. Reference type: float | None.
approval_reference	Approval reference. Reference type: str.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-simplified-other")
result <- do.call(group_simplified_participation_scr_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`group_standard_scr_contribution` *Standard-formula contribution for externally qualified consolidated entities.*

Description

Numerator uses the entity's proportional SCR; denominator is the sum of the supplied SCRs, without applying shares a second time. No internal-model allocation is inferred. Scaling preserves the formula at large magnitudes.

Usage

```
group_standard_scr_contribution(
  entity,
  share,
  diversified_component,
  component_scrs,
  qualification_reference,
  context,
  ...
)
```

Arguments

`entity`	Entity. Reference type: `str`.
`share`	Share. Reference type: `float`.
`diversified_component`	Diversified component. Reference type: `float`.
`component_scrs`	Component scrs. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-group-contribution-full")
result <- do.call(group_standard_scr_contribution,
  c(case$kwargs, list(context = context)))
result$value
```

---

guaranteed_sts_securitisation_spread_stress

Qualified Article180(10)/(10a) factor; historical name retained for callers.

Description

The 2027 text no longer separately names STS; CRR243 compliance remains required and externally qualified, not inferred from a non-STS declaration. Paragraph10a requires external pre-2019 issue and exact 2018-rule assessment, not a current type label or an engine-generated historical classification.

Usage

```
guaranteed_sts_securitisation_spread_stress(
  conditions,
  qualification_reference,
  transition = NULL,
  context,
  ...
)
```

Arguments

conditions	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: `str`.
transition	Transition. Reference type: `Mapping[str, bool] | None`. Supply a named R list with the keys shown in the example/reference case.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("spread-zero-baseline-transition-eligible")
result <- do.call(guaranteed_sts_securitisation_spread_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_accident_benefit_mean

Average only event-insured persons in the externally selected concentration.

Description

The denominator is event-specific Ne, not the whole building count Cc. Empty event populations require review, never an invented zero mean.

Usage

```
health_accident_benefit_mean(
  benefits,
  valuation_reference,
  context,
  group_counts = NULL,
  grouping_reference = NULL,
  ...
)
```

Arguments

benefits	Benefits. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
valuation_reference	Valuation reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
group_counts	Group counts. Reference type: Mapping | None. Supply a named R list with the keys shown in the example/reference case.
grouping_reference	Grouping reference. Reference type: str | None.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-cat-2027-benefit-mean")
result <- do.call(health_accident_benefit_mean,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_accident_benefit_sum

Sum externally qualified event benefits of resident insured persons.

Description

Sum externally qualified event benefits of resident insured persons.

Usage

```
health_accident_benefit_sum(
  benefits,
  valuation_reference,
  context,
  group_counts = NULL,
  grouping_reference = NULL,
  ...
)
```

Arguments

benefits	Benefits. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
valuation_reference	Valuation reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
group_counts	Group counts. Reference type: Mapping | None. Supply a named R list with the keys shown in the example/reference case.
grouping_reference	Grouping reference. Reference type: str | None.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-accident-benefit-empty")
result <- do.call(health_accident_benefit_sum,
  c(case$kwargs, list(context = context)))
result$value
```

`health_accident_concentration_loss` *Use the externally identified largest qualified building population, not largest loss.*

Description

Use the externally identified largest qualified building population, not largest loss.

Usage

```
health_accident_concentration_loss(
  persons,
  mean_benefits,
  concentration_reference,
  context,
  ...
)
```

Arguments

`persons`	Persons. Reference type: `float`.
`mean_benefits`	Mean benefits. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`concentration_reference`	Concentration reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-concentration-loss")
result <- do.call(health_accident_concentration_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`health_accident_country_aggregation`
Root-sum-square of already valued country BOF charges, never of gross claims.

Description

Root-sum-square of already valued country BOF charges, never of gross claims.

Usage

```
health_accident_country_aggregation(
  country_charges,
  peril,
  scope_reference,
  context,
  ...
)
```

Arguments

`country_charges`	Country charges. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`peril`	Peril. Reference type: `str`.
`scope_reference`	Scope reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-accident-concentration-empty")
result <- do.call(health_accident_country_aggregation,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_adc_recovery_2027

Scenario indemnity for one externally qualified ADC, before cession/prudence.

Description

Do not add multiple covers automatically or substitute the discounted claims volume for the source-defined nominal net best estimate.

Usage

```
health_adc_recovery_2027(
  segment,
  nominal_net_best_estimate,
  attachment_point,
  cover_size,
  qualification_reference,
  context,
  ...
)
```

Arguments

segment	Segment. Reference type: str.
nominal_net_best_estimate	Nominal net best estimate. Reference type: float.

`attachment_point`
: Attachment point. Reference type: `float`.

`cover_size`
: Cover size. Reference type: `float`.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-nslt-2027-adc-recovery-uncapped")
result <- do.call(health_adc_recovery_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`health_adc_reserve_factor_2027`

Reserve-sigma adjustment; no invented upper cap or automatic eligibility.

Description

Recovery is the paragraph5 indemnity before applying cession and prudence. Additional premium is supplied before its prescribed zero floor. A zero denominator needs review, not an implicit no-adjustment factor.

Usage

```
health_adc_reserve_factor_2027(
  segment,
  nominal_net_best_estimate,
  recovery,
  cession_share,
  additional_premium,
  qualification_reference,
  context,
  ...
)
```

Arguments

segment	Segment. Reference type: str.
nominal_net_best_estimate	Nominal net best estimate. Reference type: float.
recovery	Recovery. Reference type: float.
cession_share	Cession share. Reference type: float.
additional_premium	Additional premium. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: ratio.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
```

```
case <- reference_case("health-nslt-2027-adc-factor-zero-floor")
result <- do.call(health_adc_reserve_factor_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`health_biometric_selection` *Select already qualified SLT-health units; no health TP projection or SCR.*

Description

Under reinsurance, units represent underlying insurance, not treaty TP. The result counts valuation units, never infers the number of contracts.

Usage

```
health_biometric_selection(
  shock,
  valuations,
  valuation_basis,
  grouping_mode,
  grouping_qualified = NULL,
  valuation_reference,
  context,
  ...
)
```

Arguments

`shock`	Shock. Reference type: `str`.
`valuations`	Valuations. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`valuation_basis`	Valuation basis. Reference type: `str`.
`grouping_mode`	Grouping mode. Reference type: `str`.
`grouping_qualified`	Grouping qualified. Reference type: `bool | None`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: selection_units.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-selection-baseline-mortality-qualified-aggregate")
result <- do.call(health_biometric_selection,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_biometric_stress

Stress only explicitly selected SLT health contracts, not their BOF valuation.

Description

Selection, permitted grouping and underlying reinsurance contracts remain external. Probability and intensity bases are never silently interconverted.

Usage

```
health_biometric_stress(
  rate,
  shock,
  rate_basis,
  selected,
  selection_reference,
  context,
  ...
)
```

Arguments

rate	Rate. Reference type: float.
shock	Shock. Reference type: str.
rate_basis	Rate basis. Reference type: str.

selected	Selected. Reference type: bool | None.
selection_reference	Selection reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-2027-biometric-intensity")
result <- do.call(health_biometric_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_disability_risk

Sum disjoint SLT medical/income charges; no diversification or classification inference.

Description

Sum disjoint SLT medical/income charges; no diversification or classification inference.

Usage

```
health_disability_risk(
  medical_charge,
  income_protection_charge,
  classification_reference,
  context,
  ...
)
```

Arguments

`medical_charge`	Medical charge. Reference type: `float`.
`income_protection_charge`	Income protection charge. Reference type: `float`.
`classification_reference`	Classification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-2027-disability-sum")
result <- do.call(health_disability_risk,
  c(case$kwargs, list(context = context)))
result$value
```

`health_expense_inflation_stress` *Add the expense inflation shock without choosing a projection convention.*

Description

Add the expense inflation shock without choosing a projection convention.

Usage

```
health_expense_inflation_stress(inflation_rate, context, ...)
```

Arguments

`inflation_rate`	Inflation rate. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-inflation")
result <- do.call(health_expense_inflation_stress,
  c(case$kwargs, list(context = context)))
result$value
```

`health_expense_level_stress` *Stress eligible own/cedent costs jointly with inflation in external projection.*

Description

Stress eligible own/cedent costs jointly with inflation in external projection.

Usage

```
health_expense_level_stress(expense, context, ...)
```

Arguments

`expense`	Expense. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-expense-zero")
result <- do.call(health_expense_level_stress,
  c(case$kwargs, list(context = context)))
result$value
```

`health_hres_mixed_sigma`

Mix separately calculated volumes; a source reference is not a legal applicability decision.

Description

Bounds are reported independently instead of silently changing a supplied external parameter. Optional qualification additionally rejects declared ineligibility or bound contradictions; omission stays explicitly unchecked. This component is not the complete HRES risk module.

Usage

```
health_hres_mixed_sigma(
  segment,
  risk,
  non_hres_volume,
  hres_volume,
  hres_sigma,
  parameter_reference,
  qualification = NULL,
  context,
  ...
)
```

Arguments

`segment`	Segment. Reference type: `str`.
`risk`	Risk. Reference type: `str`.
`non_hres_volume`	Non hres volume. Reference type: `float`.
`hres_volume`	Hres volume. Reference type: `float`.
`hres_sigma`	Hres sigma. Reference type: `float`.
`parameter_reference`	Parameter reference. Reference type: `str`.
`qualification`	Qualification. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-hres-premium-mixed")
result <- do.call(health_hres_mixed_sigma,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_hres_sigma_bound

Bound an external representative estimate; this does not determine an official HRES sigma.

Description

Bound an external representative estimate; this does not determine an official HRES sigma.

Usage

```
health_hres_sigma_bound(segment, risk, representative_sigma, context, ...)
```

Arguments

`segment`	Segment. Reference type: `str`.
`risk`	Risk. Reference type: `str`.
`representative_sigma`	Representative sigma. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-hres-premium-floor")
result <- do.call(health_hres_sigma_bound,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_income_incidence_stress

Stress incidence for an explicitly assigned period; jointly project all156 changes.

Description

Stress incidence for an explicitly assigned period; jointly project all156 changes.

Usage

```
health_income_incidence_stress(rate, period, rate_basis, context, ...)
```

Arguments

`rate`	Rate. Reference type: `float`.
`period`	Period. Reference type: `str`.
`rate_basis`	Rate basis. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-income-later_years-intensity")
result <- do.call(health_income_incidence_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_income_transition_stress

Apply strict recovery / inclusive continuation thresholds without normalisation.

Description

No complementary transition is inferred or reconstructed. The supplied valuation model must define coherent state transitions and joint projection.

Usage

```
health_income_transition_stress(rate, transition, context, ...)
```

Arguments

rate	Rate. Reference type: float.
transition	Transition. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: probability.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-income-recovery-0")
result <- do.call(health_income_transition_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_lapse_option_stress

Stress relevant exercise/non-exercise probability with health-specific parameters.

Description

Stress relevant exercise/non-exercise probability with health-specific parameters.

Usage

```
health_lapse_option_stress(
  exercise_rate,
  direction,
  option_kind,
  selected,
  selection_reference,
  context,
  ...
)
```

Arguments

exercise_rate	Exercise rate. Reference type: float.
direction	Direction. Reference type: str.
option_kind	Option kind. Reference type: str.
selected	Selected. Reference type: bool | None.

selection_reference	Selection reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: probability.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-2027-extension-up")
result <- do.call(health_lapse_option_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_lapse_risk *Select the gross SLT health lapse charge corresponding to maximum net loss.*

Description

Select the gross SLT health lapse charge corresponding to maximum net loss.

Usage

```
health_lapse_risk(
  gross_losses,
  net_losses,
  valuation_reference,
  tie_break = NULL,
  context,
  ...
)
```

Arguments

gross_losses	Gross losses. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
net_losses	Net losses. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
valuation_reference	Valuation reference. Reference type: str.
tie_break	Tie break. Reference type: str | None.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-2027-lapse-selection")
result <- do.call(health_lapse_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_mass_accident_loss

Gross claim for one printed AnnexXVI segment, before reinsurance and BOF revaluation.

Description

Gross claim for one printed AnnexXVI segment, before reinsurance and BOF revaluation.

Usage

```
health_mass_accident_loss(
  segment,
  event_exposures,
  exposure_reference,
  context,
  ...
)
```

Arguments

segment	Segment. Reference type: str.
event_exposures	Event exposures. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
exposure_reference	Exposure reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-cat-2027-region-AT")
result <- do.call(health_mass_accident_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`health_mass_lapse_factor` *Return the40% event share, not proportional capital or life special-category70%.*

Description

Uniform joint events, underlying reinsurance contracts and the worst termination form require external qualification in either reference profile.

Usage

```
health_mass_lapse_factor(category, qualification_reference, context, ...)
```

Arguments

`category`	Category. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-mass-future_159_6_b")
result <- do.call(health_mass_lapse_factor,
  c(case$kwargs, list(context = context)))
result$value
```

`health_medical_inflation_stress` *Add/subtract percentage points without inventing a compounding model.*

Description

Add/subtract percentage points without inventing a compounding model.

Usage

```
health_medical_inflation_stress(inflation_rate, direction, context, ...)
```

Arguments

`inflation_rate`	Inflation rate. Reference type: `float`.
`direction`	Direction. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-medical-inflation-up")
result <- do.call(health_medical_inflation_stress,
  c(case$kwargs, list(context = context)))
result$value
```

`health_medical_payment_stress` *Stress payments jointly with inflation in the external permanent projection.*

Description

Stress payments jointly with inflation in the external permanent projection.

Usage

```
health_medical_payment_stress(payment, direction, context, ...)
```

Arguments

`payment`	Payment. Reference type: `float`.
`direction`	Direction. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-medical-payment-zero")
result <- do.call(health_medical_payment_stress,
  c(case$kwargs, list(context = context)))
result$value
```

`health_medical_risk` *Maximum of two joint-scenario charges; no extra net-selection rule is inferred.*

Description

Maximum of two joint-scenario charges; no extra net-selection rule is inferred.

Usage

```
health_medical_risk(up_charge, down_charge, valuation_reference, context, ...)
```

Arguments

`up_charge`	Up charge. Reference type: `float`.
`down_charge`	Down charge. Reference type: `float`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-2027-medical-maximum")
result <- do.call(health_medical_risk,
  c(case$kwargs, list(context = context)))
result$value
```

`health_module_scope` *Look up a qualified LOB, not the contract's economic classification.*

Description

Both NSLT and SLT health obligations enter the health catastrophe scope. This does not qualify any individual accident/pandemic scenario or amount. Zero means outside this module's LOB scope, never zero insurer capital.

Usage

```
health_module_scope(lob, module, classification_reference, context, ...)
```

Arguments

`lob`	Lob. Reference type: `str`.
`module`	Module. Reference type: `str`.
`classification_reference`	Classification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-scope-baseline-1-health")
result <- do.call(health_module_scope,
  c(case$kwargs, list(context = context)))
result$value
```

`health_nslt_lapse_factor` *NSLT health event share; do not apply SLT's three-scenario selection here.*

Description

NSLT health event share; do not apply SLT's three-scenario selection here.

Usage

```
health_nslt_lapse_factor(category, qualification_reference, context, ...)
```

Arguments

`category`	Category. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-nslt-2027-lapse-termination")
result <- do.call(health_nslt_lapse_factor,
  c(case$kwargs, list(context = context)))
result$value
```

`health_pandemic_income_exposure` *Sum externally valued permanent-disability benefits with no recovery assumed.*

Description

Occupational accident obligations are excluded by external classification; recurring benefits require externally supplied best estimates, not face sums.

Usage

```
health_pandemic_income_exposure(benefits, valuation_reference, context, ...)
```

Arguments

`benefits`	Benefits. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-pandemic-income-empty")
result <- do.call(health_pandemic_income_exposure,
  c(case$kwargs, list(context = context)))
result$value
```

`health_pandemic_loss` *Gross sudden scenario claim before reinsurance; country residence/scope external.*

Description

Gross sudden scenario claim before reinsurance; country residence/scope external.

Usage

```
health_pandemic_loss(
  income_exposure,
  countries,
  exposure_reference,
  context,
  ...
)
```

Arguments

`income_exposure`	Income exposure. Reference type: `float`.
`countries`	Countries. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`exposure_reference`	Exposure reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-pandemic-zero")
result <- do.call(health_pandemic_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`health_pandemic_medical_cost` *Weight all three externally valued care types; never silently normalise overrides.*

Description

Weight all three externally valued care types; never silently normalise overrides.

Usage

```
health_pandemic_medical_cost(costs, valuation_reference, context, ...)
```

Arguments

`costs`	Costs. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-cat-2027-care-hospital")
result <- do.call(health_pandemic_medical_cost,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_premium_reserve_risk

Four-segment standard selector; USP/HRES are deliberately not substituted.

Description

Use premium_reserve_parameterised_risk for already qualified effective USP/HRES sigmas. This automatic standard selector does not choose them.

Usage

```
health_premium_reserve_risk(
  segments,
  uses_usp,
  uses_hres,
  reserve_adjustments = NULL,
  adjustment_reference = NULL,
  context,
  ...
)
```

Arguments

segments	Segments. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
uses_usp	Uses usp. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
uses_hres	Uses hres. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
reserve_adjustments	Reserve adjustments. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
adjustment_reference	Adjustment reference. Reference type: `str | None`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

The2027 profile requires all four externally qualified reserve factors, including explicit ones for segments without a qualifying ADC adjustment. Historical calculations reject these future-only inputs.

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("health-pr-zero")
result <- do.call(health_premium_reserve_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

health_premium_volume *Health-NSLT net premium volume; cohort/time selection and evidence are external.*

Description

Health-NSLT net premium volume; cohort/time selection and evidence are external.

Usage

```
health_premium_volume(
  expected_next_year,
  earned_last_year,
  existing_future_pv,
  future_short_pv,
  future_long_pv,
  method,
  cap_evidence = NULL,
  context,
```

```
  ...
)
```

Arguments

expected_next_year	Expected next year. Reference type: `float`.
earned_last_year	Earned last year. Reference type: `float`.
existing_future_pv	Existing future pv. Reference type: `float`.
future_short_pv	Future short pv. Reference type: `float`.
future_long_pv	Future long pv. Reference type: `float`.
method	Method. Reference type: `str`.
cap_evidence	Cap evidence. Reference type: `Mapping[str, str] | None`. Supply a named R list with the keys shown in the example/reference case.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-nslt-2027-premium-standard")
result <- do.call(health_premium_volume,
  c(case$kwargs, list(context = context)))
result$value
```

health_reserve_volume *Health-NSLT claims volume; recoverables exclude208(2) finite/similar RI.*

Description

Health-NSLT claims volume; recoverables exclude208(2) finite/similar RI.

Usage

```
health_reserve_volume(
  claims_best_estimate,
  eligible_recoverables,
  context,
  ...
)
```

Arguments

claims_best_estimate	Claims best estimate. Reference type: float.
eligible_recoverables	Eligible recoverables. Reference type: float.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
```

```
case <- reference_case("health-reserve-net")
result <- do.call(health_reserve_volume,
  c(case$kwargs, list(context = context)))
result$value
```

`health_revision_stress` *Stress externally selected inflation/legal/health revision-exposed annuities.*

Description

Stress externally selected inflation/legal/health revision-exposed annuities.

Usage

```
health_revision_stress(
  annuity_benefit,
  revision_exposed,
  qualification_reference,
  context,
  ...
)
```

Arguments

`annuity_benefit`	Annuity benefit. Reference type: `float`.
`revision_exposed`	Revision exposed. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("health-2027-revision-true")
result <- do.call(health_revision_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

infrastructure_corporate_eligibility_screen

Screen declared corporate criteria with conditional controls and numbers.

Description

The caller qualifies the infrastructure majority, EEA/OECD location, revenue pattern and (where needed) offtaker. No percentage for a 'clear majority' or numeric interpretation of Article164a(2)biii is invented. Corporate CQS0..3 in Article164b(7) is distinct and explicit.

Usage

```
infrastructure_corporate_eligibility_screen(
  conditions,
  instrument,
  revenue_route,
  many_users,
  rating_available,
  qualification_reference,
  credit_quality_step = NULL,
  operating_years = NULL,
  history_basis = NULL,
  context,
  ...
)
```

Arguments

conditions	Conditions. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
instrument	Instrument. Reference type: str.

`revenue_route` Revenue route. Reference type: `str`.

`many_users` Many users. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`rating_available` Rating available. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`qualification_reference` Qualification reference. Reference type: `str`.

`credit_quality_step` Credit quality step. Reference type: `str | None`.

`operating_years` Operating years. Reference type: `float | None`.

`history_basis` History basis. Reference type: `str | None`.

`context` Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...` Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("infrastructure-corporate-baseline-cqs-0")
result <- do.call(infrastructure_corporate_eligibility_screen,
  c(case$kwargs, list(context = context)))
result$value
```

`infrastructure_project_eligibility_screen` *Apply only the declared, branch-specific project prerequisites.*

Description

Equity and unrated debt carry the additional paragraph1(f) criteria. Instrument rating availability is externally qualified, not inferred from a corporate rating. Revenue/offtaker/stress/financial assessments remain external; a successful screen does not select a reduced capital factor.

Usage

```
infrastructure_project_eligibility_screen(
  conditions,
  investment_kind,
  revenue_route,
  many_users,
  qualification_reference,
  security_route = NULL,
  alternative_security_mechanisms = NULL,
  in_construction = NULL,
  construction_risk = NULL,
  material_operational_risk = NULL,
  context,
  ...
)
```

Arguments

`conditions`	Conditions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`investment_kind`	Investment kind. Reference type: `str`.
`revenue_route`	Revenue route. Reference type: `str`.
`many_users`	Many users. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualification_reference`	Qualification reference. Reference type: `str`.
`security_route`	Security route. Reference type: `str | None`.
`alternative_security_mechanisms`	Alternative security mechanisms. Reference type: `list[str] | None`. Supply an ordered R list or the documented numeric vector.
`in_construction`	In construction. Reference type: `bool | None`.

`construction_risk`
: Construction risk. Reference type: `bool | None`.

`material_operational_risk`
: Material operational risk. Reference type: `bool | None`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("infrastructure-project-baseline-rated-debt")
result <- do.call(infrastructure_project_eligibility_screen,
  c(case$kwargs, list(context = context)))
result$value
```

`insured_deposit_concentration_factor`

Deposit guarantee concentration gi only; no default/spread risk exemption.

Description

Deposit guarantee concentration gi only; no default/spread risk exemption.

Usage

```
insured_deposit_concentration_factor(
  conditions,
  qualification_reference,
  context,
  ...
)
```

Arguments

conditions	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-deposit-zero-qualified")
result <- do.call(insured_deposit_concentration_factor,
  c(case$kwargs, list(context = context)))
result$value
```

`insurer_solvency_spread_stress` *Interpolate stress, not rating, for externally qualified unrated insurers.*

Description

Duplicate published 75% knots share CQS5_6. MCR/SFCR eligibility is external.

Usage

```
insurer_solvency_spread_stress(
  modified_duration,
  solvency_ratio,
  qualification_reference,
  context,
  ...
)
```

Arguments

`modified_duration`	Modified duration. Reference type: `float`.
`solvency_ratio`	Solvency ratio. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-insurer-solvency-spread-1-0")
result <- do.call(insurer_solvency_spread_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

intangible_risk *Charge on intangible value already recognised under Article 12.*

Description

Charge on intangible value already recognised under Article 12.

Usage

```
intangible_risk(recognised_value, context, ...)
```

Arguments

recognised_value	Recognised value. Reference type: `float`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("capital-2027-intangible-0")
result <- do.call(intangible_risk,
  c(case$kwargs, list(context = context)))
result$value
```

`interest_additive_shift_2027` *Return the nonnegative b magnitude; its application sign belongs to the scenario.*

Description

Return the nonnegative b magnitude; its application sign belongs to the scenario.

Usage

```
interest_additive_shift_2027(maturity, direction, context, ...)
```

Arguments

`maturity`	Maturity. Reference type: `float`.
`direction`	Direction. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: annual_rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("interest-original-row-up-1-interest_additive_shift_2027")
result <- do.call(interest_additive_shift_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`interest_down_floor_2027`

Published floor from1year; subannual ambiguity is not filled by extrapolation.

Description

Published floor from1year; subannual ambiguity is not filled by extrapolation.

Usage

```
interest_down_floor_2027(maturity, context, ...)
```

Arguments

`maturity`	Maturity. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: annual_rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("interest-floor-2027-1")
result <- do.call(interest_down_floor_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

interest_down_stress_2027

Literal downward stress only at/before an externally qualified first smoothing point.

Description

Literal downward stress only at/before an externally qualified first smoothing point.

Usage

```
interest_down_stress_2027(
  rate,
  maturity,
  first_smoothing_point,
  qualification_reference,
  context,
  ...
)
```

Arguments

`rate`	Rate. Reference type: `float`.
`maturity`	Maturity. Reference type: `float`.
`first_smoothing_point`	First smoothing point. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: annual_rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("interest-down-2027-rate-1")
result <- do.call(interest_down_stress_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

interest_participation_bof_change

Retain gains but exclude losses on Art68-deducted financial holdings.

Description

Signed BOF deltas are externally valued for one up/down scenario and one consistent gross/net-FDB basis. Apply before full currency-scenario losses, never subtract the result from an already floored SCR. No pricing or legal deduction qualification is inferred. The arithmetic is shared with188(6).

Usage

```
interest_participation_bof_change(
  participations,
  direction,
  qualification_reference,
  context,
  ...
)
```

Arguments

participations	Participations. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
direction	Direction. Reference type: str.

qualification_reference
: Qualification reference. Reference type: `str`.

context
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

...
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("interest-participation-baseline-up-empty")
result <- do.call(interest_participation_bof_change,
  c(case$kwargs, list(context = context)))
result$value
```

---

interest_relative_factor_2027

Interpolate s using its own90year tail, not the additive60year tail.

Description

Interpolate s using its own90year tail, not the additive60year tail.

Usage

```
interest_relative_factor_2027(maturity, direction, context, ...)
```

Arguments

`maturity`	Maturity. Reference type: `float`.
`direction`	Direction. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("interest-original-row-up-1-interest_relative_factor_2027")
result <- do.call(interest_relative_factor_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`interest_scenario_charge`

Sum each direction across qualified currency groups before scenario selection.

Description

Future EUR/peg joint scenarios must already be qualified and grouped externally, with no duplicate exposure. Currency/group keys never trigger automatic merging.

Usage

```
interest_scenario_charge(
  gross_by_currency,
  net_by_currency,
  valuation_reference,
  tie_break = NULL,
  context,
  ...
)
```

Arguments

gross_by_currency	Gross by currency. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
net_by_currency	Net by currency. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
valuation_reference	Valuation reference. Reference type: `str`.
tie_break	Tie break. Reference type: `str | None`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("interest-sum-net-down")
result <- do.call(interest_scenario_charge,
```

```
  c(case$kwargs, list(context = context)))
result$value
```

`interest_stress` *Stress a basic annual spot rate; linear factor interpolation including endpoints.*

Description

Stress a basic annual spot rate; linear factor interpolation including endpoints.

Usage

```
interest_stress(rate, maturity, direction, context, ...)
```

Arguments

`rate`	Rate. Reference type: `float`.
`maturity`	Maturity. Reference type: `float`.
`direction`	Direction. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: annual_rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rate-interpolation")
result <- do.call(interest_stress,
  c(case$kwargs, list(context = context)))
result$value
```

`interest_ufr_stress_2027`

Shift an externally supplied UFR, without constructing a stressed extrapolation.

Description

Shift an externally supplied UFR, without constructing a stressed extrapolation.

Usage

```
interest_ufr_stress_2027(ufr, direction, context, ...)
```

Arguments

`ufr`	Ufr. Reference type: `float`.
`direction`	Direction. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: annual_rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("interest-ufr-2027-up")
result <- do.call(interest_ufr_stress_2027,
  c(case$kwargs, list(context = context)))
result$value
```

lac_dt *Signed tax adjustment from externally valued balances after the Article 207(1) loss.*

Description

A nonempty evidence reference records the caller's basis for increased DTA; it does not substantively establish future profits or legal recoverability.

Usage

```
lac_dt(
  base_dta,
  base_dtl,
  stressed_dta,
  stressed_dtl,
  recoverability_reference = NULL,
  context,
  ...
)
```

Arguments

base_dta	Base dta. Reference type: `float`.
base_dtl	Base dtl. Reference type: `float`.
stressed_dta	Stressed dta. Reference type: `float`.
stressed_dtl	Stressed dtl. Reference type: `float`.
recoverability_reference	Recoverability reference. Reference type: `str | None`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("tax-2027-positive-zeroed")
result <- do.call(lac_dt,
  c(case$kwargs, list(context = context)))
result$value
```

`lac_dt_profit_assumptions_check` *Check one externally qualified projection/return-pair and declared evidence.*

Description

Five years bounds new-business revenue assumptions, not all future profits. A longer profit forecast activates the haircut condition, without inventing its amount. Lower-than-forward returns require review of the literal source rather than treating conservative assumptions as automatically unlawful.

Usage

```
lac_dt_profit_assumptions_check(
  projection,
  conditions,
  management_actions_assumed,
  qualification_reference,
  context,
  ...
)
```

Arguments

`projection`	Projection. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`conditions`	Conditions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`management_actions_assumed`	Management actions assumed. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("lac-dt-profit-baseline-boundary-five")
result <- do.call(lac_dt_profit_assumptions_check,
  c(case$kwargs, list(context = context)))
result$value
```

---

lac_dt_stress_amount *Loss for the external tax revaluation, before (not after) the tax adjustment.*

Description

Loss for the external tax revaluation, before (not after) the tax adjustment.

Usage

```
lac_dt_stress_amount(bscr, operational, adjustment_tp, context, ...)
```

Arguments

`bscr`	Bscr. Reference type: `float`.
`operational`	Operational. Reference type: `float`.
`adjustment_tp`	Adjustment tp. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("tax-stress-2027-zero")
result <- do.call(lac_dt_stress_amount,
  c(case$kwargs, list(context = context)))
result$value
```

---

lac_tp *Signed (nonpositive) loss-absorbing adjustment for technical provisions.*

Description

Signed (nonpositive) loss-absorbing adjustment for technical provisions.

Usage

```
lac_tp(bscr, net_bscr, future_discretionary_benefits, context, ...)
```

Arguments

`bscr`	Bscr. Reference type: `float`.
`net_bscr`	Net bscr. Reference type: `float`.
`future_discretionary_benefits`	Future discretionary benefits. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("capital-2027-lac-tp-3")
result <- do.call(lac_tp,
  c(case$kwargs, list(context = context)))
result$value
```

`lapse_stress` *Stress the relevant option-exercise rate after the required contract selection.*

Description

Stress the relevant option-exercise rate after the required contract selection.

Usage

```
lapse_stress(rate, direction, context, ...)
```

Arguments

`rate`	Rate. Reference type: `float`.
`direction`	Direction. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: probability.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("life-2027-lapse-up-cap")
result <- do.call(lapse_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

liability_cat_claim_count

Smallest integer STRICTLY above the ratio, or one for unlimited coverage.

Description

Fraction arithmetic on decimal representations preserves exact boundaries such as 115/(1.15*100)=1; ceil would be wrong there. Representative loss allocation across those claims and reinsurance response remain external.

Usage

```
liability_cat_claim_count(
  loss,
  unlimited,
  largest_limit = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`loss`	Loss. Reference type: `float`.
`unlimited`	Unlimited. Reference type: `bool | None`.
`largest_limit`	Largest limit. Reference type: `float | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: count.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("liability-credit-2027-unlimited")
result <- do.call(liability_cat_claim_count,
  c(case$kwargs, list(context = context)))
result$value
```

---

liability_cat_loss *Group factor times next12month earned gross premium before reinsurance.*

Description

AnnexXI classifications and exclusions are external, including the group4 exclusions for groups1–3, private households and specified craftsmen.

Usage

```
liability_cat_loss(group, gross_premium, qualification_reference, context, ...)
```

Arguments

`group`	Group. Reference type: `str`.
`gross_premium`	Gross premium. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("liability-credit-2027-liability-group1")
result <- do.call(liability_cat_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`life_biometric_selection` *Select qualified life units by strictly increased TP excluding risk margin.*

Description

Direct/underlying basis, grouping and external TP valuation requirements are unchanged; the shared private helper does not contribute health sources.

Usage

```
life_biometric_selection(
  shock,
  valuations,
  valuation_basis,
  grouping_mode,
  grouping_qualified = NULL,
  valuation_reference,
  context,
  ...
)
```

Arguments

shock	Shock. Reference type: `str`.
valuations	Valuations. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
valuation_basis	Valuation basis. Reference type: `str`.
grouping_mode	Grouping mode. Reference type: `str`.
grouping_qualified	Grouping qualified. Reference type: `bool | None`.
valuation_reference	Valuation reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: selection_units.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
```

```
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("life-selection-baseline-mortality-qualified-aggregate")
result <- do.call(life_biometric_selection,
  c(case$kwargs, list(context = context)))
result$value
```

`life_biometric_stress` *Apply a selected biometric stress without inventing a probability/intensity conversion.*

Description

Disability incidence/recovery stresses must be projected jointly. Contract selection and time-period assignment are external, not inferred from rate.

Usage

```
life_biometric_stress(rate, shock, rate_basis, context, ...)
```

Arguments

`rate`	Rate. Reference type: `float`.
`shock`	Shock. Reference type: `str`.
`rate_basis`	Rate basis. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("life-rate-intensity")
result <- do.call(life_biometric_stress,
  c(case$kwargs, list(context = context)))
result$value
```

`life_cashflow_grouping_conditions`

Check declared Article35 grouping safeguards, not a clustering model.

Description

Individual-contract projection is the default. The insurer assesses undue burden, risk similarity, faithful expenses/risks and comparable best estimates including guarantees/options. No quantitative materiality cutoff is invented.

Usage

```
life_cashflow_grouping_conditions(
  conditions,
  qualification_reference,
  context,
  ...
)
```

Arguments

`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("life-grouping-baseline-combination-15")
result <- do.call(life_cashflow_grouping_conditions,
  c(case$kwargs, list(context = context)))
result$value
```

---

life_catastrophe_rate_stress

Add the twelve-month mortality shock only to externally selected contracts.

Description

The input is a mortality probability for the next twelve months, not an intensity. No lifetime extrapolation, contract selection or BOF valuation is inferred; article 143 specifies no probability cap.

Usage

```
life_catastrophe_rate_stress(rate, selected, selection_reference, context, ...)
```

Arguments

`rate`	Rate. Reference type: `float`.
`selected`	Selected. Reference type: `bool | None`.
`selection_reference`	Selection reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: probability.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("life-2027-cat-true")
result <- do.call(life_catastrophe_rate_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

life_expense_inflation_stress

Add the prescribed percentage-point shock without choosing a compounding model.

Description

Add the prescribed percentage-point shock without choosing a compounding model.

Usage

```
life_expense_inflation_stress(inflation_rate, context, ...)
```

Arguments

`inflation_rate`	Inflation rate. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("life-expense-inflation")
result <- do.call(life_expense_inflation_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

life_expense_level_stress

Stress eligible costs; combine with inflation stress in the external projection.

Description

Stress eligible costs; combine with inflation stress in the external projection.

Usage

```
life_expense_level_stress(expense, context, ...)
```

Arguments

`expense`	Expense. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("life-expense-zero")
result <- do.call(life_expense_level_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

life_lapse_option_stress

Return exercise probability, stressing non-exercise for extension options.

Description

Selection depends on the relevant technical-provision effect, not merely the option label. Underlying/reinsurance rights are classified externally.

Usage

```
life_lapse_option_stress(
  exercise_rate,
  direction,
  option_kind,
  selected,
  selection_reference,
  context,
  ...
)
```

Arguments

`exercise_rate`	Exercise rate. Reference type: `float`.
`direction`	Direction. Reference type: `str`.
`option_kind`	Option kind. Reference type: `str`.

selected	Selected. Reference type: bool | None.
selection_reference	Selection reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: probability.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("life-2027-extension-up")
result <- do.call(life_lapse_option_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

life_lapse_risk *Select gross capital using all three externally valued net scenarios.*

Description

Select gross capital using all three externally valued net scenarios.

Usage

```
life_lapse_risk(
  gross_losses,
  net_losses,
  valuation_reference,
  tie_break = NULL,
  context,
  ...
)
```

Arguments

gross_losses	Gross losses. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
net_losses	Net losses. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
valuation_reference	Valuation reference. Reference type: str.
tie_break	Tie break. Reference type: str | None.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("life-lapse-net-selection")
result <- do.call(life_lapse_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

life_mass_lapse_factor

Return event share, never a proportional BOF/TP loss or standalone mass SCR.

Description

Categories a/b are disjoint and a/b/c apply jointly where relevant. Special category qualification and worst termination form remain external. In2027, uniform application to affected contracts and application to the underlying insurance contracts for reinsurance a/b must also be qualified.

Usage

```
life_mass_lapse_factor(category, qualification_reference, context, ...)
```

Arguments

`category`	Category. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("life-mass-future_142_6_c")
result <- do.call(life_mass_lapse_factor,
  c(case$kwargs, list(context = context)))
result$value
```

`life_mass_lapse_special_eligibility`

Screen declared142(6)a facts; a negative result does NOT select category b.

Description

Related beneficiaries are excluded independently of count. The20-person limit belongs to the separate estate/inheritance-purpose exclusion only. Underlying reinsurance scope and worst termination valuation remain external.

Usage

```
life_mass_lapse_special_eligibility(
  policyholder_type,
  conditions,
  beneficiary_count = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`policyholder_type`	Policyholder type. Reference type: `str`.
`conditions`	Conditions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`beneficiary_count`	Beneficiary count. Reference type: `int | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("mass-lapse-special-baseline-non-natural-consent-true")
result <- do.call(life_mass_lapse_special_eligibility,
  c(case$kwargs, list(context = context)))
result$value
```

`life_revision_stress` *Increase only externally qualified revision-exposed annuity benefits.*

Description

Increase only externally qualified revision-exposed annuity benefits.

Usage

```
life_revision_stress(annuity_benefit, revision_exposed, context, ...)
```

Arguments

`annuity_benefit`	Annuity benefit. Reference type: `float`.
`revision_exposed`	Revision exposed. Reference type: `bool | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("life-2027-revision-true")
result <- do.call(life_revision_stress,
  c(case$kwargs, list(context = context)))
result$value
```

load_discount_curve_json *Import a user-supplied local discount curve*

Description

Import a user-supplied local discount curve

Usage

```
load_discount_curve_json(path)

load_discount_curve_csv(
  path,
  curve_id,
  as_of,
  currency,
  curve_kind,
  source_reference
)
```

Arguments

`path`	Local file path; URLs, including `file://`, are rejected.
`curve_id`, `as_of`, `currency`, `curve_kind`, `source_reference`	Explicit CSV metadata; see `DiscountCurve()`. JSON carries these in its version-1 schema.

Details

JSON must be UTF-8 with unique object keys. CSV must have exactly `date,discount_factor` columns, comma separators and decimal points. Neither adapter accesses the Internet or guesses units.

Value

A validated `DiscountCurve()`.

Examples

```
path <- tempfile(fileext = ".csv")
writeLines(c("date,discount_factor", "2026-01-17,0.97"), path)
curve <- load_discount_curve_csv(path, "example", "2025-01-17", "EUR",
                                 "custom", "synthetic example")
discount_curve_factor(curve, "2026-01-17")
unlink(path)
```

`lookthrough_exposure_amount` *Sum one underlying exposure across all qualified direct/indirect fund paths.*

Description

Factors are supplied linear multipliers, NOT inferred ownership fractions. Signed/leverage inputs remain externally qualified; no normalisation, NAV solving, asset classification, fallback completion or risk-charge netting. Kahn traversal avoids recursion limits and exponential path enumeration.

Usage

```
lookthrough_exposure_amount(
  funds,
  holdings,
  exposure_id,
  complete_scope,
  basis_reference,
  context,
  ...
)
```

Arguments

`funds`	Funds. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`holdings`	Holdings. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`exposure_id`	Exposure id. Reference type: `str`.
`complete_scope`	Complete scope. Reference type: `bool | None`.
`basis_reference`	Basis reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("lookthrough-exposure-baseline-known-zero-position")
result <- do.call(lookthrough_exposure_amount,
  c(case$kwargs, list(context = context)))
result$value
```

---

lookthrough_fallback_conditions

Test target-first fallback conditions, not infer a fund's asset allocation.

Description

Only externally qualified collective/fund-form investments are in scope. Prudence and any data-grouping cap must be checked separately.

Usage

```
lookthrough_fallback_conditions(
  conditions,
  allocation_basis,
  qualification_reference,
  context,
  ...
)
```

Arguments

conditions	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
allocation_basis	Allocation basis. Reference type: `str`.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("lookthrough-baseline-target")
result <- do.call(lookthrough_fallback_conditions,
  c(case$kwargs, list(context = context)))
result$value
```

---

lookthrough_grouping_limit

Check an inclusive cap on externally scope-adjusted grouping amounts.

Description

Article84(3a) exclusion/classification and prudent risk grouping are external; zero/zero means only the inequality holds, not that a method is approved.

Usage

```
lookthrough_grouping_limit(
  grouped_assets_in_scope,
  total_assets_in_scope,
  article84_3a_scope_qualified,
  prudent_grouping,
  qualification_reference,
  context,
  ...
)
```

Arguments

`grouped_assets_in_scope`	Grouped assets in scope. Reference type: `float`.
`total_assets_in_scope`	Total assets in scope. Reference type: `float`.
`article84_3a_scope_qualified`	Article84 3a scope qualified. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`prudent_grouping`	Prudent grouping. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("lookthrough-baseline-group-zero")
result <- do.call(lookthrough_grouping_limit,
  c(case$kwargs, list(context = context)))
result$value
```

`manmade_concentration_loss` *Maximum combined effective insured sum of externally qualified objects.*

Description

Fire inputs are complete, externally qualified building groups, not isolated points. Components are after qualified recovery/fallback; never deduct twice. Empty eligible populations return explicitly documented conventional zero. This is not the hypothetical Article196(a) capital calculation; its2027 object-selection requirements need separate qualification.

Usage

```
manmade_concentration_loss(
  exposures,
  peril,
  qualification_reference,
  context,
  ...
)
```

Arguments

`exposures`	Exposures. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`peril`	Peril. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("concentration-2027-empty")
result <- do.call(manmade_concentration_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`market_risk_from_interest_scenarios`

Aggregate supplied market submodules, with the source's interest-charge equality rule.

Description

Keys identify externally qualified stress currencies/groups; all monetary inputs are already in context currency. This function neither values instruments nor certifies completeness. The selected profile supplies its own matrices, including the2027 interest/spread B coefficient.

Usage

```
market_risk_from_interest_scenarios(
  other_components,
  gross_by_currency,
  net_by_currency,
  valuation_reference,
  tie_break = NULL,
  context,
  ...
)
```

Arguments

`other_components`
: Other components. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.

`gross_by_currency`
: Gross by currency. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.

`net_by_currency`
: Net by currency. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.

`valuation_reference`
: Valuation reference. Reference type: `str`.

tie_break	Tie break. Reference type: str | None.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("market-zero")
result <- do.call(market_risk_from_interest_scenarios,
  c(case$kwargs, list(context = context)))
result$value
```

---

matching_fundamental_spread_increase

Fundamental-spread increment, not MA/technical-provision revaluation.

Description

Use actual modified duration here, not the floor used to determine the separately supplied asset shock. The last paragraph overrides CQS3 for qualified infrastructure investments and infrastructure corporate assets.

Usage

```
matching_fundamental_spread_increase(
  asset_stress,
  modified_duration,
  category,
  qualification_reference,
  credit_quality_step = NULL,
  context,
  ...
)
```

Arguments

`asset_stress`	Asset stress. Reference type: `float`.
`modified_duration`	Modified duration. Reference type: `float`.
`category`	Category. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`credit_quality_step`	Credit quality step. Reference type: `str | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: annual_rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-matching-spread-increase-7")
result <- do.call(matching_fundamental_spread_increase,
```

```
  c(case$kwargs, list(context = context)))
result$value
```

`mcr_absolute_floor` *Select a printed EUR floor, including qualified Article166 direct branches.*

Description

The half-floor is not a half-SCR or half-MCR multiplier. Pass it as the absolute floor into the ordinary branch-activity MCR calculation. Deposit, asset location, authorisation and Article167 relief remain separate.

Usage

```
mcr_absolute_floor(
  undertaking_type,
  covers_nonlife_classes_10_to_15 = NULL,
  context,
  third_country_branch = FALSE,
  qualification_reference = NULL,
  mixed_premiums = NULL,
  ...
)
```

Arguments

`undertaking_type`	Undertaking type. Reference type: `str`.
`covers_nonlife_classes_10_to_15`	Covers nonlife classes 10 to 15. Reference type: `bool | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`third_country_branch`	Third country branch. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualification_reference`	Qualification reference. Reference type: `str | None`.
`mixed_premiums`	Mixed premiums. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: EUR.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("mcr-2027-amcr-life")
result <- do.call(mcr_absolute_floor,
  c(case$kwargs, list(context = context)))
result$value
```

---

mcr_capital_at_risk *Article251 contract-level floors; external benefit/BE qualification unchanged.*

Description

Article251 contract-level floors; external benefit/BE qualification unchanged.

Usage

```
mcr_capital_at_risk(contracts, qualification_reference, context, ...)
```

Arguments

`contracts`	Contracts. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("mcr-car-baseline-empty")
result <- do.call(mcr_capital_at_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

mcr_combined *Combined MCR including an explicitly supplied applicable absolute floor.*

Description

Combined MCR including an explicitly supplied applicable absolute floor.

Usage

```
mcr_combined(linear, scr, absolute_floor, context, ...)
```

Arguments

`linear`	Linear. Reference type: `float`.
`scr`	Scr. Reference type: `float`.
`absolute_floor`	Absolute floor. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("mcr-2027-combined-floor")
result <- do.call(mcr_combined,
  c(case$kwargs, list(context = context)))
result$value
```

---

mcr_life *Linear life MCR; no premature floor on the signed linear total.*

Description

Linear life MCR; no premature floor on the signed linear total.

Usage

```
mcr_life(components, context, ...)
```

Arguments

components	Components. Reference type: Mapping[str, float]. Supply a named R list with the keys shown in the example/reference case.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("mcr-2027-life-guaranteed")
result <- do.call(mcr_life,
  c(case$kwargs, list(context = context)))
result$value
```

---

mcr_linear *Add the separately determined Art.250/251 parts; life may be signed.*

Description

Add the separately determined Art.250/251 parts; life may be signed.

Usage

```
mcr_linear(nonlife, life, context, ...)
```

Arguments

nonlife	Nonlife. Reference type: float.
life	Life. Reference type: float.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("mcr-linear-zero")
result <- do.call(mcr_linear,
  c(case$kwargs, list(context = context)))
result$value
```

`mcr_nonlife` *Linear nonlife/health MCR using all 16 annex-XIX segments, including explicit zeros.*

Description

Linear nonlife/health MCR using all 16 annex-XIX segments, including explicit zeros.

Usage

```
mcr_nonlife(segments, context, ...)
```

Arguments

`segments`	Segments. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("mcr-2027-tp-1")
result <- do.call(mcr_nonlife,
  c(case$kwargs, list(context = context)))
result$value
```

`mcr_notional_requirement` *Notional activity MCR with a separately supervisor-assigned add-on.*

Description

Preserve the printed min(max(...),...) ordering even for signed inputs. The applicable absolute floor and activity delimitation remain external. This is not a total-company MCR or an automatic Article253 decision.

Usage

```
mcr_notional_requirement(
  linear,
  notional_scr,
  capital_addon,
  absolute_floor,
  qualification_reference,
  context,
  ...
)
```

Arguments

`linear`	Linear. Reference type: `float`.
`notional_scr`	Notional scr. Reference type: `float`.
`capital_addon`	Capital addon. Reference type: `float`.
`absolute_floor`	Absolute floor. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("mcr-notional-low")
result <- do.call(mcr_notional_requirement,
  c(case$kwargs, list(context = context)))
result$value
```

---

mcr_notional_scr *Allocate SCR excluding add-ons by the two notional linear MCR components.*

Description

Signed linear components are not silently floored. A zero denominator has no specified allocation here and requires review. Supervisory add-ons are allocated separately by the supervisor, not by this ratio.

Usage

```
mcr_notional_scr(
  nonlife_linear,
  life_linear,
  scr_excluding_addon,
  activity,
  qualification_reference,
  context,
  ...
)
```

Arguments

`nonlife_linear`	Nonlife linear. Reference type: `float`.
`life_linear`	Life linear. Reference type: `float`.
`scr_excluding_addon`	Scr excluding addon. Reference type: `float`.
`activity`	Activity. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("mcr-2027-notional-life")
result <- do.call(mcr_notional_scr,
  c(case$kwargs, list(context = context)))
result$value
```

`model_va_scr_floor_2027` *Check declared method conditions and two external SCR floors, not raise SCR.*

Description

Check declared method conditions and two external SCR floors, not raise SCR.

Usage

```
model_va_scr_floor_2027(
  model_scr,
  standard_va_scr,
  own_portfolio_va_scr,
  permitted_by_member_state,
  excludes_company_adjustment,
  excludes_macro_va,
  qualification_reference,
  context,
  ...
)
```

Arguments

`model_scr`	Model scr. Reference type: `float`.
`standard_va_scr`	Standard va scr. Reference type: `float`.
`own_portfolio_va_scr`	Own portfolio va scr. Reference type: `float`.
`permitted_by_member_state`	Permitted by member state. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`excludes_company_adjustment`	Excludes company adjustment. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`excludes_macro_va`	Excludes macro va. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("model-va-future-equal")
result <- do.call(model_va_scr_floor_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`mortgage_type2_eligibility_screen` *Screen declarations and numerical limits, not the truth of legal conditions.*

Description

Debt is explicitly EUR and includes overdue/connected-party/group creditor amounts. Context.currency causes no implicit FX conversion. A <=3-year age does not waive more frequent monitoring under material market changes. The future CRR alternative is an external qualification, not a CRR calculator.

Usage

```
mortgage_type2_eligibility_screen(
  conditions,
  total_debt_eur,
  years_since_value_monitoring,
  repayment_route,
  qualification_reference,
  context,
  ...
)
```

Arguments

`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`total_debt_eur`	Total debt eur. Reference type: `float`.
`years_since_value_monitoring`	Years since value monitoring. Reference type: `float`.
`repayment_route`	Repayment route. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("mortgage-eligibility-future-crr124-zero")
result <- do.call(mortgage_type2_eligibility_screen,
  c(case$kwargs, list(context = context)))
result$value
```

`motor_assumed_limit` *Externally choose total, absent-total property/personal, or per-victim basis.*

Description

Externally choose total, absent-total property/personal, or per-victim basis.

Usage

```
motor_assumed_limit(amounts, basis, qualification_reference, context, ...)
```

Arguments

`amounts`	Amounts. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`basis`	Basis. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: EUR.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("motor-count-2027-total-limit")
result <- do.call(motor_assumed_limit,
  c(case$kwargs, list(context = context)))
result$value
```

`motor_cat_loss` *Gross sudden claim, with literal floor even at zero supplied counts.*

Description

Counts are already proportionally weighted. Whether this submodule applies to the undertaking is external; this API does not invent a zero-book waiver.

Usage

```
motor_cat_loss(high_count, low_count, qualification_reference, context, ...)
```

Arguments

`high_count`	High count. Reference type: `float`.
`low_count`	Low count. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: EUR.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("motor-floor")
result <- do.call(motor_cat_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`motor_vehicle_count` *Aggregate qualified LOB4/16 vehicle groups, proportional shares applied once.*

Description

Vehicle counts are whole numbers before weighting; the resulting count can be fractional. Each group must have a single assumed coverage limit/share.

Usage

```
motor_vehicle_count(vehicles, category, qualification_reference, context, ...)
```

Arguments

`vehicles`	Vehicles. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`category`	Category. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: count.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("motor-count-2027-empty")
result <- do.call(motor_vehicle_count,
  c(case$kwargs, list(context = context)))
result$value
```

---

natural_cat_event_loss

One ordered gross event; do not replace sequential recoveries with a sum.

Description

Article126 independence, no new mitigation between events, and realistic existing reinstatements must be reflected in external sequence valuation.

Usage

```
natural_cat_event_loss(
  prescribed_loss,
  peril,
  scenario,
  event,
  qualification_reference,
  context,
  ...
)
```

Arguments

prescribed_loss	Prescribed loss. Reference type: float.
peril	Peril. Reference type: str.
scenario	Scenario. Reference type: str.
event	Event. Reference type: int.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-natural-event-hail-0")
result <- do.call(natural_cat_event_loss,
  c(case$kwargs, list(context = context)))
result$value
```

---

natural_cat_insured_sum

Sum eligible zone exposures; flood/hail motor weights differ.

Description

Classify LOB7/19 property, LOB6/18 onshore property and LOB5/17 motor externally. Subsidence covers eligible residential property; its region scope is France historically, Annex VIIIA regions in the 2027 profile.

Usage

```
natural_cat_insured_sum(
  peril,
  components,
  qualification_reference,
  context,
  ...
)
```

Arguments

peril	Peril. Reference type: str.
components	Components. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-natural-si-subsidence")
result <- do.call(natural_cat_insured_sum,
  c(case$kwargs, list(context = context)))
result$value
```

`natural_cat_other_diversification` *Return sum of squared premium shares over all explicit regions5..18.*

Description

All amounts must use the externally qualified peril, gross-premium basis, period, currency/unit and risk-location classification. These region IDs are AnnexIII macroregions, not NatCat risk-zone IDs. No reserve amounts, premium/reserve segment exceptions, USP override or implicit default enter this CAT-only calculation. Zero total is undefined, not an assumed one.

Usage

```
natural_cat_other_diversification(
  peril,
  regional_premiums,
  qualification_reference,
  context,
  ...
)
```

Arguments

`peril`	Peril. Reference type: `str`.
`regional_premiums`	Regional premiums. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("natural-cat-div-baseline-hail-all-equal")
result <- do.call(natural_cat_other_diversification,
  c(case$kwargs, list(context = context)))
result$value
```

---

natural_cat_other_loss

Outside AnnexXIII: eligible next12month gross premiums and external DIV.

Description

DIV uses the prescribed premium basis for AnnexIII regions5–18, not generic premium/reserve volumes. Geographic membership is not inferred here.

Usage

```
natural_cat_other_loss(
  peril,
  gross_premium,
  diversification,
  qualification_reference,
  context,
  ...
)
```

Arguments

`peril`	Peril. Reference type: `str`.
`gross_premium`	Gross premium. Reference type: `float`.
`diversification`	Diversification. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-natural-other-hail")
result <- do.call(natural_cat_other_loss,
  c(case$kwargs, list(context = context)))
result$value
```

---

natural_cat_scenario_risk

Maximum of externally valued A/B sequence capital, not sum of event losses.

Description

Maximum of externally valued A/B sequence capital, not sum of event losses.

Usage

```
natural_cat_scenario_risk(
  peril,
  scenario_charges,
  qualification_reference,
  context,
  ...
)
```

Arguments

`peril`	Peril. Reference type: `str`.
`scenario_charges`	Scenario charges. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-natural-selection-hail")
result <- do.call(natural_cat_scenario_risk,
  c(case$kwargs, list(context = context)))
result$value
```

`natural_cat_weighted_cap` *Optional externally justified lower WSI, never a reinsurance-net amount.*

Description

Optional externally justified lower WSI, never a reinsurance-net amount.

Usage

```
natural_cat_weighted_cap(
  weighted_sum,
  peril,
  use_alternative,
  potential_gross_loss = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`weighted_sum`	Weighted sum. Reference type: `float`.
`peril`	Peril. Reference type: `str`.
`use_alternative`	Use alternative. Reference type: `bool | None`.
`potential_gross_loss`	Potential gross loss. Reference type: `float | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-natural-primary-hail")
result <- do.call(natural_cat_weighted_cap,
  c(case$kwargs, list(context = context)))
result$value
```

`non_snc_proportionality_size_screen_2027`
Shared327b/c/d/e/g size component; each measure's other conditions remain.

Description

A declared low-risk supervisory exception applies ONLY to size condition c, never to all governance/ORSA/liquidity or actual approval requirements. The existing327f prudent-deterministic screen is separate and unchanged.

Usage

```
non_snc_proportionality_size_screen_2027(
  measure,
  undertaking_type,
  life_gross_tp,
  total_gross_tp,
  nonlife_gwp,
  total_gwp,
  market_shares,
  size_exception_confirmed,
  exception_reference = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`measure`	Measure. Reference type: `str`.
`undertaking_type`	Undertaking type. Reference type: `str`.
`life_gross_tp`	Life gross tp. Reference type: `float`.
`total_gross_tp`	Total gross tp. Reference type: `float`.
`nonlife_gwp`	Nonlife gwp. Reference type: `float`.
`total_gwp`	Total gwp. Reference type: `float`.
`market_shares`	Market shares. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`size_exception_confirmed`	Size exception confirmed. Reference type: `bool | None`.
`exception_reference`	Exception reference. Reference type: `str | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.

context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("proportionality-scope-non-snc-rsr")
result <- do.call(non_snc_proportionality_size_screen_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

nonlife_adc_recovery_2027

One qualified ADC indemnity, before cession/prudence, using AnnexII sigma.

Description

Contract group, distinct tranche and source-defined nominal net valuation remain externally qualified. This is not discounted claims capital or an automatic aggregation of several overlapping covers.

Usage

```
nonlife_adc_recovery_2027(
  segment,
  nominal_net_best_estimate,
  attachment_point,
  cover_size,
```

```
  qualification_reference,
  context,
  ...
)
```

Arguments

segment	Segment. Reference type: str.
nominal_net_best_estimate	Nominal net best estimate. Reference type: float.
attachment_point	Attachment point. Reference type: float.
cover_size	Cover size. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("nonlife-2027-adc-recovery-cover-cap")
result <- do.call(nonlife_adc_recovery_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`nonlife_adc_reserve_factor_2027` *Qualified reserve-sigma factor, no upper cap; zero denominator needs review.*

Description

Recovery is before cession; supplied additional premium is floored at zero exactly once. No eligibility approval is inferred from the reference string.

Usage

```
nonlife_adc_reserve_factor_2027(
  segment,
  nominal_net_best_estimate,
  recovery,
  cession_share,
  additional_premium,
  qualification_reference,
  context,
  ...
)
```

Arguments

`segment`	Segment. Reference type: `str`.
`nominal_net_best_estimate`	Nominal net best estimate. Reference type: `float`.
`recovery`	Recovery. Reference type: `float`.
`cession_share`	Cession share. Reference type: `float`.
`additional_premium`	Additional premium. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("nonlife-2027-adc-factor-no-upper-cap")
result <- do.call(nonlife_adc_reserve_factor_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

nonlife_lapse_factor *Event share, not capital multiplier; underlying/worst selection external.*

Description

Article90a permits contract-group selection for118(1)(a) only with88 and 35(a-c) grouping qualification. The external reference must evidence this if used; it does not change the event share or remove joint valuation.

Usage

```
nonlife_lapse_factor(category, qualification_reference, context, ...)
```

Arguments

category	Category. Reference type: str.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: ratio.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("nonlife-2027-lapse-termination")
result <- do.call(nonlife_lapse_factor,
  c(case$kwargs, list(context = context)))
result$value
```

---

nonlife_premium_volume

Article 116 premium volume from externally selected net premium cashflows.

Description

Future short contracts exclude premiums earned in their first twelve months after recognition; future long contracts use premiums beyond the next twelve months from valuation. The supplied long-contract PV is still unweighted. Evidence references record, but cannot substantively verify, paragraph 4.

Usage

```
nonlife_premium_volume(
  expected_next_year,
  earned_last_year,
  existing_future_pv,
  future_short_pv,
  future_long_pv,
  method,
  cap_evidence = NULL,
  context,
  ...
)
```

Arguments

`expected_next_year`
: Expected next year. Reference type: `float`.

`earned_last_year`
: Earned last year. Reference type: `float`.

existing_future_pv
: Existing future pv. Reference type: `float`.

future_short_pv
: Future short pv. Reference type: `float`.

future_long_pv
: Future long pv. Reference type: `float`.

method
: Method. Reference type: `str`.

cap_evidence
: Cap evidence. Reference type: `Mapping[str, str] | None`. Supply a named R list with the keys shown in the example/reference case.

context
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

...
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("nl-premium-zero")
result <- do.call(nonlife_premium_volume,
  c(case$kwargs, list(context = context)))
result$value
```

---

nonlife_reserve_volume

Net claims BE; eligible recoverables must exclude208(2) finite/similar RI.

Description

Net claims BE; eligible recoverables must exclude208(2) finite/similar RI.

Usage

```
nonlife_reserve_volume(
  claims_best_estimate,
  eligible_recoverables,
  context,
  ...
)
```

Arguments

`claims_best_estimate`	Claims best estimate. Reference type: `float`.
`eligible_recoverables`	Eligible recoverables. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("nl-reserve-zero")
result <- do.call(nonlife_reserve_volume,
  c(case$kwargs, list(context = context)))
result$value
```

nonprop_property_cat_loss

Next12month eligible LOB28 earned gross premiums; AnnexIII DIV supplied.

Description

Exclude nonproportional obligations relating to LOB9/21. DIV is based on earned premiums, not the premium/reserve volume measure. Qualification and DIV derivation remain external; the reference is not regulatory approval.

Usage

```
nonprop_property_cat_loss(
  gross_premium,
  diversification,
  qualification_reference,
  context,
  ...
)
```

Arguments

`gross_premium`	Gross premium. Reference type: `float`.
`diversification`	Diversification. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("cat-premium-2027-property-zero")
result <- do.call(nonprop_property_cat_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`numeric_overrides_from_dict` *Load an explicit analyst-override batch*

Description

Load an explicit analyst-override batch

Usage

```
numeric_overrides_from_dict(payload)

load_numeric_overrides_json(path)
```

Arguments

`payload`	Named list with `schema_version = 1` and an ordered `overrides` list of `resource`, `path`, `value`, `reason` entries.
`path`	Local UTF-8 JSON file; URLs are rejected.

Details

Paths retain zero-based JSON array indices. Parsing does not change installed data; the selected context validates parameter applicability.

Value

A list of `NumericOverride()` entries for `Context()`.

Examples

```
numeric_overrides_from_dict(list(schema_version = 1L, overrides = list()))
```

NumericOverride *A traceable numeric analyst override*

Description

A traceable numeric analyst override

Usage

```
NumericOverride(resource, path, value, reason)
```

Arguments

resource	Logical resource name, for example "profile.json".
path	List of JSON keys and zero-based integer array indices.
value	Finite numeric replacement.
reason	Nonempty explanation recorded with the result.

Details

Symmetric matrix entries are mirrored; supply only one side. Overrides never remove applicability or unsupported-source guards.

Value

A NumericOverride list, to include in Context()'s overrides.

See Also

Context(), parameter()

Examples

```
change <- NumericOverride("profile.json",
  list("scalars", "intangible", "value"), 0.7, "Synthetic sensitivity")
context <- Context("2025-01-17", "2026-09-23", "EUR",
  "EU-S2-DOCUMENTS-2024-2025-v0.1", overrides = list(change))
intangible_risk(100, context = context)$value
```

`obligation_derecognition_condition` *Qualified obligation state only, never automatic contract-end derecognition.*

Description

A terminated policy can retain claims obligations. The supplied status must concern the specific obligation assessed, and remains externally unverified.

Usage

```
obligation_derecognition_condition(
  obligation_status,
  evidence_reference,
  context,
  ...
)
```

Arguments

`obligation_status`	Obligation status. Reference type: `str | None`.
`evidence_reference`	Evidence reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("derecognition-baseline-active")
result <- do.call(obligation_derecognition_condition,
  c(case$kwargs, list(context = context)))
result$value
```

`operational_risk` *Gross premium/provision calculation; provisions exclude the risk margin.*

Description

Gross premium/provision calculation; provisions exclude the risk margin.

Usage

```
operational_risk(
  bscr,
  earned_life,
  earned_life_ul,
  earned_nonlife,
  previous_life,
  previous_life_ul,
  previous_nonlife,
  tp_life,
  tp_life_ul,
  tp_nonlife,
  expenses_ul,
  context,
  ...
)
```

Arguments

`bscr`	Bscr. Reference type: `float`.
`earned_life`	Earned life. Reference type: `float`.
`earned_life_ul`	Earned life ul. Reference type: `float`.
`earned_nonlife`	Earned nonlife. Reference type: `float`.
`previous_life`	Previous life. Reference type: `float`.
`previous_life_ul`	Previous life ul. Reference type: `float`.

previous_nonlife	Previous nonlife. Reference type: `float`.
tp_life	Tp life. Reference type: `float`.
tp_life_ul	Tp life ul. Reference type: `float`.
tp_nonlife	Tp nonlife. Reference type: `float`.
expenses_ul	Expenses ul. Reference type: `float`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("capital-2027-op-zero")
result <- do.call(operational_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

orsa_additional_macro_analysis_required_2027

Select only additional paragraph1(e) analysis; paragraph1(d) remains.

Description

Group-level analysis is not an automatic exemption: the supervisor must consider it under paragraph9. Approval/request/classification are external.

Usage

```
orsa_additional_macro_analysis_required_2027(
  reasoned_supervisory_request,
  small_non_complex,
  prior_article29d_approval,
  qualification_reference,
  context,
  ...
)
```

Arguments

`reasoned_supervisory_request`	Reasoned supervisory request. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`small_non_complex`	Small non complex. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`prior_article29d_approval`	Prior article29d approval. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
```

```
case <- reference_case("orsa-macro-true-true-true")
result <- do.call(orsa_additional_macro_analysis_required_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`orsa_biennial_captive_conditions_2027` *Declared captive eligibility for ORSA frequency, not DR89 simplification.*

Description

Permitted insureds/beneficiaries are group legal persons or natural persons eligible under group insurance contracts. Their TP share must be STRICTLY below5%. Qualification of persons/contracts and TP allocation is external.

Usage

```
orsa_biennial_captive_conditions_2027(
  is_captive,
  permitted_policyholders,
  natural_person_tp_share,
  no_compulsory_liability,
  qualification_reference,
  context,
  ...
)
```

Arguments

`is_captive`	Is captive. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`permitted_policyholders`	Permitted policyholders. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`natural_person_tp_share`	Natural person tp share. Reference type: `float`.
`no_compulsory_liability`	No compulsory liability. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("orsa-frequency-captive-boundary")
result <- do.call(orsa_biennial_captive_conditions_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

orsa_climate_scenario_requirement_2027

Minimum scenario count from externally qualified materiality/SNC status.

Description

Zero exempts no undertaking from the paragraph1 materiality assessment. This is a requirement selector, not a finding that scenarios exist.

Usage

```
orsa_climate_scenario_requirement_2027(
  material_climate_risk,
  small_non_complex,
  qualification_reference,
  context,
  ...
)
```

Arguments

`material_climate_risk`
: Material climate risk. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`small_non_complex`
: Small non complex. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: count.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("orsa-climate-required-true-true")
result <- do.call(orsa_climate_scenario_requirement_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

orsa_climate_scenario_structure_2027

Check required role metadata and maximum intervals, never model adequacy.

Description

'Significantly above' has no invented numeric cutoff: both >2 degrees and an explicit external qualification are required. Additional scenarios can remain in the external assessment; this input describes the two roles. Intervals are declared years, not dates or an automatic scheduling service.

Usage

```
orsa_climate_scenario_structure_2027(
  scenarios,
  impact_analysis_interval_years,
  scenario_review_interval_years,
  assessment_reference,
  context,
  ...
)
```

Arguments

`scenarios`	Scenarios. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`impact_analysis_interval_years`	Impact analysis interval years. Reference type: `float`.
`scenario_review_interval_years`	Scenario review interval years. Reference type: `float`.
`assessment_reference`	Assessment reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("orsa-climate-low-boundary")
result <- do.call(orsa_climate_scenario_structure_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

orsa_conditional_evidence_check

Inventory conditional comparisons/recalibration, never calculate a model.

Description

The phase-in flag means a comparison remains required after externally qualified currency exemptions. Its false value is not inferred from missing data. Comparability evidence is technical traceability, not a prescribed projection method or an isolated-scenario requirement.

Usage

```
orsa_conditional_evidence_check(
  adjustments,
  uses_internal_model,
  evidence,
  qualification_reference,
  assessment_reference,
  context,
  ...
)
```

Arguments

`adjustments`	Adjustments. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`uses_internal_model`	Uses internal model. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`evidence`	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`assessment_reference`	Assessment reference. Reference type: `str`.

context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("orsa-conditional-baseline-ma-missing")
result <- do.call(orsa_conditional_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

---

orsa_core_evidence_check

Inventory explicitly declared core evidence, not adequacy or compliance.

Description

AVAILABLE means the caller supplies a reference; content is not inspected. A value of1 certifies neither ORSA completeness nor a capital requirement. Conditional comparisons, timing, recalibration and climate scenarios remain separate. The 2027 table adds mandatory macro/liquidity/materiality topics.

Usage

```
orsa_core_evidence_check(evidence, assessment_reference, context, ...)
```

Arguments

evidence	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
assessment_reference	Assessment reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("orsa-evidence-baseline-empty")
result <- do.call(orsa_core_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

---

orsa_guidance_evidence_check

Inventory archived guideline evidence, not content or legal applicability.

Description

Group/entity applicability and conditional needs are externally qualified. Incompatible scope flags are rejected. The future table explicitly excludes archived blanket annual frequency. Future frequency and expanded group scope are handled by separate APIs, not approved by this inventory.

Usage

```
orsa_guidance_evidence_check(
  evidence,
  conditions,
  qualification_reference,
  assessment_reference,
  context,
  ...
)
```

Arguments

evidence	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
conditions	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: `str`.
assessment_reference	Assessment reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("orsa-guidance-future-ordinary-empty")
result <- do.call(orsa_guidance_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

`orsa_max_assessment_interval_2027` *Maximum periodic interval; an event-triggered ORSA remains immediate.*

Description

The reference must cover classifications AND supervisory directions. None declares no additional shorter supervisory interval, not ignorance. No calendar deadline, timely completion or supervisory approval is inferred. A separate29d/327e non-SNC approval can enable the reduced maximum; classification remains false and the approval is not inferred from size.

Usage

```
orsa_max_assessment_interval_2027(
  small_non_complex,
  qualifying_captive,
  supervisory_interval_years = NULL,
  non_snc_approval_reference = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`small_non_complex`	Small non complex. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualifying_captive`	Qualifying captive. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`supervisory_interval_years`	Supervisory interval years. Reference type: `float | None`.
`non_snc_approval_reference`	Non snc approval reference. Reference type: `str | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: years.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("orsa-frequency-interval-true-true")
result <- do.call(orsa_max_assessment_interval_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

orsa_phase_in_currency_exemption_2027

Screen only the Article77a phase-in comparison exemption per currency.

Description

Both denominators are ALL future cashflows. Do not substitute cashflows in this currency for the denominator of the extrapolated-share test. Signed raw cashflows need externally qualified aggregation, not abs/netting guessed by the engine. No exemption for MA, VA or other transition tests.

Usage

```
orsa_phase_in_currency_exemption_2027(
  currency_cashflows,
  extrapolated_currency_cashflows,
  total_cashflows,
  qualification_reference,
  context,
  ...
)
```

Arguments

currency_cashflows	Currency cashflows. Reference type: float.
extrapolated_currency_cashflows	Extrapolated currency cashflows. Reference type: float.
total_cashflows	Total cashflows. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("orsa-phase-in-five")
result <- do.call(orsa_phase_in_currency_exemption_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

orsa_report_evidence_check

Inventory report content/transmission evidence, not the report itself.

Description

Quantification of non-reflected risks is conditional on externally assessed significance. Future electronic form also requires machine readability and searchable text/figures. No format inspection, filing or deadline approval.

Usage

```
orsa_report_evidence_check(
  evidence,
  significant_uncovered_risk_deviation,
  qualification_reference,
  assessment_reference,
  context,
  ...
)
```

Arguments

evidence	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
significant_uncovered_risk_deviation	Significant uncovered risk deviation. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
qualification_reference	Qualification reference. Reference type: `str`.
assessment_reference	Assessment reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("orsa-report-baseline-submission-missing")
result <- do.call(orsa_report_evidence_check,
```

```
  c(case$kwargs, list(context = context)))
result$value
```

`other_nonlife_cat_loss` *All five AnnexXII groups, next12month earned gross premiums.*

Description

Classify obligations and exclusions externally, including the conditional extended-warranty exclusion in group3. Groups1/2 combine before squaring.

Usage

```
other_nonlife_cat_loss(group_premiums, classification_reference, context, ...)
```

Arguments

`group_premiums`	Group premiums. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`classification_reference`	Classification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("cat-premium-2027-joint")
result <- do.call(other_nonlife_cat_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`own_funds_basic_before_adjustments` *Compose Article88 amounts before further deductions and eligibility limits.*

Description

Excess must still include own shares; using an already adjusted surplus here would double-deduct them. This is not eligible own funds or Tier1.

Usage

```
own_funds_basic_before_adjustments(
  excess_assets_over_liabilities,
  subordinated_liabilities,
  own_shares,
  qualification_reference,
  context,
  ...
)
```

Arguments

`excess_assets_over_liabilities`	Excess assets over liabilities. Reference type: `float`.
`subordinated_liabilities`	Subordinated liabilities. Reference type: `float`.
`own_shares`	Own shares. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-of-basic-zero")
result <- do.call(own_funds_basic_before_adjustments,
  c(case$kwargs, list(context = context)))
result$value
```

---

own_funds_classification_evidence_check

Inventory declared classification evidence, never classify an instrument.

Description

References identify the applicable instrument/subparagraph, justified non-applicability and any approved exception. Periods describe those routes; they are not unconditional maturity tests or permission to repay. Tier1 quality in excess of its cap may follow73(1)(j), not ordinary Tier2 terms. Values for subsequent allocation remain independently qualified inputs.

Usage

```
own_funds_classification_evidence_check(
  evidence,
  tier,
  own_funds_kind,
  unlisted,
  assessment_reference,
  context,
  ...
)
```

Arguments

evidence	Evidence. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
tier	Tier. Reference type: str.
own_funds_kind	Own funds kind. Reference type: str.
unlisted	Unlisted. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
assessment_reference	Assessment reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2026-10-05",
  known_at = "2026-10-06",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("of-class-close-baseline-basic-tier1-listed-missing")
result <- do.call(own_funds_classification_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

own_funds_distribution_policy_amount
Select a qualified annual payout amount, in the context reporting currency.

Description

Select a qualified annual payout amount, in the context reporting currency.

Usage

```
own_funds_distribution_policy_amount(
  policy_usable,
  qualification_reference,
  context,
  policy_lower = NULL,
  policy_upper = NULL,
  historical_values = NULL,
  public_announcements = NULL,
  ...
)
```

Arguments

policy_usable	Policy usable. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
policy_lower	Policy lower. Reference type: float | None.
policy_upper	Policy upper. Reference type: float | None.
historical_values	Historical values. Reference type: _NumericHistory | None.
public_announcements	Public announcements. Reference type: _NumericHistory | None.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("distribution-amount-policy")
result <- do.call(own_funds_distribution_policy_amount,
  c(case$kwargs, list(context = context)))
result$value
```

---

own_funds_distribution_policy_ratio

Select a qualified payout ratio; no invented cap at 100 percent.

Description

Select a qualified payout ratio; no invented cap at 100 percent.

Usage

```
own_funds_distribution_policy_ratio(
  policy_usable,
  qualification_reference,
  context,
  policy_lower = NULL,
  policy_upper = NULL,
  historical_values = NULL,
  public_announcements = NULL,
  ...
)
```

Arguments

policy_usable	Policy usable. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
policy_lower	Policy lower. Reference type: float | None.
policy_upper	Policy upper. Reference type: float | None.

`historical_values`
: Historical values. Reference type: `_NumericHistory | None`.

`public_announcements`
: Public announcements. Reference type: `_NumericHistory | None`.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("distribution-ratio-policy-3")
result <- do.call(own_funds_distribution_policy_ratio,
  c(case$kwargs, list(context = context)))
result$value
```

---

own_funds_expected_future_fee_profit_2027

Signed fee-scenario difference for one qualified index/unit-linked scope.

Description

Both input valuations exclude risk margin. No transfer of the premium-only grouping clause to fees, and no automatic addition of fee profit to EPIFP.

Usage

```
own_funds_expected_future_fee_profit_2027(
  with_future_fees,
  without_future_fees,
  qualification_reference,
  context,
  ...
)
```

Arguments

`with_future_fees`	With future fees. Reference type: `float`.
`without_future_fees`	Without future fees. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-profit-future-fee-zero")
result <- do.call(own_funds_expected_future_fee_profit_2027,
  c(case$kwargs, list(context = context)))
result$value
```

own_funds_expected_future_premium_profit *Aggregate without-minus-with valuations in externally qualified groups.*

Description

Each row has exactly with_future_premiums and without_future_premiums, both WITHOUT risk margin. Historical losses cannot offset other groups; the published 2027 rule requires signed cross-group netting. No invented total zero floor, insurer valuation model or additional own-funds credit.

Usage

```
own_funds_expected_future_premium_profit(
  group_valuations,
  qualification_reference,
  context,
  ...
)
```

Arguments

group_valuations	Group valuations. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("future-profit-baseline-zero")
result <- do.call(own_funds_expected_future_premium_profit,
  c(case$kwargs, list(context = context)))
result$value
```

`own_funds_financial_deduction_tier`

Select a remaining own-fund bucket after externally qualified deductions.

Description

All available amounts precede Article68 deductions. The deduction amounts already reflect version-specific exemption/approval decisions. This does not classify instruments, grant exemptions or calculate eligible own funds.

Usage

```
own_funds_financial_deduction_tier(
  tier,
  available,
  deductions,
  qualification_reference,
  context,
  ...
)
```

Arguments

`tier`	Tier. Reference type: `str`.
`available`	Available. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`deductions`	Deductions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("of-financial-tier-base-7-tier2")
result <- do.call(own_funds_financial_deduction_tier,
  c(case$kwargs, list(context = context)))
result$value
```

---

own_funds_financial_exemption_screen

Version-specific declared-prerequisite screen, never approval of an exemption.

Description

Unknown necessary facts block the decision. A proved alternative can settle an OR without inventing facts. The 2027 branch separately requires declared actual supervisory permission; evidence remains externally qualified.

Usage

```
own_funds_financial_exemption_screen(
  facts,
  qualification_reference,
  context,
  approval_reference = NULL,
  ...
)
```

Arguments

facts	Facts. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
approval_reference	Approval reference. Reference type: str | None.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("of-exemption-base-unknown-alternative")
result <- do.call(own_funds_financial_exemption_screen,
  c(case$kwargs, list(context = context)))
result$value
```

---

own_funds_financial_participation_deduction

Deduct qualified nonexempt financial participations, with per-holding audit.

Description

Each input is a complete participation, not an arbitrary instrument slice. Article68(3) exemptions and direct/indirect ownership are qualified before calling. SRC-0135 Guideline5 / SRC-0067 paragraph26 require the basis BEFORE Article68 deductions; exemptions are not inherited across versions. Deduction amounts here are not yet allocated to own-funds tiers.

Usage

```
own_funds_financial_participation_deduction(
  participations,
  threshold_basis,
  qualification_reference,
  context,
  ...
)
```

Arguments

participations	Participations. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
threshold_basis	Threshold basis. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("of-financial-zero-basis")
result <- do.call(own_funds_financial_participation_deduction,
  c(case$kwargs, list(context = context)))
result$value
```

`own_funds_foreseeable_distributions_2027`
Formal amount, or one of two permitted accrual methods before that stage.

Description

Formal decisions/proposals, accounting profit and fiscal-year fraction are qualified externally. No internal profit model or day-count is invented. Fees under Article70(1)(b) are separate, not calculated by this function.

Usage

```
own_funds_foreseeable_distributions_2027(
  method,
  qualification_reference,
  context,
  formal_amount = NULL,
  prior_year_distributions = NULL,
  payout_ratio = NULL,
  cumulative_interim_profit = NULL,
  estimated_annual_distribution = NULL,
  elapsed_year_fraction = NULL,
  ...
)
```

Arguments

`method`	Method. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`formal_amount`	Formal amount. Reference type: `float | None`.
`prior_year_distributions`	Prior year distributions. Reference type: `float | None`.
`payout_ratio`	Payout ratio. Reference type: `float | None`.
`cumulative_interim_profit`	Cumulative interim profit. Reference type: `float | None`.
`estimated_annual_distribution`	Estimated annual distribution. Reference type: `float | None`.
`elapsed_year_fraction`	Elapsed year fraction. Reference type: `float | None`.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("distribution-foreseeable-formal0")
result <- do.call(own_funds_foreseeable_distributions_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`own_funds_mcr_allocation` *Validate one proposed full MCR-covering allocation of basic own funds.*

Description

Validate one proposed full MCR-covering allocation of basic own funds.

Usage

```
own_funds_mcr_allocation(
  mcr,
  basic_tier1,
  restricted_tier1,
  basic_tier2,
  context,
  ...
)
```

Arguments

mcr	Mcr. Reference type: float.
basic_tier1	Basic tier1. Reference type: float.
restricted_tier1	Restricted tier1. Reference type: float.
basic_tier2	Basic tier2. Reference type: float.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("of-2027-mcr-limits")
result <- do.call(own_funds_mcr_allocation,
  c(case$kwargs, list(context = context)))
result$value
```

---

own_funds_reconciliation_reserve

Subtract Article70 items, with explicit financial-participation overlap.

Description

Future-premium expected profit is already in the supplied surplus, not an extra addition. A signed reserve is preserved; no Tier1 eligibility is inferred from this arithmetic. All deduction categories must be supplied.

Usage

```
own_funds_reconciliation_reserve(
  excess_assets_over_liabilities,
  deductions,
  qualification_reference,
  context,
  ...
)
```

Arguments

excess_assets_over_liabilities	Excess assets over liabilities. Reference type: `float`.
deductions	Deductions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("of-reserve-negative-excess")
result <- do.call(own_funds_reconciliation_reserve,
  c(case$kwargs, list(context = context)))
result$value
```

own_funds_restricted_deduction
Deduct restricted surplus, or the full elected immaterial RFF amount.

Description

Restricted funds already exclude future shareholder transfers. Materiality, portfolio classification and notional SCR are externally qualified; no internal model or arbitrary materiality threshold is supplied here.

Usage

```
own_funds_restricted_deduction(
  restricted_own_funds,
  portfolio_kind,
  immaterial_simplification,
  notional_scr = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

restricted_own_funds	Restricted own funds. Reference type: `float`.
portfolio_kind	Portfolio kind. Reference type: `str`.
immaterial_simplification	Immaterial simplification. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
notional_scr	Notional scr. Reference type: `float | None`.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("of-2027-restricted-immaterial")
result <- do.call(own_funds_restricted_deduction,
  c(case$kwargs, list(context = context)))
result$value
```

---

own_funds_scr_allocation

Validate one proposed full SCR-covering allocation of preclassified tiers.

Description

Validate one proposed full SCR-covering allocation of preclassified tiers.

Usage

```
own_funds_scr_allocation(
  scr,
  tier1,
  restricted_tier1,
  tier2,
  tier3,
  context,
  ...
)
```

Arguments

scr	Scr. Reference type: float.
tier1	Tier1. Reference type: float.
restricted_tier1	Restricted tier1. Reference type: float.
tier2	Tier2. Reference type: float.
tier3	Tier3. Reference type: float.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("of-scr-exact-half")
result <- do.call(own_funds_scr_allocation,
  c(case$kwargs, list(context = context)))
result$value
```

---

own_funds_step_up_limit

Art73(4)/77(4) maximum modest one-off step-up, not whole-tier eligibility.

Description

Decimal rate units:100bp=.01. The original-to-stepped-index swap spread is subtracted in BOTH branches; a negative limit is retained, never floored.

Usage

```
own_funds_step_up_limit(
  original_credit_spread,
  swap_spread,
  tier,
  one_off_coupon_increase_with_call_option,
  qualification_reference,
  context,
  ...
)
```

Arguments

`original_credit_spread`	Original credit spread. Reference type: `float`.
`swap_spread`	Swap spread. Reference type: `float`.
`tier`	Tier. Reference type: `str`.
`one_off_coupon_increase_with_call_option`	One off coupon increase with call option. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("final-numeric-baseline-step-tier2-negative-limit")
result <- do.call(own_funds_step_up_limit,
  c(case$kwargs, list(context = context)))
result$value
```

own_funds_tier1_loss_absorption_trigger
Article71(8) event screen, NOT write-down/conversion or Tier1 eligibility.

Description

Use distinct SCR/MCR eligible funds. Equality at either threshold triggers. The three-month non-restoration history and any additional contractual event are externally established; a current recovery does not erase a past event. Article71(10) waiver may affect execution, never the fact of the event.

Usage

```
own_funds_tier1_loss_absorption_trigger(
  eligible_scr_own_funds,
  scr,
  eligible_mcr_own_funds,
  mcr,
  scr_not_restored_within_period,
  additional_contractual_trigger,
  qualification_reference,
  context,
  ...
)
```

Arguments

`eligible_scr_own_funds`	Eligible scr own funds. Reference type: `float`.
`scr`	Scr. Reference type: `float`.
`eligible_mcr_own_funds`	Eligible mcr own funds. Reference type: `float`.
`mcr`	Mcr. Reference type: `float`.
`scr_not_restored_within_period`	Scr not restored within period. Reference type: `bool | None`.
`additional_contractual_trigger`	Additional contractual trigger. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("tier1-trigger-baseline-decidable-or")
result <- do.call(own_funds_tier1_loss_absorption_trigger,
  c(case$kwargs, list(context = context)))
result$value
```

---

own_funds_tier1_mechanism_requirements

Select statutory execution requirements; no instrument amount or booking.

Description

a/b requires full absorption. c permits partial restoration or at-least-linear absorption, unless the narrowly qualified supervisory exception is declared. Contract-only additional triggers have no universal execution rule here.

Usage

```
own_funds_tier1_mechanism_requirements(
  eligible_scr_own_funds,
  scr,
  eligible_mcr_own_funds,
  mcr,
  scr_not_restored_within_period,
  additional_contractual_trigger,
  mechanism,
  partial_restoration_sufficient,
  qualification_reference,
  context,
  waiver_conditions = NULL,
  waiver_reference = NULL,
  ...
)
```

Arguments

`eligible_scr_own_funds`
: Eligible scr own funds. Reference type: `float`.

`scr`
: Scr. Reference type: `float`.

`eligible_mcr_own_funds`
: Eligible mcr own funds. Reference type: `float`.

`mcr`
: Mcr. Reference type: `float`.

`scr_not_restored_within_period`
: Scr not restored within period. Reference type: `bool | None`.

`additional_contractual_trigger`
: Additional contractual trigger. Reference type: `bool | None`.

`mechanism`
: Mechanism. Reference type: `str`.

`partial_restoration_sufficient`
: Partial restoration sufficient. Reference type: `bool | None`.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`waiver_conditions`
: Waiver conditions. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`waiver_reference`
: Waiver reference. Reference type: `str | None`.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
```

```
case <- reference_case("tier1-mechanism-baseline-write_down-partial")
result <- do.call(own_funds_tier1_mechanism_requirements,
  c(case$kwargs, list(context = context)))
result$value
```

`parameter` *Parameter value and its regulatory provenance*

Description

Parameter value and its regulatory provenance

Usage

```
parameter(parameter_id, context)
```

Arguments

`parameter_id`	A slash-separated identifier, for example `"scalars/intangible"` or `"matrices/health_nslt"`.
`context`	An explicit `Context()`.

Details

`scalars`, `matrices` and `tables` use the selected profile. Catastrophe categories also expose matrices, regions, weights, links, postcode groups, raw geography and administrative mappings. All parameters are returned by value; edits do not change the installed package.

Value

Named list with profile identifier/hash, value or table, regulatory sources and applicable numeric override audit.

See Also

`NumericOverride()`, `Context()`

Examples

```
ctx <- Context("2025-01-17", "2026-09-23", "EUR",
               "EU-S2-DOCUMENTS-2024-2025-v0.1")
parameter("scalars/intangible", context = ctx)$value
parameter("matrices/health_nslt", context = ctx)$labels
```

partial_model_bscr *Annex XVIII techniques1-5, with recursive4/5 and certified external2.*

Description

Model charges and scalar module inputs are externally qualified. Nested inputs use the same technique, with no intangible charge below the outermost BSCR. Technique2 verifies a PSD dual certificate of constrained maximisation; it does not develop or run an insurer model or an optimisation solver.

Usage

```
partial_model_bscr(
  technique,
  inputs,
  intangible_charge,
  qualification_reference,
  context,
  ...
)
```

Arguments

technique	Technique. Reference type: int.
inputs	Inputs. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
intangible_charge	Intangible charge. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("partial-integration-baseline-3")
result <- do.call(partial_model_bscr,
  c(case$kwargs, list(context = context)))
result$value
```

---

partial_public_guarantee_zero_amount_2027

Validate explicit zero-treatment allocation, not guarantee pricing or capital.

Description

Nominal first-loss coverage and the externally determined guarantee value are distinct inputs. Pool allocation is chosen by the analyst, never here. Article215(f) payment coverage remains part of external qualification.

Usage

```
partial_public_guarantee_zero_amount_2027(
  positions,
  category,
  first_loss_cover,
  guarantee_value,
  conditions,
  qualification_reference,
  allocation_reference,
  context,
  ...
)
```

Arguments

positions	Positions. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
category	Category. Reference type: `str`.
first_loss_cover	First loss cover. Reference type: `float`.
guarantee_value	Guarantee value. Reference type: `float`.
conditions	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.

qualification_reference
: Qualification reference. Reference type: `str`.

allocation_reference
: Allocation reference. Reference type: `str`.

context
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

...
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("partial-public-guarantee-single")
result <- do.call(partial_public_guarantee_zero_amount_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

premium_future_component

Sum one selected net premium PV component, without long-term weighting.

Description

Month coordinates encode externally qualified calendar boundaries. Premium rows must be split at relevant earning cutoffs; payment time is not earning time. Input PVs already include expectations, eligible netting and discounting. The downstream premium-volume APIs apply the30% long-contract factor once.

Usage

```
premium_future_component(
  contracts,
  component,
  qualification_reference,
  context,
  ...
)
```

Arguments

contracts	Contracts. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
component	Component. Reference type: str.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("premium-future-baseline-empty-future_long_pv")
result <- do.call(premium_future_component,
  c(case$kwargs, list(context = context)))
result$value
```

`premium_net_of_reinsurance`

Return signed net premiums, not recoverables, total volume or capital.

Description

All values refer to the same externally qualified earning/PV/currency basis. Unknown qualifications cannot silently become either deductions or exclusions. Excluded amounts are retained by row, not interpreted as zero contracts. finite_reinsurance_ids declares finite AND economically similar transfers; the default empty sequence explicitly qualifies all rows as non-finite.

Usage

```
premium_net_of_reinsurance(
  gross_premium,
  reinsurance_premiums,
  qualification_reference,
  finite_reinsurance_ids = list(),
  context,
  ...
)
```

Arguments

`gross_premium`	Gross premium. Reference type: `float`.
`reinsurance_premiums`	Reinsurance premiums. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`finite_reinsurance_ids`	Finite reinsurance ids. Reference type: `list[str] | tuple`. Supply an ordered R list or the documented numeric vector.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("premium-netting-baseline-empty")
result <- do.call(premium_net_of_reinsurance,
  c(case$kwargs, list(context = context)))
result$value
```

---

premium_reserve_diversification

Geographic factor from already classified volumes, including mandatory exceptions.

Description

Regional maxima/floors must be calculated regionally: their sum need not equal the separately calculated segment volume used by the risk function. This function does not classify countries or validate USP authorisation.

Usage

```
premium_reserve_diversification(
  risk_type,
  segment,
  method,
  uses_usp,
  regional_volumes = NULL,
  context,
  ...
)
```

Arguments

risk_type	Risk type. Reference type: str.
segment	Segment. Reference type: str.
method	Method. Reference type: str.
uses_usp	Uses usp. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.

`regional_volumes`
: Regional volumes. Reference type: `Mapping[str, dict] | None`. Supply a named R list with the keys shown in the example/reference case.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("geo-div-explicit-default")
result <- do.call(premium_reserve_diversification,
  c(case$kwargs, list(context = context)))
result$value
```

`premium_reserve_geographic_region`

Return the macroregion for an explicitly qualified original territory name.

Description

No translations/current-name aliases or sovereign-to-overseas shortcuts are inferred. For a parent country, its printed exclusions must already have been excluded from the caller's risk-location input; they remain in audit. This lookup neither identifies a NatCat zone nor calculates regional volumes.

Usage

```
premium_reserve_geographic_region(
  territory,
  risk_location_reference,
  context,
  ...
)
```

Arguments

territory	Territory. Reference type: str.
risk_location_reference	Risk location reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: region_ordinal.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("macroregion-baseline-territory-054")
result <- do.call(premium_reserve_geographic_region,
  c(case$kwargs, list(context = context)))
result$value
```

premium_reserve_parameterised_risk *Aggregate supplied effective sigmas, without repeating NP/ADC adjustments.*

Description

Parameter admissibility, USP approval, HRES determination and sequencing are external. Each row declares whether AnnexIII's USP-sigma restriction applies; the engine enforces that numeric restriction, not its truth. All12 nonlife or4 health-NSLT segments must be explicit, even when empty. Existing standard-parameter APIs remain the default automatic selectors.

Usage

```
premium_reserve_parameterised_risk(
  risk_type,
  segments,
  parameter_reference,
  context,
  ...
)
```

Arguments

`risk_type`	Risk type. Reference type: `str`.
`segments`	Segments. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`parameter_reference`	Parameter reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("parameterised-pr-baseline-health_nslt-usp")
result <- do.call(premium_reserve_parameterised_risk,
  c(case$kwargs, list(context = context)))
result$value
```

`premium_reserve_risk` *Nonlife sigma aggregation with explicit2027 reinsurance/USP qualification.*

Description

Future premium80% factors require a declared existing nonproportional cover in segments1/4/5. Reserve factors are supplied separately; no absence of ADC is inferred from missing input. Historical callers keep the original API.

Usage

```
premium_reserve_risk(
  segments,
  premium_nonproportional_cover = NULL,
  reserve_adjustments = NULL,
  adjustment_reference = NULL,
  uses_usp = NULL,
  context,
  ...
)
```

Arguments

`segments`	Segments. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`premium_nonproportional_cover`	Premium nonproportional cover. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`reserve_adjustments`	Reserve adjustments. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`adjustment_reference`	Adjustment reference. Reference type: `str | None`.
`uses_usp`	Uses usp. Reference type: `bool | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("nl-segment-one")
result <- do.call(premium_reserve_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

print.Result *Structured calculation result and provenance*

Description

Structured calculation result and provenance

Usage

```
## S3 method for class 'Result'
print(x, ...)

Result(
  value,
  unit,
  formula_id,
  sources,
  context,
  input_hash,
  profile_hash,
  details,
  status = "REFERENCE_COMPONENT"
)
```

Arguments

x	A result to print.
...	Additional printing arguments (currently unused).
value	Calculated numeric value.
unit	Explicit value unit.
formula_id	Formula identifier.
sources	Source-reference list.
context	Explicit Context().
input_hash, profile_hash	Reproducible R input and profile fingerprints.
details	Formula-specific trace and qualification metadata.
status	Component/scenario status; default "REFERENCE_COMPONENT".

Value

An ordinary R list with S3 class Result. Construction itself does not validate or approve an external calculation. Use the formula APIs to calculate.

Examples

```
ctx <- Context("2025-01-17", "2026-09-23", "EUR",
               "EU-S2-DOCUMENTS-2024-2025-v0.1")
intangible_risk(100, context = ctx)
```

---

property_value_stress *Stress an externally identified property asset, not total BOF or property SCR.*

Description

Stress an externally identified property asset, not total BOF or property SCR.

Usage

```
property_value_stress(property_value, valuation_reference, context, ...)
```

Arguments

property_value	Property value. Reference type: float.
valuation_reference	Valuation reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("property-value-0")
result <- do.call(property_value_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

proportionality_application_evidence_2027

Application/notification inventory, separate from annual size screens.

Description

The qualification reference identifies the actual measure, classification, specific approval/conditions or pre-existing2025 transitional entitlement. Metadata exposes authority periods without calculating a decision deadline or manufacturing approval through silence. Fiscal-year counting is external.

Usage

```
proportionality_application_evidence_2027(
  evidence,
  route,
  measure_list_changed,
  measure_ceased,
  supervisory_restriction,
  qualification_reference,
  context,
  ...
)
```

Arguments

evidence	Evidence. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
route	Route. Reference type: str.
measure_list_changed	Measure list changed. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
measure_ceased	Measure ceased. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
supervisory_restriction	Supervisory restriction. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-close-prop-snc-missing")
result <- do.call(proportionality_application_evidence_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`prudent_deterministic_best_estimate_2027` *BE_det + loading*SCR, with default5% or externally demonstrated loading.*

Description

The insurer supplies BE, SCR, scenario-based time value and the Article34a(3) SCR/LAC-TP treatment. No stress valuation or circular SCR solver is invented. Negative deterministic/net BE is preserved; no unsupported100% loading cap.

Usage

```
prudent_deterministic_best_estimate_2027(
  deterministic_best_estimate,
  time_value_options,
  undertaking_scr,
  conditions,
  route,
  scenario_reference,
  qualification_reference,
  alternative_loading = NULL,
  alternative_loading_demonstrated = NULL,
  alternative_loading_reference = NULL,
  context,
  approval_evidence = NULL,
  ...
)
```

Arguments

`deterministic_best_estimate`	Deterministic best estimate. Reference type: `float`.
`time_value_options`	Time value options. Reference type: `float`.
`undertaking_scr`	Undertaking scr. Reference type: `float`.
`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`route`	Route. Reference type: `str`.
`scenario_reference`	Scenario reference. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`alternative_loading`	Alternative loading. Reference type: `float | None`.

`alternative_loading_demonstrated`
: Alternative loading demonstrated. Reference type: `bool | None`.

`alternative_loading_reference`
: Alternative loading reference. Reference type: `str | None`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`approval_evidence`
: Approval evidence. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("prudent-snc-negative-be")
result <- do.call(prudent_deterministic_best_estimate_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

prudent_deterministic_eligibility_2027

Strict5% time-value screen plus externally qualified route conditions.

Description

SNC requires written method intention; non-SNC requires existing approval and current conditions instead. This never grants supervisory approval or computes option time value from an invented scenario set.

Usage

```
prudent_deterministic_eligibility_2027(
  time_value_options,
  undertaking_scr,
  conditions,
  route,
  scenario_reference,
  qualification_reference,
  context,
  approval_evidence = NULL,
  ...
)
```

Arguments

`time_value_options`	Time value options. Reference type: `float`.
`undertaking_scr`	Undertaking scr. Reference type: `float`.
`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`route`	Route. Reference type: `str`.
`scenario_reference`	Scenario reference. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`approval_evidence`	Approval evidence. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("prudent-snc-boundary")
result <- do.call(prudent_deterministic_eligibility_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

prudent_deterministic_non_snc_size_screen_2027

Only Article327f size/market conditions, NOT supervisory approval.

Description

Use EUR inputs for the absolute threshold. Market shares require the proper home-state denominators: life gross TP versus nonlife gross written premiums. Pure nonlife undertakings do not automatically face the life-size cap; mixed undertakings do only at or above20% life gross TP. Any waiver is an explicit external supervisory finding under paragraph3, never inferred here.

Usage

```
prudent_deterministic_non_snc_size_screen_2027(
  undertaking_type,
  life_gross_technical_provisions,
  total_gross_technical_provisions,
  market_shares,
  size_exception_approved,
  classification_reference,
  context,
  ...
)
```

Arguments

`undertaking_type`	Undertaking type. Reference type: `str`.
`life_gross_technical_provisions`	Life gross technical provisions. Reference type: `float`.
`total_gross_technical_provisions`	Total gross technical provisions. Reference type: `float`.
`market_shares`	Market shares. Reference type: `Mapping[str, float | None]`. Supply a named R list with the keys shown in the example/reference case.

`size_exception_approved`
: Size exception approved. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`classification_reference`
: Classification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("prudent-size-waived")
result <- do.call(prudent_deterministic_non_snc_size_screen_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

public_counter_guarantee_conditions_2027

Article215a equivalence gate, not guarantee valuation or zero capital.

Description

Only the directness requirement is waived for the counter-guarantee; original guarantee requirements and all other counter-guarantee conditions remain. Any downstream Article180/192 treatment needs its own scope checks.

Usage

```
public_counter_guarantee_conditions_2027(
  conditions,
  qualification_reference,
  context,
  ...
)
```

Arguments

conditions	Conditions. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-close-counter-all")
result <- do.call(public_counter_guarantee_conditions_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`public_exposure_zero_factor` *Shared public-factor rule; Art180 debt scope and Art187 scope remain distinct.*

Description

Public-body/list classification and underlying guarantee assessment are external evidence, not conclusions drawn from these supplied booleans. The future-only308b(12) category concerns the position's inception, not merely the security's issue date; it does not extend public guarantees.

Usage

```
public_exposure_zero_factor(
  category,
  conditions,
  qualification_reference,
  context,
  ...
)
```

Arguments

`category`	Category. Reference type: `str`.
`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-public-zero-ecb")
result <- do.call(public_exposure_zero_factor,
  c(case$kwargs, list(context = context)))
result$value
```

---

reference_case *A single reference case by identifier*

Description

A single reference case by identifier

Usage

```
reference_case(id)
```

Arguments

id	Exact reference-case identifier from reference_cases().

Value

The selected case, including its inputs, context changes and expected outcome. An unknown identifier raises a structured MISSING_INPUT condition.

See Also

reference_cases()

Examples

```
id <- reference_cases()$cases[[1]]$id
identical(reference_case(id)$id, id)
```

reference_cases *Independent synthetic calculation references*

Description

Independent synthetic calculation references

Usage

```
reference_cases()
```

Details

Regulatory constants are not synthetic; example portfolios and market inputs are. Accessing references does not run calculations.

Value

A list with the fixed `cases`, including inputs, independently specified expected values or error codes, and derivation notes.

See Also

`reference_portfolios()`, `reference_case()`

Examples

```
# Select by function when looking for an example:
cases <- reference_cases()$cases
head(vapply(cases, function(x) x$id, character(1)))
```

reference_datasets *Additional synthetic reporting reference datasets*

Description

Additional synthetic reporting reference datasets

Usage

```
reference_datasets()

reference_dataset(name)
```

Arguments

`name`	Exact dataset filename from `reference_datasets()`.

Value

`reference_datasets()` returns dataset names. `reference_dataset()` returns the selected hash-verified dataset as a list.

Examples

```
reference_datasets()
names(reference_dataset(reference_datasets()[[1]]))
```

---

reference_portfolios *Synthetic integration portfolios*

Description

Synthetic integration portfolios

Usage

```
reference_portfolios()
```

Value

A list containing named dependency nodes, explicit contexts and independently specified expected values for the reference portfolios.

See Also

`reference_cases()`, `rule_profiles()`

Examples

```
length(reference_portfolios()$portfolios)
```

---

regular_supervisory_report_interval

Select declared RSR periodicity without waiving other reporting duties.

Description

None explicitly declares no additional supervisory decision. Classification and authenticity of instructions/approval remain external qualifications. non_snc_approval_reference enables the separately approved29d/327b route; a size-screen result is never substituted for this supervisory decision.

Usage

```
regular_supervisory_report_interval(
  small_non_complex,
  supervisory_interval_years = NULL,
  supervisory_reference = NULL,
  non_snc_approval_reference = NULL,
  scope = "solo",
  qualification_reference,
  context,
  ...
)
```

Arguments

`small_non_complex`	Small non complex. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`supervisory_interval_years`	Supervisory interval years. Reference type: `float | None`.
`supervisory_reference`	Supervisory reference. Reference type: `str | None`.
`non_snc_approval_reference`	Non snc approval reference. Reference type: `str | None`.
`scope`	Scope. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: years.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("group-close-baseline-rsr-default")
result <- do.call(regular_supervisory_report_interval,
  c(case$kwargs, list(context = context)))
result$value
```

---

regulatory_euro_amount_indexation

Original EUR base times HICP change since31Dec2015, rounded upward.

Description

Review schedule, Eurostat aggregate, original base and last publication are qualified inputs. The output is a calculated proposal; it never changes the existing ruleset's MCR/scope parameters or asserts national adoption.

Usage

```
regulatory_euro_amount_indexation(
  base_amount,
  last_published_amount,
  cumulative_inflation,
  inflation_since_last_adjustment,
  review_due,
  qualification_reference,
  context,
  ...
)
```

Arguments

`base_amount`	Base amount. Reference type: `float`.
`last_published_amount`	Last published amount. Reference type: `float`.
`cumulative_inflation`	Cumulative inflation. Reference type: `float`.
`inflation_since_last_adjustment`	Inflation since last adjustment. Reference type: `float`.
`review_due`	Review due. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.

context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: EUR.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("group-close-baseline-index-exact-grid")
result <- do.call(regulatory_euro_amount_indexation,
  c(case$kwargs, list(context = context)))
result$value
```

---

reinsurance_adjusted_recoverable

Subtract the separately calculated EXPECTED default adjustment exactly once.

Description

Values must already share counterparty/LoB/contract/provision scope, date, currency and qualified valuation basis. This does not compute PD, reapply an LGD floor, net gross TP, or choose a deposit/SPV-cap ordering. A signed negative result is not automatically a recognised asset.

Usage

```
reinsurance_adjusted_recoverable(
  recoverables_before_default,
  expected_default_adjustment,
  reconciliation_reference,
  context,
  ...
)
```

Arguments

`recoverables_before_default`	Recoverables before default. Reference type: `float`.
`expected_default_adjustment`	Expected default adjustment. Reference type: `float`.
`reconciliation_reference`	Reconciliation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("ri-reconciliation-baseline-zero")
result <- do.call(reinsurance_adjusted_recoverable,
  c(case$kwargs, list(context = context)))
result$value
```

`reinsurance_counterparty_recognition_factor`

Prescribed211 eligibility/haircut; not PD, LGD or recoverable valuation.

Description

Coverage is SCR/local-equivalent solvency coverage for the insurer route, or assets/equivalent eligible amount divided by aggregate maximum SPV exposure. Solvency dates, equivalence, legal status and credible restoration evidence are external. Months are completed regulatory calendar periods; at the expiry of6/3months an unresolved shortfall receives zero recognition. Non-equivalent insurers use the separate CQS route, not an invented SCR.

Usage

```
reinsurance_counterparty_recognition_factor(
  counterparty_type,
  coverage_ratio,
  conditions,
  months_since_breach = NULL,
  credit_quality_step = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

counterparty_type	Counterparty type. Reference type: `str`.
coverage_ratio	Coverage ratio. Reference type: `float | None`.
conditions	Conditions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
months_since_breach	Months since breach. Reference type: `float | None`.
credit_quality_step	Credit quality step. Reference type: `int | None`.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: factor.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("counterparty-close-baseline-spv-two")
result <- do.call(reinsurance_counterparty_recognition_factor,
  c(case$kwargs, list(context = context)))
result$value
```

---

reinsurance_default_adjustment

PV of already probability-weighted shortfalls; positive result is a deduction.

Description

Payment-date differences may be negative (e.g. delayed receipts), but a negative total needs review. Default times, PD, litigation and collateral effects must already be in the external projection: never multiply PD twice.

Usage

```
reinsurance_default_adjustment(
  cashflows,
  partition,
  runoff_complete,
  projection_reference,
  curve_reference,
  noncollateral_mitigation_included,
  context,
  separate_noncollateral_mitigation = NULL,
  ...
)
```

Arguments

`cashflows`	Cashflows. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`partition`	Partition. Reference type: `Mapping[str, str]`. Supply a named R list with the keys shown in the example/reference case.
`runoff_complete`	Runoff complete. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`projection_reference`	Projection reference. Reference type: `str`.

`curve_reference`
: Curve reference. Reference type: `str`.

`noncollateral_mitigation_included`
: Noncollateral mitigation included. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`separate_noncollateral_mitigation`
: Separate noncollateral mitigation. Reference type: `Mapping[str, dict] | None`. Supply a named R list with the keys shown in the example/reference case.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-ri-adjustment-zero")
result <- do.call(reinsurance_default_adjustment,
  c(case$kwargs, list(context = context)))
result$value
```

`reinsurance_default_loss`

Apply the loss-given-default floor or an explicitly evidenced alternative.

Description

The minimum is not a point estimate and is not a probability of default. This result must not be used as the full expected default adjustment: its timing, probabilities and segmentation require a separate calculation.

Usage

```
reinsurance_default_loss(
  recoverables_before_adjustment,
  estimated_loss,
  method,
  valuation_reference = NULL,
  context,
  ...
)
```

Arguments

`recoverables_before_adjustment`	Recoverables before adjustment. Reference type: `float`.
`estimated_loss`	Estimated loss. Reference type: `float`.
`method`	Method. Reference type: `str`.
`valuation_reference`	Valuation reference. Reference type: `str | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-ri-loss-zero")
result <- do.call(reinsurance_default_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`reinsurance_nonlife_allocation` *Allocate already eligible payments using their external gross-claims linkage.*

Description

False means premium only after prior eligibility under Article 41: it is not permission to include settled claims, unrelated payments or deposits. Call separately for each date and homogeneous counterparty/LoB/type slice.

Usage

```
reinsurance_nonlife_allocation(
  payments,
  target_provision,
  eligibility_reference,
  context,
  ...
)
```

Arguments

`payments`	Payments. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`target_provision`	Target provision. Reference type: `str`.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-ri-allocation-zero")
result <- do.call(reinsurance_nonlife_allocation,
  c(case$kwargs, list(context = context)))
result$value
```

`reinsurance_recoverable_cashflows`

Discount externally selected expected recoveries at their own payment dates.

Description

Signed values remain signed. No gross-claim date substitution, default adjustment, SPV cap or claim/deposit qualification is performed implicitly.

Usage

```
reinsurance_recoverable_cashflows(
  cashflows,
  partition,
  runoff_complete,
  projection_reference,
  curve_reference,
  context,
  ...
)
```

Arguments

`cashflows`	Cashflows. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`partition`	Partition. Reference type: `Mapping[str, str]`. Supply a named R list with the keys shown in the example/reference case.
`runoff_complete`	Runoff complete. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`projection_reference`	Projection reference. Reference type: `str`.
`curve_reference`	Curve reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-ri-cashflow-zero")
result <- do.call(reinsurance_recoverable_cashflows,
  c(case$kwargs, list(context = context)))
result$value
```

---

reinsurance_recoverables_from_net

Article57 signed gross-minus-net difference BEFORE expected default loss.

Description

The externally qualified net BE is based on homogeneous groups, each with at most one treaty/SPV unless homogeneous risks are transferred. Both BEs share scope/date/basis. Neither supplied BE includes the counterparty loss adjustment; apply the separate default-adjustment component afterwards.

Usage

```
reinsurance_recoverables_from_net(
  gross_best_estimate,
  unadjusted_net_best_estimate,
  proportionality_satisfied,
  qualification_reference,
  context,
  ...
)
```

Arguments

`gross_best_estimate`	Gross best estimate. Reference type: `float`.
`unadjusted_net_best_estimate`	Unadjusted net best estimate. Reference type: `float`.
`proportionality_satisfied`	Proportionality satisfied. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2026-10-05",
  known_at = "2026-10-06",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("net-recovery-close-baseline-zero")
result <- do.call(reinsurance_recoverables_from_net,
  c(case$kwargs, list(context = context)))
result$value
```

`replicated_cashflow_value`

Market-value arithmetic with mandatory exclusions, not replication approval.

Description

Features concern the selected cashflows. References to all-scenario and market evidence are retained but their substantive adequacy is external.

Usage

```
replicated_cashflow_value(
  market_values,
  cashflow_features,
  replication_reference = NULL,
  market_reference = NULL,
  context,
  ...
)
```

Arguments

market_values	Market values. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
cashflow_features	Cashflow features. Reference type: `Mapping[str, bool | None]`. Supply a named R list with the keys shown in the example/reference case.
replication_reference	Replication reference. Reference type: `str | None`.
market_reference	Market reference. Reference type: `str | None`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-replication-zero-value")
result <- do.call(replicated_cashflow_value,
```

```
  c(case$kwargs, list(context = context)))
result$value
```

`reporting_bound_rule_check` *Check an archived rule on explicitly bound facts*

Description

Check an archived rule on explicitly bound facts

Usage

```
reporting_bound_rule_check(
  validation_code,
  bindings,
  technical_version,
  binding_reference
)
```

Arguments

`validation_code`	Exact archived validation rule code.
`bindings`	Named list keyed by source variable IDs. Supply tagged scalar facts, or `list(values = list(...))` for an explicitly declared sequence.
`technical_version`	Explicit archived technical release.
`binding_reference`	Nonempty external fact-selection/entity/period/unit qualification reference. It is recorded, not approved by this function.

Details

Missing facts are not zero. Every syntactic variable must be supplied, including inactive branches. Supported local filters are applied; unsupported global filters, joins and scopes fail explicitly. No full report is certified.

Value

Boolean component result with selector, source and input provenance.

Examples

```
bindings <- list(v1 = list(value = 1000, decimals = 0),
                 v2 = list(values = list(list(value = 1000, decimals = 0))))
reporting_bound_rule_check("BV1053-1", bindings, "2.10.0", "synthetic-example")$value
```

`reporting_captive_itemised_exemption_2027` *Declared Article35a(3) eligibility only for subannual itemised reporting.*

Description

Policyholder/beneficiary scope and underlying reinsurance contracts must already be qualified. Neither ORSA eligibility nor a general waiver is inferred.

Usage

```
reporting_captive_itemised_exemption_2027(
  is_captive,
  permitted_policyholders,
  natural_person_tp_share,
  no_compulsory_liability,
  reporting_interval_years,
  qualification_reference,
  context,
  ...
)
```

Arguments

`is_captive`	Is captive. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`permitted_policyholders`	Permitted policyholders. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`natural_person_tp_share`	Natural person tp share. Reference type: `float`.
`no_compulsory_liability`	No compulsory liability. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`reporting_interval_years`	Reporting interval years. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("reporting-captive-natural_person_tp_share-0")
result <- do.call(reporting_captive_itemised_exemption_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

reporting_catalog *Archived reporting definitions for an explicit technical release*

Description

Archived reporting definitions for an explicit technical release

Usage

```
reporting_catalog(technical_version)
```

Arguments

`technical_version`
: One of `"2.8.2"`, `"2.8.2-hotfix"`, `"2.10.0"`.

Details

These are definition lookups, not filing obligations, validation results or automatic taxonomy selection. Baseline and hotfix may share URIs.

Value

Catalogue of modules, templates, tables and source-bound resources.

Examples

```
names(reporting_catalog("2.10.0")$tables)[1:3]
```

`reporting_closed_rule_check` *Check a rule against explicit closed-table cell facts*

Description

Check a rule against explicit closed-table cell facts

Usage

```
reporting_closed_rule_check(
  validation_code,
  facts,
  technical_version,
  fact_context,
  binding_reference
)
```

Arguments

`validation_code`	Exact archived validation code.
`facts`	Ordered list of explicit cell/context and tagged fact records.
`technical_version`	Explicit archived technical release.
`fact_context`	Named list containing explicit `entity`, `period`, `unit`.
`binding_reference`	External qualification reference.

Details

No XBRL import, automatic filing obligation, open-table expansion or full-report approval is performed.

Value

Component check with cell bindings and source provenance; scoped rules include the individual coordinate checks. Missing cells never default to zero.

Examples

```
cases <- reference_dataset("reference_reporting_scope_cases.json")$cases
case <- cases[[1]]
reporting_closed_rule_check(case$validation_code, case$facts,
  case$technical_version, case$fact_context, case$binding_reference)$value
```

reporting_data *Load one reporting definition category*

Description

Load one reporting definition category

Usage

```
reporting_data(category, technical_version)
```

Arguments

category	"structure", "cells", "dictionary" or "rules".
technical_version	Explicit archived technical release.

Details

IsEnabled and IncludeInXBRL are archived definitions, not current supervisory activation decisions. Only the selected category is decompressed.

Value

Hash-verified data preserving raw DPM field names and flags.

Examples

```
names(reporting_data("structure", "2.10.0")$tables)
```

reporting_instance *Assemble an offline XBRL draft from explicit DPM cell facts*

Description

Assemble an offline XBRL draft from explicit DPM cell facts

Usage

```
reporting_instance(
  facts,
  technical_version,
  module,
  entity,
  instant,
  indicators,
```

```
  qualification_reference,
  validation_codes = NULL,
  filing_overrides = list()
)
```

Arguments

facts	Ordered list of records containing business_code, atom, and optionally open_dimensions and unit. Full archived cell codes are required.
technical_version	Explicit archived technical release.
module	Exact reporting module code.
entity	Named list with explicit scheme and identifier.
instant	Canonical ISO reporting instant, YYYY-MM-DD.
indicators	Named list of explicit Boolean filing indicators.
qualification_reference	External reporting-scope qualification reference.
validation_codes	Optional ordered rule-code list, or "ALL_MODULE" to attempt all archived module/workbook candidates. Unsupported checks stay visible.
filing_overrides	List of explicit NumericOverride() entries for archived filing precision parameters, with original values and reasons audited.

Details

This returns DRAFT_XBRL_INSTANCE, never submission approval. It makes no network request, writes no files, invents no facts, and performs no rounding. Native R serialization is deterministic; XML hashes bind the returned bytes, not another language's serializer. XML schema validation remains separate.

Value

XML text and SHA-256, cell reconciliation, selected rule checks, currency and precision findings, override audit and outstanding validation obligations.

Examples

```
names(reference_dataset("reference_reporting_portfolios.json"))
```

reporting_metric_value_check

Check an explicit fact against an archived DPM metric

Description

Check an explicit fact against an archived DPM metric

Usage

```
reporting_metric_value_check(metric_code, fact, technical_version)
```

Arguments

metric_code	Exact DPM metric MemberCode, preserving case.
fact	Tagged atom: list(value = ..., decimals = ...), list(text = ...), list(boolean = ...), list(date = "YYYY-MM-DD"), or an expanded qname.
technical_version	Explicit archived technical release.

Value

Datatype and, where prescribed, enumeration-membership result with metric definition and provenance. This is not XML or full-report validation.

Examples

```
cases <- reference_dataset("reference_reporting_metric_cases.json")$cases
names(cases[[1]])
```

reporting_rule_precondition

Evaluate an archived filing-indicator precondition

Description

Evaluate an archived filing-indicator precondition

Usage

```
reporting_rule_precondition(
  validation_code,
  indicators,
  technical_version,
  module
)
```

Arguments

validation_code	Exact archived rule code.
indicators	Named list of explicit logical declarations for all referenced template indicators. Missing declarations do not mean FALSE.
technical_version	Explicit archived technical release.
module	Exact archived module code.

Details

This evaluates only the archived Boolean indicator condition, not legal applicability, current activation or the reported numeric facts.

Value

Boolean precondition result plus archived source hashes and limits.

Examples

```
# Use explicit declarations from a qualified reporting input set.
names(reporting_catalog("2.8.2")$modules)[1:3]
```

---

reporting_table *Definitions and axes for one reporting table*

Description

Definitions and axes for one reporting table

Usage

```
reporting_table(table_code, technical_version)
```

Arguments

table_code	Exact table code in the selected catalogue.
technical_version	Explicit archived technical release.

Value

Table, cells, axes, ordinates, positions, categorisations and open-axis restrictions. Open axes are not expanded and shaded cells are not zero inputs.

Examples

```
code <- names(reporting_catalog("2.10.0")$tables)[[1]]
reporting_table(code, "2.10.0")$status
```

reporting_validation_status

Archived module-specific validation status

Description

Archived module-specific validation status

Usage

```
reporting_validation_status(validation_code, technical_version, module)
```

Arguments

validation_code	Exact archived rule code.
technical_version	Explicit archived technical release.
module	Exact archived module code, for example "ars".

Details

This is not a current supervisory clearance or an activation history. Non-XBRL checks are not automatically inactive. No online lookup occurs.

Value

Source rows, snapshot date, severity, implementation channel and activation evidence. Ambiguous or conflicting evidence is REVIEW_REQUIRED.

Examples

```
reporting_validation_status("BV1053-1", "2.8.2", "ars")$reason
```

restricted_portfolio_scenario_charge

One portfolio's nonnegative charge under the COMMON worst net scenario.

Description

Nested losses are portfolio -> scenario -> signed BOF loss, already adjusted for217(5) profit participation. A gain is negative and offsets losses when selecting the whole-undertaking scenario, never after independent choices. net includes qualified FDB absorption; gross and net retain the same scenario.

Usage

```
restricted_portfolio_scenario_charge(
  portfolio_kinds,
  gross_losses,
  net_losses,
  target_portfolio,
  article217_scope_confirmed,
  qualification_reference,
  context,
  view = "gross",
  tie_break = NULL,
  ...
)
```

Arguments

`portfolio_kinds`	Portfolio kinds. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`gross_losses`	Gross losses. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`net_losses`	Net losses. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`target_portfolio`	Target portfolio. Reference type: `str`.
`article217_scope_confirmed`	Article217 scope confirmed. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`view`	View. Reference type: `str`.
`tie_break`	Tie break. Reference type: `str | None`.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("restricted-portfolio-baseline-common")
result <- do.call(restricted_portfolio_scenario_charge,
  c(case$kwargs, list(context = context)))
result$value
```

---

restricted_portfolio_scr_sum

Sum complete qualified notional SCRs, including remainder; no diversification.

Description

Sum complete qualified notional SCRs, including remainder; no diversification.

Usage

```
restricted_portfolio_scr_sum(
  notional_scr,
  portfolio_kinds,
  article217_scope_confirmed,
  qualification_reference,
  context,
  ...
)
```

Arguments

notional_scr	Notional scr. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
portfolio_kinds	Portfolio kinds. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
article217_scope_confirmed	Article217 scope confirmed. Reference type: bool | None.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("restricted-portfolio-baseline-zero")
result <- do.call(restricted_portfolio_scr_sum,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_archived_corporate_pd

Read the default probability, NOT the similarly named PD credit spread.

Description

Read the default probability, NOT the similarly named PD credit spread.

Usage

```
rfr_archived_corporate_pd(
  series_id,
  sector,
  maturity_years,
  credit_quality_step,
  qualification_reference,
  context,
  market_data = NULL,
  ...
)
```

Arguments

`series_id`	Series id. Reference type: `str`.
`sector`	Sector. Reference type: `str`.
`maturity_years`	Maturity years. Reference type: `float`.
`credit_quality_step`	Credit quality step. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`market_data`	Market data. Reference type: `dict | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-31",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("synthetic-market-pd-financial")
result <- do.call(rfr_archived_corporate_pd,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_archived_corporate_spread` *Read published PD/FS/downgrade spreads, converting percent to decimal rates.*

Description

Exact published tenors only: no interpolation or automatic extension beyond year 30. Classification and applicability remain externally qualified.

Usage

```
rfr_archived_corporate_spread(
  series_id,
  sector,
  maturity_years,
  credit_quality_step,
  table,
  qualification_reference,
  context,
  market_data = NULL,
  ...
)
```

Arguments

`series_id`	Series id. Reference type: `str`.
`sector`	Sector. Reference type: `str`.
`maturity_years`	Maturity years. Reference type: `float`.
`credit_quality_step`	Credit quality step. Reference type: `float`.
`table`	Table. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`market_data`	Market data. Reference type: `dict | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-31",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("synthetic-market-pd_spread-financial")
result <- do.call(rfr_archived_corporate_spread,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_archived_government_spread

Read a published government LTAS/FS parameter and convert percent to decimal.

Description

Country is the published parameter axis, including the EUR aggregate; it is not a currency inference or automatic asset classification. Do not transfer spot-curve currency metadata blocks to this distinct government-table axis.

Usage

```
rfr_archived_government_spread(
  country_id,
  maturity_years,
  table,
  qualification_reference,
  context,
  market_data = NULL,
  ...
)
```

Arguments

country_id	Country id. Reference type: str.
maturity_years	Maturity years. Reference type: float.
table	Table. Reference type: str.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
market_data	Market data. Reference type: dict | None. Supply a named R list with the keys shown in the example/reference case.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-31",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("synthetic-market-government-ltas")
result <- do.call(rfr_archived_government_spread,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_archived_ltas *Read supplemental LTAS cells with explicit original row identifiers.*

Description

Corporate, country-relative basic-RFR and named-index axes are different; none is automatically assigned from context currency. The specific index scalar has no maturity axis. Qualification remains external.

Usage

```
rfr_archived_ltas(
  table,
  series_id,
  maturity_years = NULL,
  qualification_reference,
  context,
  market_data = NULL,
  ...
)
```

Arguments

table	Table. Reference type: str.
series_id	Series id. Reference type: str.
maturity_years	Maturity years. Reference type: float | None.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
market_data	Market data. Reference type: dict | None. Supply a named R list with the keys shown in the example/reference case.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-31",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("synthetic-market-specific_ltas")
result <- do.call(rfr_archived_ltas,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_archived_spot_rate` *Read one published annual zero-coupon rate, preserving cell provenance.*

Description

Archive retrieval date is a conservative knowledge bound for this exact file revision, not an inferred original publication date. Raw currency matches are necessary but not sufficient qualification; known anomalies remain blocked.

Usage

```
rfr_archived_spot_rate(
  series_id,
  maturity_years,
  variant,
  qualification_reference,
  context,
  market_data = NULL,
  ...
)
```

Arguments

`series_id`	Series id. Reference type: `str`.
`maturity_years`	Maturity years. Reference type: `float`.
`variant`	Variant. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`market_data`	Market data. Reference type: `dict | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-31",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("synthetic-market-spot-no_va")
result <- do.call(rfr_archived_spot_rate,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_credit_risk_adjustment

Bound half the externally qualified one-year mean spread (decimal rates).

Description

The mean's observation calendar, market quality and maturity matching are external inputs. This component does not bootstrap or extrapolate a curve. Under the 2027 Article44 rule this arithmetic is only for qualified non-OIS swaps requiring adjustment; the external reference must establish that scope.

Usage

```
rfr_credit_risk_adjustment(
  annual_mean_spread,
  qualification_reference,
  context,
  ...
)
```

Arguments

annual_mean_spread	Annual mean spread. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-rfr-cra-2")
result <- do.call(rfr_credit_risk_adjustment,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_credit_spread_sensitivity

CSSR from separately qualified PVBP amounts, not their revaluation model.

Description

CSSR from separately qualified PVBP amounts, not their revaluation model.

Usage

```
rfr_credit_spread_sensitivity(
  asset_pvbp,
  liability_pvbp,
  qualification_reference,
  context,
  reuse = NULL,
  ...
)
```

Arguments

`asset_pvbp`	Asset pvbp. Reference type: `float | None`.
`liability_pvbp`	Liability pvbp. Reference type: `float | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`reuse`	Reuse. Reference type: `dict | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-cssr-0")
result <- do.call(rfr_credit_spread_sensitivity,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_currency_risk_adjustment` *Signed CURA: archived uniform value or a qualified formula illustration.*

Description

EIOPA-BoS-24-533 8.3.2 / EIOPA-BoS-26-198 7.3.2. A company's formula result is NOT the uniform adjustment published for all undertakings. Qualification includes Article48(1), currency/date and input convention. In particular, lac_ratio is the source ratio, not a negative LAC amount.

Usage

```
rfr_currency_risk_adjustment(
  qualification_reference,
  context,
  calibration = NULL,
  ...
)
```

Arguments

qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
calibration	Calibration. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "DKK",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rfr-cura-baseline-published-dkk")
result <- do.call(rfr_currency_risk_adjustment,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_curve_spot_2027` *Build a basic/VA/MA curve once, including all requested output maturities.*

Description

Market rates are already CRA/CURA-adjusted and selected under external DLT, FSP/RVC and missing-data/previous-trading-day qualification. Keys are canonical positive integer years. VA is an annual decimal rate already rounded to whole basis points; its continuous equivalent enters LLFR. This is a numerical engine component, not an official publication.

Usage

```
rfr_curve_spot_2027(
  market_rates,
  first_smoothing_point,
  maturity,
  instrument_kind,
  coupon_frequency = NULL,
  average_notionals = NULL,
  ufr,
  phase_in,
  approval_reference = NULL,
  volatility_adjustment = NULL,
  matching_adjustment = NULL,
  interest_stress = NULL,
  output_maturities = list(),
  qualification_reference,
  context,
  ...
)
```

Arguments

`market_rates`	Market rates. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`first_smoothing_point`	First smoothing point. Reference type: `float`.
`maturity`	Maturity. Reference type: `float`.
`instrument_kind`	Instrument kind. Reference type: `str`.
`coupon_frequency`	Coupon frequency. Reference type: `int | None`.
`average_notionals`	Average notionals. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`ufr`	Ufr. Reference type: `float`.
`phase_in`	Phase in. Reference type: `bool | None`.
`approval_reference`	Approval reference. Reference type: `str | None`.
`volatility_adjustment`	Volatility adjustment. Reference type: `float | None`.
`matching_adjustment`	Matching adjustment. Reference type: `float | None`.
`interest_stress`	Interest stress. Reference type: `str | None`.
`output_maturities`	Output maturities. Reference type: `documented input`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("rfr-curve-2027-flat")
result <- do.call(rfr_curve_spot_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_default_adjusted_cashflow` *De-risk one asset cashflow under EIOPA-BoS-24-533 section 12.5.9.*

Description

The probability must match this cashflow's horizon; it is not a credit spread. Do not apply this twice to already adjusted cashflows. This does not project cashflows, select eligible assets or authorize matching.

Usage

```
rfr_default_adjusted_cashflow(
  cashflow,
  default_probability,
  qualification_reference,
  context,
  ...
)
```

Arguments

`cashflow`	Cashflow. Reference type: `float`.
`default_probability`	Default probability. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rfr-derisk-zero-pd")
result <- do.call(rfr_default_adjusted_cashflow,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_default_loss_on_market_value

Loss conditional on default under the fundamental-spread recovery assumption.

Description

Loss conditional on default under the fundamental-spread recovery assumption.

Usage

```
rfr_default_loss_on_market_value(
  market_value,
  qualification_reference,
  context,
  ...
)
```

Arguments

`market_value`	Market value. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-rfr-default-loss-2")
result <- do.call(rfr_default_loss_on_market_value,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_downgrade_expected_loss

Weight qualified immediate replacement losses, not a rating/migration model.

Description

Distinct downgrade states share a horizon and valuation basis. Residual probability is no downgrade, with no downgrade loss; never renormalize. The result is a currency amount, NOT a spread or a market-value percentage.

Usage

```
rfr_downgrade_expected_loss(scenarios, qualification_reference, context, ...)
```

Arguments

scenarios	Scenarios. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rfr-downgrade-baseline-zero")
result <- do.call(rfr_downgrade_expected_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_equivalent_annual_rate` *Solve the unique annual rate for nonnegative externally qualified cashflows.*

Description

Times are supplied year fractions, not an implicit day-count convention. Mixed signs need external review because uniqueness is not guaranteed. Numerical tolerances below are implementation choices, not legal parameters.

Usage

```
rfr_equivalent_annual_rate(
  cashflows,
  present_value,
  qualification_reference,
  context,
  ...
)
```

Arguments

`cashflows`	Cashflows. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`present_value`	Present value. Reference type: `float`.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-rfr-rate-negative")
result <- do.call(rfr_equivalent_annual_rate,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_extrapolated_forward_2027

Return the continuous forward from annual-discrete UFR and continuous LLFR.

Description

LLFR determination, UFR publication and VA treatment are external. Alpha comes from the profile, not an untracked arbitrary caller coefficient.

Usage

```
rfr_extrapolated_forward_2027(
  ufr,
  last_liquid_forward,
  time_after_fsp,
  phase_in,
  approval_reference = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`ufr`	Ufr. Reference type: `float`.
`last_liquid_forward`	Last liquid forward. Reference type: `float`.
`time_after_fsp`	Time after fsp. Reference type: `float`.
`phase_in`	Phase in. Reference type: `bool | None`.
`approval_reference`	Approval reference. Reference type: `str | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
```

```
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-extrap-forward-zero")
result <- do.call(rfr_extrapolated_forward_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_extrapolated_spot_2027` *Convert the FSP spot and a matching continuous forward to an annual spot.*

Description

Scaled time weights avoid overflow. This API is strictly beyond FSP; it neither selects FSP nor adds VA/MA automatically.

Usage

```
rfr_extrapolated_spot_2027(
  fsp_years,
  spot_at_fsp,
  time_after_fsp,
  extrapolated_forward,
  qualification_reference,
  context,
  ...
)
```

Arguments

`fsp_years`	Fsp years. Reference type: `float`.
`spot_at_fsp`	Spot at fsp. Reference type: `float`.
`time_after_fsp`	Time after fsp. Reference type: `float`.
`extrapolated_forward`	Extrapolated forward. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-extrap-spot-zero")
result <- do.call(rfr_extrapolated_spot_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_extrapolation_alpha_2027

Own versioned alpha, with annual approved transition and no post-2032 trend.

Description

Own versioned alpha, with annual approved transition and no post-2032 trend.

Usage

```
rfr_extrapolation_alpha_2027(
  phase_in,
  approval_reference = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`phase_in`	Phase in. Reference type: `bool | None`.
`approval_reference`	Approval reference. Reference type: `str | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-extrap-alpha-EUR-final")
result <- do.call(rfr_extrapolation_alpha_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_fsp_currency_percentage_2027

Prescribed percentage, not a market-data calibration or an FSP maturity.

Description

Initial EUR minimum is qualified at28Jan2025 for20years. A EUR source-change minimum is qualified at the first new-source date against the previous calendar-year FSP. A next-lower preserving value is externally identified; Article43a(2) does not justify inventing a market selection algorithm here. Other-currency initial LLP is qualified at29Jan2027, not today's maturity.

Usage

```
rfr_fsp_currency_percentage_2027(
  minimum_euro_share,
  calibration = "initial",
  last_liquid_maturity_2027 = NULL,
  rounded_preserves_fsp = NULL,
  lower_preserving_share = NULL,
  qualification_reference,
  context,
```

```
  ...
)
```

Arguments

`minimum_euro_share`	Minimum euro share. Reference type: `float`.
`calibration`	Calibration. Reference type: `str`.
`last_liquid_maturity_2027`	Last liquid maturity 2027. Reference type: `float | None`.
`rounded_preserves_fsp`	Rounded preserves fsp. Reference type: `bool | None`.
`lower_preserving_share`	Lower preserving share. Reference type: `float | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("closing-rules-fsp-zero")
result <- do.call(rfr_fsp_currency_percentage_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_fundamental_spread` *Compose external credit spreads with the class floor or exact fallback.*

Description

eu_central means EU member-state central governments/central banks, not all public-sector entities. Statistics and 30-year history qualification remain external; this does not derive PDs or downgrade replacement losses.

Usage

```
rfr_fundamental_spread(
  long_term_average_spread,
  asset_class,
  default_statistics_reliable,
  default_spread = NULL,
  downgrade_spread = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`long_term_average_spread`	Long term average spread. Reference type: `float`.
`asset_class`	Asset class. Reference type: `str`.
`default_statistics_reliable`	Default statistics reliable. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`default_spread`	Default spread. Reference type: `float | None`.
`downgrade_spread`	Downgrade spread. Reference type: `float | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-rfr-fs-6")
result <- do.call(rfr_fundamental_spread,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_fundamental_spread_other_than_pd

Published corporate residual-FS rule: max(CoD, FS-PD), decimal rates.

Description

Requires matching externally qualified sector/CQS/tenor inputs. Not an automatic residual selection for every possible matching portfolio.

Usage

```
rfr_fundamental_spread_other_than_pd(
  fundamental_spread,
  default_spread,
  downgrade_spread,
  qualification_reference,
  context,
  ...
)
```

Arguments

`fundamental_spread`	Fundamental spread. Reference type: `float`.
`default_spread`	Default spread. Reference type: `float`.
`downgrade_spread`	Downgrade spread. Reference type: `float`.

qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rfr-rest-fs-zero")
result <- do.call(rfr_fundamental_spread_other_than_pd,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_last_liquid_forward_2027

Aggregate externally qualified continuous forwards using swap notionals.

Description

Component a is the one-year forward immediately preceding FSP in the SRC-0211 construction; components b run from FSP to later liquid maturities. Only a receives the explicit VA. Market selection, forward derivation and VA qualification are external. Here volatility_adjustment is a CONTINUOUS forward increment; the integrated rfr_curve_spot_2027 converts annual VA using log1p first.

Usage

```
rfr_last_liquid_forward_2027(
  fsp_forward,
  later_forwards,
  liquid_swaps_beyond_fsp,
  fsp_average_notional = NULL,
  apply_volatility_adjustment,
  volatility_adjustment = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`fsp_forward`	Fsp forward. Reference type: `float`.
`later_forwards`	Later forwards. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`liquid_swaps_beyond_fsp`	Liquid swaps beyond fsp. Reference type: `bool | None`.
`fsp_average_notional`	Fsp average notional. Reference type: `float | None`.
`apply_volatility_adjustment`	Apply volatility adjustment. Reference type: `bool | None`.
`volatility_adjustment`	Volatility adjustment. Reference type: `float | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-llfr-fallback")
result <- do.call(rfr_last_liquid_forward_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_macro_country_factor` *Country debt/all-assets share, not an insurer's own portfolio weight.*

Description

Country debt/all-assets share, not an insurer's own portfolio weight.

Usage

```
rfr_macro_country_factor(
  country_risk_corrected_spread,
  debt_asset_share,
  qualification_reference,
  context,
  ...
)
```

Arguments

`country_risk_corrected_spread`	Country risk corrected spread. Reference type: `float`.
`debt_asset_share`	Debt asset share. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-country-factor-3")
result <- do.call(rfr_macro_country_factor,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_macro_volatility_adjustment

Euro macro add-on; explicitly incompatible with undertaking-specific adjustment.

Description

Euro macro add-on; explicitly incompatible with undertaking-specific adjustment.

Usage

```
rfr_macro_volatility_adjustment(
  country_risk_corrected_spread,
  euro_risk_corrected_spread,
  credit_spread_sensitivity,
  country_factor,
  undertaking_specific_adjustment_applies,
  qualification_reference,
  context,
  ...
)
```

Arguments

`country_risk_corrected_spread`
: Country risk corrected spread. Reference type: `float`.

`euro_risk_corrected_spread`
: Euro risk corrected spread. Reference type: `float`.

`credit_spread_sensitivity`
: Credit spread sensitivity. Reference type: `float`.

`country_factor`
: Country factor. Reference type: `float`.

`undertaking_specific_adjustment_applies`
: Undertaking specific adjustment applies. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-macro-va-2")
result <- do.call(rfr_macro_volatility_adjustment,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_market_rate_adjustment

Apply CRA and signed CURA once before existing curve construction.

Description

Positive CRA is subtracted; nonpositive CURA is added. No zero floor. Inputs must refer to the same qualified market instrument/tenor/date; this is not a shift to an already extrapolated curve or a VA/MA operation.

Usage

```
rfr_market_rate_adjustment(
  market_rate,
  credit_adjustment,
  currency_adjustment,
  qualification_reference,
  context,
  ...
)
```

Arguments

market_rate	Market rate. Reference type: float.
credit_adjustment	Credit adjustment. Reference type: float.
currency_adjustment	Currency adjustment. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "DKK",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rfr-cura-baseline-market-no-adjustments")
result <- do.call(rfr_market_rate_adjustment,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_matching_adjustment` *Subtract effective annual rates on the SAME liability cashflows and residual FS.*

Description

The asset-equivalent rate matches their PV to eligible assigned asset value; the liability-equivalent rate matches their PV to the basic-curve BE. The residual FS excludes any part already included in asset cashflow adjustment. Optional declared application/asset comparisons add controlled eligibility and FS limits; without them these aspects stay NOT_ASSESSED. No asset coupon substitution, automatic rating, permission or curve application.

Usage

```
rfr_matching_adjustment(
  asset_equivalent_rate,
  liability_equivalent_rate,
  residual_fundamental_spread,
  qualification_reference,
  context,
  application = NULL,
  restructured_assets = NULL,
  subinvestment_grade_comparison = NULL,
  ...
)
```

Arguments

`asset_equivalent_rate`	Asset equivalent rate. Reference type: `float`.
`liability_equivalent_rate`	Liability equivalent rate. Reference type: `float`.
`residual_fundamental_spread`	Residual fundamental spread. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`application`	Application. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`restructured_assets`	Restructured assets. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`subinvestment_grade_comparison`	Subinvestment grade comparison. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-rfr-ma-5")
result <- do.call(rfr_matching_adjustment,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_matching_mortality_headroom

Headroom against the 5% BE condition, using the externally BOF-selected stress.

Description

Nonnegative means this numerical condition passes, not overall MA eligibility. Nonpositive base BE is deliberately referred for review, not reinterpreted.

Usage

```
rfr_matching_mortality_headroom(
  base_best_estimate,
  stressed_best_estimate,
  qualification_reference,
  context,
  ...
)
```

Arguments

`base_best_estimate`	Base best estimate. Reference type: `float`.
`stressed_best_estimate`	Stressed best estimate. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-rfr-ma-headroom-1")
result <- do.call(rfr_matching_mortality_headroom,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_matching_mortality_selected_be

Return BE from the worst BOF scenario, not the scenario with maximum BE.

Description

Scenario valuations must share a base and currency. Equal BOF with distinct BE values requires explicit selection among the ties; there is no legal worst-BE tie rule invented here. Valuation and overall eligibility stay external.

Usage

```
rfr_matching_mortality_selected_be(
  scenarios,
  selected_scenario = NULL,
  qualification_reference,
  context,
  contract_selection = NULL,
  ...
)
```

Arguments

scenarios	Scenarios. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
selected_scenario	Selected scenario. Reference type: str | None.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
contract_selection	Contract selection. Reference type: Mapping | None. Supply a named R list with the keys shown in the example/reference case.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-rfr-ma-selection-6")
result <- do.call(rfr_matching_mortality_selected_be,
```

```
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_matching_mortality_stress` *MA qualification stress assumption, not life SCR or automatic scenario selection.*

Description

MA qualification stress assumption, not life SCR or automatic scenario selection.

Usage

```
rfr_matching_mortality_stress(
  rate,
  scenario,
  rate_basis,
  selected,
  qualification_reference,
  context,
  ...
)
```

Arguments

`rate`	Rate. Reference type: `float`.
`scenario`	Scenario. Reference type: `str`.
`rate_basis`	Rate basis. Reference type: `str`.
`selected`	Selected. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-rfr-ma-mortality-6")
result <- do.call(rfr_matching_mortality_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_monthly_data *Synthetic market-data template*

Description

Synthetic market-data template

Usage

```
rfr_monthly_data()
```

Value

A fresh-by-value list with an explicit SYNTHETIC_DEMO status, recipe and illustrative dated tables. These are not production market inputs.

See Also

reference_cases()

Examples

```
rfr_monthly_data()$status
```

`rfr_pegged_credit_spread_sensitivity` *Common CSSR from qualified combined amounts, never average individual CSSRs.*

Description

Peg eligibility and use of the adjusted euro curve under Article48 are external. The currency identifier alone is not evidence of their validity.

Usage

```
rfr_pegged_credit_spread_sensitivity(
  asset_pvbp,
  liability_pvbp,
  pegged_currency,
  qualification_reference,
  context,
  ...
)
```

Arguments

`asset_pvbp`	Asset pvbp. Reference type: `float`.
`liability_pvbp`	Liability pvbp. Reference type: `float`.
`pegged_currency`	Pegged currency. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-cssr-pegged-3")
result <- do.call(rfr_pegged_credit_spread_sensitivity,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_portfolio_risk_correction

Aggregate category corrections under EIOPA-BoS-24-533 section 10.3.5.

Description

Weights refer to the whole reference portfolio, not just bonds. Category corrections and classifications remain externally qualified inputs. This published positive-part formula is distinct from calibrating each input.

Usage

```
rfr_portfolio_risk_correction(
  government_weight,
  corporate_weight,
  government_risk_correction,
  corporate_risk_correction,
  qualification_reference,
  context,
  fundamental_spread_inputs = NULL,
  ...
)
```

Arguments

`government_weight`
: Government weight. Reference type: `float`.

`corporate_weight`
: Corporate weight. Reference type: `float`.

`government_risk_correction`
: Government risk correction. Reference type: `float | None`.

`corporate_risk_correction`
: Corporate risk correction. Reference type: `float | None`.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context` Explicit `Context()` selecting currency, dates, rule profile and overrides.

`fundamental_spread_inputs`
Fundamental spread inputs. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`...` Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rfr-portfolio-rc-4")
result <- do.call(rfr_portfolio_risk_correction,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_reference_portfolio_spread

Whole-portfolio weights: do not renormalize the two bond categories.

Description

Whole-portfolio weights: do not renormalize the two bond categories.

Usage

```
rfr_reference_portfolio_spread(
  government_weight,
  corporate_weight,
  government_spread,
  corporate_spread,
```

```
  qualification_reference,
  context,
  ...
)
```

Arguments

government_weight	Government weight. Reference type: float.
corporate_weight	Corporate weight. Reference type: float.
government_spread	Government spread. Reference type: float.
corporate_spread	Corporate spread. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rfr-refspread-4")
result <- do.call(rfr_reference_portfolio_spread,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_risk_corrected_spread` *Subtract an externally qualified risk correction without an output floor.*

Description

Subtract an externally qualified risk correction without an output floor.

Usage

```
rfr_risk_corrected_spread(
  spread,
  risk_correction,
  qualification_reference,
  context,
  ...
)
```

Arguments

`spread`	Spread. Reference type: `float`.
`risk_correction`	Risk correction. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rfr-riskspread-3")
result <- do.call(rfr_risk_corrected_spread,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_risk_correction_2027

Piecewise correction for a qualified homogeneous spread bucket, decimal rates.

Description

EEA sovereign classification, matching duration/quality and 30-year LTAS estimation are external. This is not a choice of portfolio-weight denominator.

Usage

```
rfr_risk_correction_2027(
  spread,
  long_term_average_spread,
  asset_class,
  qualification_reference,
  context,
  ...
)
```

Arguments

`spread`	Spread. Reference type: `float`.
`long_term_average_spread`	Long term average spread. Reference type: `float`.
`asset_class`	Asset class. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-rc-other-0")
result <- do.call(rfr_risk_correction_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_smith_wilson_spot *Fit qualified instruments once and return annual spot plus optional grid.*

Description

Cashflow rows are payment dates, columns are instruments. Prices share their cashflows' nominal basis. Signed coupons are allowed (section9.15). The last payment time is the externally qualified LLP. Qualification includes DLT selection, input availability, dates, CRA and currency basis. Alpha search is the documented heuristic, not a global optimality proof. The technical search bound is explicit and is NOT a regulatory alpha cap.

Usage

```
rfr_smith_wilson_spot(
  payment_times,
  cashflows,
  prices,
  maturity,
  ufr,
  qualification_reference,
  output_maturities = list(),
  alpha_search_max = 2,
  volatility_adjustment = NULL,
  matching_adjustment = NULL,
  context,
  ...
)
```

Arguments

payment_times	Payment times. Reference type: documented input.
cashflows	Cashflows. Reference type: documented input.
prices	Prices. Reference type: documented input.
maturity	Maturity. Reference type: documented input.
ufr	Ufr. Reference type: documented input.
qualification_reference	Qualification reference. Reference type: str.
output_maturities	Output maturities. Reference type: documented input.
alpha_search_max	Alpha search max. Reference type: documented input.
volatility_adjustment	Volatility adjustment. Reference type: documented input.
matching_adjustment	Matching adjustment. Reference type: documented input.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rfr-smith-wilson-flat-zero")
result <- do.call(rfr_smith_wilson_spot,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_spot_discount_factor` *Convert a matching annual zero-coupon spot rate to a discount factor.*

Description

Year fractions and curve qualification are explicit external inputs; this performs no interpolation, day-count choice or VA/MA eligibility decision.

Usage

```
rfr_spot_discount_factor(
  spot_rate,
  time_years,
  qualification_reference,
  context,
  ...
)
```

Arguments

`spot_rate`	Spot rate. Reference type: `float`.
`time_years`	Time years. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("rfr-discount-future-five-two")
result <- do.call(rfr_spot_discount_factor,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_transitional_spot_rate

Add the approved currency-specific annual transition to one curve point.

Description

The equivalent annual rate must value the eligible portfolio on the matching basis including applicable VA. Existing rfr_equivalent_annual_rate can solve nonnegative cashflows; mixed-sign portfolios need qualified external roots. Do not include eligible obligations in VA calculation or combine with MA/308d.

Usage

```
rfr_transitional_spot_rate(
  spot_rate,
  legacy_rate,
  equivalent_annual_rate,
  matching_adjustment_used,
  technical_provisions_transition_used,
  approval_reference,
  qualification_reference,
  context,
  ...
)
```

Arguments

`spot_rate`	Spot rate. Reference type: `float`.
`legacy_rate`	Legacy rate. Reference type: `float`.
`equivalent_annual_rate`	Equivalent annual rate. Reference type: `float`.
`matching_adjustment_used`	Matching adjustment used. Reference type: `bool | None`.
`technical_provisions_transition_used`	Technical provisions transition used. Reference type: `bool | None`.

approval_reference
: Approval reference. Reference type: `str`.

qualification_reference
: Qualification reference. Reference type: `str`.

context
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

...
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("ltg-transition-baseline-rate-2025-01-17")
result <- do.call(rfr_transitional_spot_rate,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_ultimate_forward_rate

Derive the context year's UFR using the prior year's annual calculation.

Description

Annual history ends one year before that calculation, hence two years before application. AMECO/OECD source qualification and any no-target ARMA projection remain external. No term premium is added. Fractions preserve decimal grid/threshold boundaries and never fill missing years.

Usage

```
rfr_ultimate_forward_rate(
  annual_rates,
  previous_real_rate,
  previous_ufr,
  inflation,
  qualification_reference,
  context,
  ...
)
```

Arguments

annual_rates	Annual rates. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
previous_real_rate	Previous real rate. Reference type: float.
previous_ufr	Previous ufr. Reference type: float.
inflation	Inflation. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: rate.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rfr-ufr-complete-history-baseline")
```

```
result <- do.call(rfr_ultimate_forward_rate,
  c(case$kwargs, list(context = context)))
result$value
```

`rfr_va_pvbp` *Literal revaluation difference/VA*, not a valuation model or per-bp rescaling.*

Description

Qualified asset values exclude immaterial unit-linked spread exposure. Qualified BEL includes future discretionary benefits without feeding back the asset spread shock. Paired values are already in one reporting currency.

Usage

```
rfr_va_pvbp(
  unadjusted_value,
  adjusted_value,
  notional_va,
  valuation_kind,
  qualification_reference,
  context,
  pegged_currency = NULL,
  pegged_notional_va = NULL,
  ...
)
```

Arguments

`unadjusted_value`	Unadjusted value. Reference type: `float`.
`adjusted_value`	Adjusted value. Reference type: `float`.
`notional_va`	Notional va. Reference type: `float`.
`valuation_kind`	Valuation kind. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`pegged_currency`	Pegged currency. Reference type: `str | None`.
`pegged_notional_va`	Pegged notional va. Reference type: `float | None`.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: currency_per_rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-pvbp-0")
result <- do.call(rfr_va_pvbp,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_volatility_adjustment

Compute VA from risk-corrected spreads; neither authorize nor apply it.

Description

Country uplift is added BEFORE the factor and requires both strict tests. Official data, MA exclusion and pre-extrapolation application remain external.

Usage

```
rfr_volatility_adjustment(
  currency_spread,
  country_applicable,
  country_spread = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`currency_spread`	Currency spread. Reference type: `float`.
`country_applicable`	Country applicable. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`country_spread`	Country spread. Reference type: `float | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rfr-va-1")
result <- do.call(rfr_volatility_adjustment,
  c(case$kwargs, list(context = context)))
result$value
```

---

rfr_volatility_adjustment_2027

Currency VA only; no automatic macro addition or undertaking-specific approval.

Description

Currency VA only; no automatic macro addition or undertaking-specific approval.

Usage

```
rfr_volatility_adjustment_2027(
  risk_corrected_spread,
  credit_spread_sensitivity,
  qualification_reference,
  context,
  firm_adjustment = NULL,
  ...
)
```

Arguments

`risk_corrected_spread`	Risk corrected spread. Reference type: `float`.
`credit_spread_sensitivity`	Credit spread sensitivity. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`firm_adjustment`	Firm adjustment. Reference type: `dict | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: rate.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-va-2")
result <- do.call(rfr_volatility_adjustment_2027,
```

```
  c(case$kwargs, list(context = context)))
result$value
```

`risk_margin` *Discount SCR(t) of the Art.38 reference undertaking at basic rates t+1.*

Description

Discount SCR(t) of the Art.38 reference undertaking at basic rates t+1.

Usage

```
risk_margin(projected_scr, basic_rates, runoff_complete, context, ...)
```

Arguments

`projected_scr`	Projected scr. Reference type: `list[float]`. Supply an ordered R list or the documented numeric vector.
`basic_rates`	Basic rates. Reference type: `list[float]`. Supply an ordered R list or the documented numeric vector.
`runoff_complete`	Runoff complete. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("risk-margin-2027-one-year")
result <- do.call(risk_margin,
  c(case$kwargs, list(context = context)))
result$value
```

`risk_margin_adjusted_duration_2027`

Future life formula from deterministic annual net cashflows, first at k=1.

Description

The supplied rate is the externally qualified IRR under the basic RFR term structure. Signed individual cashflows are allowed; whole-path BE suitability remains an external condition. Lambda is included in adjusted duration ONCE.

Usage

```
risk_margin_adjusted_duration_2027(
  initial_scr,
  cashflows,
  internal_rate,
  conditions,
  eligibility_reference,
  basis_reference,
  context,
  ...
)
```

Arguments

`initial_scr`	Initial scr. Reference type: `float`.
`cashflows`	Cashflows. Reference type: `list[float]`. Supply an ordered R list or the documented numeric vector.
`internal_rate`	Internal rate. Reference type: `float`.
`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`eligibility_reference`	Eligibility reference. Reference type: `str`.

basis_reference	Basis reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("rm-duration-future-zero-scr")
result <- do.call(risk_margin_adjusted_duration_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

risk_margin_duration *Baseline life formula including the divisor printed in archived Annex IV.*

Description

Duration and rate conventions are externally qualified. No curve fitting, runoff model or automatic suitability determination is performed.

Usage

```
risk_margin_duration(
  initial_scr,
  modified_duration,
  discount_rate,
  conditions,
```

```
  eligibility_reference,
  basis_reference,
  context,
  ...
)
```

Arguments

`initial_scr`	Initial scr. Reference type: `float`.
`modified_duration`	Modified duration. Reference type: `float`.
`discount_rate`	Discount rate. Reference type: `float`.
`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`basis_reference`	Basis reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rm-duration-baseline-zero-scr")
result <- do.call(risk_margin_duration,
  c(case$kwargs, list(context = context)))
result$value
```

`risk_margin_internal_model_required` *Regulatory selection condition only; insurer supplies the approved model.*

Description

A zero result does not approve another method. Suitability covers EVERY runoff time; no such finding is inferred from one successful valuation.

Usage

```
risk_margin_internal_model_required(
  uses_approved_internal_model,
  suitable_all_runoff_times,
  qualification_reference,
  context,
  ...
)
```

Arguments

`uses_approved_internal_model`	Uses approved internal model. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`suitable_all_runoff_times`	Suitable all runoff times. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rm-model-baseline-required")
result <- do.call(risk_margin_internal_model_required,
  c(case$kwargs, list(context = context)))
result$value
```

`risk_margin_lob_allocation`

Apply a nonnegative externally qualified share; never infer it from SCR0.

Description

Shares cover the actual portfolio's LOBs. Omitted unused LOBs are permitted only with explicit full-scope confirmation. A1e-12 sum tolerance is numerical, not a regulatory materiality threshold; shares are never renormalised. Signed allocations are outside this component, not declared legally banned.

Usage

```
risk_margin_lob_allocation(
  total_risk_margin,
  allocation_shares,
  lob,
  lifetime_contributions_qualified,
  complete_scope_confirmed,
  allocation_reference,
  context,
  ...
)
```

Arguments

`total_risk_margin`
: Total risk margin. Reference type: `float`.

`allocation_shares`
: Allocation shares. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.

`lob`
: Lob. Reference type: `str`.

`lifetime_contributions_qualified`
: Lifetime contributions qualified. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`complete_scope_confirmed`
: Complete scope confirmed. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`allocation_reference`
: Allocation reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rm-allocation-baseline-lob-1")
result <- do.call(risk_margin_lob_allocation,
  c(case$kwargs, list(context = context)))
result$value
```

---

risk_margin_percentage

*Externally calibrated alpha_lob * BE_net(0), not a prescribed default alpha.*

Description

Percentage is a fraction (0.03 means3%). No unsupported100% cap is invented. Scope, calibration, hierarchy, future BE and options/guarantees restrictions are documented external qualifications, not inferred from the two numbers.

Usage

```
risk_margin_percentage(
  net_best_estimate,
  percentage,
  conditions,
  eligibility_reference,
  percentage_reference,
  context,
  ...
)
```

Arguments

net_best_estimate	Net best estimate. Reference type: float.
percentage	Percentage. Reference type: float.
conditions	Conditions. Reference type: Mapping[str, bool]. Supply a named R list with the keys shown in the example/reference case.
eligibility_reference	Eligibility reference. Reference type: str.
percentage_reference	Percentage reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rm-simple-baseline-m4-zero")
```

```
result <- do.call(risk_margin_percentage,
  c(case$kwargs, list(context = context)))
result$value
```

`risk_margin_proportional_scr` *SCR(t)=SCR(0)*BE_net(t)/BE_net(0); never apply lambda inside SCR(t).*

Description

BE(t) is valued AT time t, not a time-zero discounted cashflow surrogate. Whole-path nonnegative BE and risk-profile assumptions are externally qualified. No BE forecast or automatic method selection is produced.

Usage

```
risk_margin_proportional_scr(
  initial_scr,
  initial_net_best_estimate,
  future_net_best_estimate,
  conditions,
  eligibility_reference,
  projection_reference,
  context,
  ...
)
```

Arguments

`initial_scr`	Initial scr. Reference type: `float`.
`initial_net_best_estimate`	Initial net best estimate. Reference type: `float`.
`future_net_best_estimate`	Future net best estimate. Reference type: `float`.
`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`projection_reference`	Projection reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rm-simple-baseline-m2-zero")
result <- do.call(risk_margin_proportional_scr,
  c(case$kwargs, list(context = context)))
result$value
```

---

risk_margin_reference_asset_balance

SCR + TP - recoverables, not an asset portfolio or optimisation result.

Description

Preserve signs and disclose a negative implied balance. Qualification of values and a feasible market-risk-minimising portfolio remain external.

Usage

```
risk_margin_reference_asset_balance(
  reference_scr,
  technical_provisions,
  recoverables,
  qualification_reference,
  context,
  ...
)
```

Arguments

`reference_scr`	Reference scr. Reference type: `float`.
`technical_provisions`	Technical provisions. Reference type: `float`.
`recoverables`	Recoverables. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rm-reference-baseline-negative")
result <- do.call(risk_margin_reference_asset_balance,
  c(case$kwargs, list(context = context)))
result$value
```

---

risk_margin_reference_evidence_check

Inventory reference-undertaking assumptions, never generate SCR runoff.

Description

Composite splitting and residual non-interest market risk have explicit externally assessed conditions. No quantitative materiality cutoff is invented; deferred-tax loss absorption must not be assumed.

Usage

```
risk_margin_reference_evidence_check(
  evidence,
  composite_undertaking,
  material_residual_market_risk,
  qualification_reference,
  assessment_reference,
  context,
  ...
)
```

Arguments

`evidence`	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`composite_undertaking`	Composite undertaking. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`material_residual_market_risk`	Material residual market risk. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualification_reference`	Qualification reference. Reference type: `str`.
`assessment_reference`	Assessment reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
```

```
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rm-reference-baseline-tax-missing")
result <- do.call(risk_margin_reserve_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

`risk_margin_reserve_scr` *Reserve-only 3*sigma_res_mod*PCO_net(t), never the whole nonlife SCR.*

Description

Zero premium volume must be externally justified; no materiality threshold is invented. Sigma and claims projections are external, including any USP or profile-specific reinsurance adjustments. No lambda is applied here.

Usage

```
risk_margin_reserve_scr(
  net_claims_best_estimate,
  aggregated_reserve_sigma,
  premium_volume,
  conditions,
  eligibility_reference,
  projection_reference,
  context,
  ...
)
```

Arguments

`net_claims_best_estimate`	Net claims best estimate. Reference type: `float`.
`aggregated_reserve_sigma`	Aggregated reserve sigma. Reference type: `float`.
`premium_volume`	Premium volume. Reference type: `float`.
`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`projection_reference`	Projection reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rm-reserve-baseline-zero")
result <- do.call(risk_margin_reserve_scr,
  c(case$kwargs, list(context = context)))
result$value
```

---

risk_mitigation_recognition_factor

Full, excluded, or externally qualified time-proportionate recognition.

Description

Proportional_factor is required only for a qualified short contract without valid209(3) replacement. Its exposure-dependent time basis is external. Finite/similar arrangements are excluded from volume/USP even if209 passes. Scenario valuation must already reflect only the actually transferred risk; this factor is NOT applied blindly to recoverables, LGD or capital amounts. counterparty_factor may bind the separately calculated211 haircut. Default1 explicitly declares full counterparty recognition, never verifies it. Optional residential mortgage guarantee payment window implements only future215(c)(iii)/(d); all other guarantee criteria remain in qualification.

Usage

```
risk_mitigation_recognition_factor(
  remaining_months,
  conditions,
  purpose,
  instrument_kind,
  finite_or_similar,
```

```
  replacement = NULL,
  proportional_factor = NULL,
  counterparty_factor = 1,
  residential_guarantee_payment_months = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`remaining_months`	Remaining months. Reference type: `float`.
`conditions`	Conditions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`purpose`	Purpose. Reference type: `str`.
`instrument_kind`	Instrument kind. Reference type: `str`.
`finite_or_similar`	Finite or similar. Reference type: `bool | None`.
`replacement`	Replacement. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`proportional_factor`	Proportional factor. Reference type: `float | None`.
`counterparty_factor`	Counterparty factor. Reference type: `float`.
`residential_guarantee_payment_months`	Residential guarantee payment months. Reference type: `float | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: factor.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("closing-rules-baseline-finite-usp")
result <- do.call(risk_mitigation_recognition_factor,
  c(case$kwargs, list(context = context)))
result$value
```

---

rsr_long_term_equity_extra_disclosure_2027

Extra impact/action disclosures for an externally qualified105a holding.

Description

Share is relative to ALL held assets, not the equity portfolio. The counterfactual SCR-compliance fact must already have been established. Exactly4% does not trigger the share branch. No general reporting waiver.

Usage

```
rsr_long_term_equity_extra_disclosure_2027(
  long_term_equity_asset_share,
  scr_compliant_without_treatment,
  qualification_reference,
  context,
  ...
)
```

Arguments

`long_term_equity_asset_share`	Long term equity asset share. Reference type: `float`.
`scr_compliant_without_treatment`	Scr compliant without treatment. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("rsr-content-future-lte-0-true")
result <- do.call(rsr_long_term_equity_extra_disclosure_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

rule_profiles *Available dated rule profiles*

Description

Available dated rule profiles

Usage

```
rule_profiles()
```

Details

Profiles and their applicability guards are inherited from the published Python Golden Source. No latest profile is selected implicitly.

Value

Named list of profile intervals, supported methods and resource aliases.

See Also

`Context()`, `parameter()`

Examples

```
names(rule_profiles()$profiles)
```

`scenario_loss` *Loss from external BOF; optional gross83 input checks are not a valuation model.*

Description

Loss from external BOF; optional gross83 input checks are not a valuation model.

Usage

```
scenario_loss(base_bof, stressed_bof, context, assumption_checks = NULL, ...)
```

Arguments

`base_bof`	Base bof. Reference type: `float`.
`stressed_bof`	Stressed bof. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`assumption_checks`	Assumption checks. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("scenario-2027-bof-0")
result <- do.call(scenario_loss,
  c(case$kwargs, list(context = context)))
result$value
```

`scope_ancillary_risk_conditions` *Apply Article16's cross-branch conditions to external factual declarations.*

Description

Credit/surety remain prohibited. Legal expenses require the assistance main branch and the explicitly declared travel or sea-vessel exception; all base conditions still apply. This function does not grant or verify a licence.

Usage

```
scope_ancillary_risk_conditions(
  ancillary_branch,
  main_branch,
  main_risk_authorised,
  linked_to_main,
  same_object,
  same_contract,
  legal_expenses_exception = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`ancillary_branch`	Ancillary branch. Reference type: `int`.
`main_branch`	Main branch. Reference type: `int`.
`main_risk_authorised`	Main risk authorised. Reference type: `bool | None`.
`linked_to_main`	Linked to main. Reference type: `bool | None`.
`same_object`	Same object. Reference type: `bool | None`.

same_contract	Same contract. Reference type: bool | None.
legal_expenses_exception	Legal expenses exception. Reference type: str | None.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("scope-ancillary-baseline-ordinary")
result <- do.call(scope_ancillary_risk_conditions,
  c(case$kwargs, list(context = context)))
result$value
```

---

scope_volume_conditions

Screen one year's literal Article4(1) conditions in the selected profile.

Description

Inputs are externally qualified gross EUR amounts. No netting or zero floor is inferred. Article4(2-5) time rules, authorisation and cross-border business must be assessed separately; a result of1 is not a scope exemption.

Usage

```
scope_volume_conditions(
  gross_written_premiums,
  gross_technical_provisions,
  reinsurance_written_premiums,
  reinsurance_technical_provisions,
  part_of_group,
  group_gross_technical_provisions = NULL,
  has_disallowed_business,
  qualification_reference,
  context,
  ...
)
```

Arguments

gross_written_premiums	Gross written premiums. Reference type: `float`.
gross_technical_provisions	Gross technical provisions. Reference type: `float`.
reinsurance_written_premiums	Reinsurance written premiums. Reference type: `float`.
reinsurance_technical_provisions	Reinsurance technical provisions. Reference type: `float`.
part_of_group	Part of group. Reference type: `bool | None`.
group_gross_technical_provisions	Group gross technical provisions. Reference type: `float | None`.
has_disallowed_business	Has disallowed business. Reference type: `bool | None`.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("scope-volume-baseline-zero")
result <- do.call(scope_volume_conditions,
  c(case$kwargs, list(context = context)))
result$value
```

`scope_volume_entry_trigger` *Three-year breach of one identified amount, for the following-year trigger.*

Description

Period consecutiveness and historically applicable thresholds are externally qualified. Different monetary criteria must not be mixed within a series. This component does not select an effective legal regime for the entity.

Usage

```
scope_volume_entry_trigger(
  annual_exceedance,
  qualification_reference,
  context,
  ...
)
```

Arguments

`annual_exceedance`	Annual exceedance. Reference type: `Sequence`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("scope-history-baseline-entry-all")
result <- do.call(scope_volume_entry_trigger,
  c(case$kwargs, list(context = context)))
result$value
```

---

scope_volume_release_history

Only historical/prospective volume conditions, not supervisory release.

Description

Forecasts are external. Cross-border activity, voluntary authorisation and supervisory satisfaction remain separate, even when this indicator is1.

Usage

```
scope_volume_release_history(
  past_any_exceedance,
  forecast_any_exceedance,
  qualification_reference,
  context,
  ...
)
```

Arguments

past_any_exceedance	Past any exceedance. Reference type: Sequence.
forecast_any_exceedance	Forecast any exceedance. Reference type: Sequence.
qualification_reference	Qualification reference. Reference type: str.

context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("scope-history-baseline-release-breach-0")
result <- do.call(scope_volume_release_history,
  c(case$kwargs, list(context = context)))
result$value
```

---

scr_standard_formula *Compose standard formula and explicit imposed add-ons, not a full release.*

Description

Inputs exclude these add-ons already. For the risk_margin view only the governance Article37(1)c add-on is removed by37(5); all reference-undertaking selection underDR38 remains external, not inferred from this view switch.

Usage

```
scr_standard_formula(
  bscr,
  operational,
  adjustment_tp,
  adjustment_dt,
  context,
```

```
  capital_addons = NULL,
  purpose = "scr",
  ...
)
```

Arguments

`bscr`	Bscr. Reference type: `float`.
`operational`	Operational. Reference type: `float`.
`adjustment_tp`	Adjustment tp. Reference type: `float`.
`adjustment_dt`	Adjustment dt. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`capital_addons`	Capital addons. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`purpose`	Purpose. Reference type: `str`.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("scr-standard-zero")
result <- do.call(scr_standard_formula,
  c(case$kwargs, list(context = context)))
result$value
```

`secured_bond_spread_stress` *Three collateral branches on an externally qualified Article176(4) shock.*

Description

Full coverage is inclusive; equality to the unsecured post-stress value leaves the original shock unchanged. This does not value collateral.

Usage

```
secured_bond_spread_stress(
  unsecured_stress,
  asset_value,
  risk_adjusted_collateral,
  qualification_reference,
  context,
  ...
)
```

Arguments

`unsecured_stress`	Unsecured stress. Reference type: `float`.
`asset_value`	Asset value. Reference type: `float`.
`risk_adjusted_collateral`	Risk adjusted collateral. Reference type: `float`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-secured-spread-extreme-1")
result <- do.call(secured_bond_spread_stress,
  c(case$kwargs, list(context = context)))
result$value
```

`securitisation_spread_stress` *Article178 factors on externally qualified positions; no automatic transition relief.*

Description

Paragraph6 literally uses the paragraph3 senior table at CQS5. The unusual source reference remains explicit, not silently redirected to paragraph4.

Usage

```
securitisation_spread_stress(
  modified_duration,
  category,
  qualification_reference,
  credit_quality_step = NULL,
  transition = NULL,
  context,
  imposed_increase_fraction = NULL,
  supervisory_decision_reference = NULL,
  ...
)
```

Arguments

`modified_duration`	Modified duration. Reference type: `float`.
`category`	Category. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`credit_quality_step`	Credit quality step. Reference type: `str | None`.
`transition`	Transition. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`context` Explicit `Context()` selecting currency, dates, rule profile and overrides.

`imposed_increase_fraction`
Imposed increase fraction. Reference type: `float | None`.

`supervisory_decision_reference`
Supervisory decision reference. Reference type: `str | None`.

`...` Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-securitisation-residual-na-0")
result <- do.call(securitisation_spread_stress,
  c(case$kwargs, list(context = context)))
result$value
```

---

select_scenario *Select the gross charge corresponding to the greatest net-of-FDB loss.*

Description

Select the gross charge corresponding to the greatest net-of-FDB loss.

Usage

```
select_scenario(gross_losses, net_losses, tie_break = NULL, context, ...)
```

Arguments

`gross_losses`	Gross losses. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`net_losses`	Net losses. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`tie_break`	Tie break. Reference type: `str | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("net-scenario-selection")
result <- do.call(select_scenario,
  c(case$kwargs, list(context = context)))
result$value
```

`sfcr_balance_sheet_audit_required_2027`

Select the balance-sheet audit duty, not the complete audit perimeter.

Description

Captive classification is not conditional on Article51 disclosure relief. The caller must qualify national extensions explicitly; no default national rule, automatic legal research or audit-content approval is inferred.

Usage

```
sfcr_balance_sheet_audit_required_2027(
  small_non_complex,
  captive,
  national_extension_applies,
  qualification_reference,
  context,
  ...
)
```

Arguments

small_non_complex	Small non complex. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
captive	Captive. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
national_extension_applies	National extension applies. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("sfcr-audit-111")
```

```
result <- do.call(sfcr_balance_sheet_audit_required_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`sfcr_captive_disclosure_conditions_2027`
Declared captive relief conditions, distinct from ORSA/reporting relief.

Description

Captive status, beneficiary qualification, loan/cash-pool scope and the deterministic maximum-loss assessment are external. Reinsurance liability exclusion concerns the underlying insurance contracts, not only the treaty.

Usage

```
sfcr_captive_disclosure_conditions_2027(
  captive_type,
  permitted_policyholders,
  natural_person_tp_share,
  no_compulsory_liability,
  group_loans_asset_share = NULL,
  maximum_loss_deterministic = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`captive_type`	Captive type. Reference type: `str`.
`permitted_policyholders`	Permitted policyholders. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`natural_person_tp_share`	Natural person tp share. Reference type: `float`.
`no_compulsory_liability`	No compulsory liability. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`group_loans_asset_share`	Group loans asset share. Reference type: `float | None`.
`maximum_loss_deterministic`	Maximum loss deterministic. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("sfcr-insurance-share-zero")
result <- do.call(sfcr_captive_disclosure_conditions_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

sfcr_content_evidence_check

Inventory references for an externally qualified full narrative part.

Description

A conditional paragraph needs either its content evidence or a qualified non-applicability assessment, never an unqualified silent omission. References are not retrieved or assessed. Quantitative-only relief reports require a different perimeter and are deliberately not certified here.

Usage

```
sfcr_content_evidence_check(
  evidence,
  report_part,
  full_narrative_scope,
  assessment_reference,
  scope_reference,
  context,
  structure_sections = NULL,
  structure_reference = NULL,
  de_materiality = NULL,
```

```
  reporting_scope = "solo",
  group_evidence = NULL,
  ...
)
```

Arguments

`evidence`	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`report_part`	Report part. Reference type: `str`.
`full_narrative_scope`	Full narrative scope. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`assessment_reference`	Assessment reference. Reference type: `str`.
`scope_reference`	Scope reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`structure_sections`	Structure sections. Reference type: `list[str] | None`. Supply an ordered R list or the documented numeric vector.
`structure_reference`	Structure reference. Reference type: `str | None`.
`de_materiality`	De materiality. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`reporting_scope`	Reporting scope. Reference type: `str`.
`group_evidence`	Group evidence. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("sfcr-content-baseline-sfcr-empty")
result <- do.call(sfcr_content_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

`sfcr_publication_evidence_check` *Join versioned duty references and qualified event facts, not legal sign-off.*

Description

Every control needs evidence, including reasoned non-applicability when conditional. AVAILABLE merely records a reference. Elapsed months and historical deadline facts are externally qualified; no calendar guess. Missing optional screenings remain NOT_ASSESSED, never implicitly passed.

Usage

```
sfcr_publication_evidence_check(
  evidence,
  assessment_reference,
  context,
  publication_facts = NULL,
  capital_events = NULL,
  ...
)
```

Arguments

`evidence`	Evidence. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`assessment_reference`	Assessment reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`publication_facts`	Publication facts. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`capital_events`	Capital events. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("sfcr-publication-future-missing")
result <- do.call(sfcr_publication_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

---

significant_cross_border_activity_2027

One host state's establishment AND services premiums; strict EUR threshold.

Description

The host authority's materiality decision is explicit, never inferred from market shares. SNC exclusion applies to both branches. This definition is not the different significant-branch screen in delegated Article354.

Usage

```
significant_cross_border_activity_2027(
  host_gross_premiums,
  small_non_complex,
  host_authority_significant,
  qualification_reference,
  context,
  ...
)
```

Arguments

`host_gross_premiums`
: Host gross premiums. Reference type: `float`.

`small_non_complex`
: Small non complex. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`host_authority_significant`
: Host authority significant. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-close-cross-host")
result <- do.call(significant_cross_border_activity_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`simplification_proportionality_conditions` *Screen declared assessments and the higher-SCR exception to material error.*

Description

Do not create a quantitative materiality threshold. A comparison with the standard calculation is only requested where the exception is invoked; the result records supplied facts, not a substantive adequacy conclusion.

Usage

```
simplification_proportionality_conditions(
  conditions,
  simplified_scr_higher = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`simplified_scr_higher`	Simplified scr higher. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("proportionality-baseline-ordinary")
result <- do.call(simplification_proportionality_conditions,
  c(case$kwargs, list(context = context)))
result$value
```

---

simplification_share_screen_2027

Check distinct strict SNC versus inclusive immaterial-risk thresholds.

Description

Shares refer to each risk's externally qualified reference calculation; never infer a common denominator or double-count nested modules. The age is externally qualified and covers the oldest required reference evidence.

Usage

```
simplification_share_screen_2027(
  risk_shares,
  regime,
  evidence_age_years,
  small_non_complex = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`risk_shares`	Risk shares. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`regime`	Regime. Reference type: `str`.
`evidence_age_years`	Evidence age years. Reference type: `float`.
`small_non_complex`	Small non complex. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("simplification-2027-individual-over")
result <- do.call(simplification_share_screen_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

simplified_bond_spread_risk

Sum qualified bucket losses plus signed, externally valued DeltaLiab.

Description

Amount weighting is algebraically identical to MV times portfolio shares. Fractions avoid unnecessary intermediate overflow and cancellation. No options/guarantee model, floor or general eligibility approval is inferred.

Usage

```
simplified_bond_spread_risk(
  buckets,
  liability_change,
  eligibility_reference,
  valuation_reference,
  context,
  ...
)
```

Arguments

buckets	Buckets. Reference type: Mapping[str, dict]. Supply a named R list with the keys shown in the example/reference case.
liability_change	Liability change. Reference type: float.
eligibility_reference	Eligibility reference. Reference type: str.
valuation_reference	Valuation reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("simplified-market-baseline-empty-book")
result <- do.call(simplified_bond_spread_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

simplified_bond_spread_stress

DR104 factor: rated values have no invented cap; only unrated is capped.

Description

DR104 factor: rated values have no invented cap; only unrated is capped.

Usage

```
simplified_bond_spread_stress(
  modified_duration,
  credit_quality_step,
  eligibility_reference,
  context,
  ...
)
```

Arguments

`modified_duration`	Modified duration. Reference type: `float`.
`credit_quality_step`	Credit quality step. Reference type: `str`.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("simplified-market-baseline-slope-0")
result <- do.call(simplified_bond_spread_stress,
  c(case$kwargs, list(context = context)))
result$value
```

`simplified_capital_at_risk` *Sum per-contract max(current net benefit + additional future PV - net BE,0).*

Description

Inputs refer to the year/event specified by the chosen article. A net portfolio difference is not a substitute for individually floored contracts.

Usage

```
simplified_capital_at_risk(
  contracts,
  kind,
  proportionality_satisfied,
  qualification_reference,
  context,
  ...
)
```

Arguments

`contracts`	Contracts. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`kind`	Kind. Reference type: `str`.
`proportionality_satisfied`	Proportionality satisfied. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("uw-biometric-baseline-car-health_income-negative-be")
result <- do.call(simplified_capital_at_risk,
  c(case$kwargs, list(context = context)))
result$value
```

`simplified_default_group_pd` *Conservative grouping PD, not LGD-weighted single-name PD under Article199.*

Description

Conservative grouping PD, not LGD-weighted single-name PD under Article199.

Usage

```
simplified_default_group_pd(
  probabilities,
  eligibility_reference,
  valuation_reference,
  context,
  pool_rating_group = NULL,
  ...
)
```

Arguments

`probabilities`	Probabilities. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`pool_rating_group`	Pool rating group. Reference type: `Mapping[str, dict] | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: probability.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("mitigation-baseline-zero-pd")
result <- do.call(simplified_default_group_pd,
  c(case$kwargs, list(context = context)))
result$value
```

---

simplified_disability_risk

Three printed terms under Art93/100; no period inference or term floors.

Description

Health Art100(d) has conflicting DE/EN d2 descriptions. The supplied d2 basis must be explicitly externally qualified; its numeric value is retained.

Usage

```
simplified_disability_risk(
  capital_at_risk_1,
  capital_at_risk_2,
  incidence_rate_1,
  incidence_rate_2,
  termination_rate,
  modified_duration,
  best_estimate,
  kind,
  proportionality_satisfied,
```

```
  qualification_reference,
  context,
  ...
)
```

Arguments

`capital_at_risk_1`	Capital at risk 1. Reference type: `float`.
`capital_at_risk_2`	Capital at risk 2. Reference type: `float`.
`incidence_rate_1`	Incidence rate 1. Reference type: `float`.
`incidence_rate_2`	Incidence rate 2. Reference type: `float`.
`termination_rate`	Termination rate. Reference type: `float`.
`modified_duration`	Modified duration. Reference type: `float`.
`best_estimate`	Best estimate. Reference type: `float`.
`kind`	Kind. Reference type: `str`.
`proportionality_satisfied`	Proportionality satisfied. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("uw-biometric-baseline-disability-life-no-incidence")
result <- do.call(simplified_disability_risk,
  c(case$kwargs, list(context = context)))
result$value
```

`simplified_ead_mitigation_2027`

Allocate default-zero BSCR mitigation using absolute EAD by external counterparty.

Description

Reinsurance/securitisation EAD here is BE recoverables under107a(2), not automatically the BE-plus-debtors basis of107. Derivative/SPV EAD is external. A complete scoped portfolio and both hypothetical BSCR valuations are required.

Usage

```
simplified_ead_mitigation_2027(
  exposures,
  target_counterparty,
  bscr_without,
  bscr_with,
  default_module_zero_in_both,
  eligibility_reference,
  valuation_reference,
  context,
  ...
)
```

Arguments

`exposures`	Exposures. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`target_counterparty`	Target counterparty. Reference type: `str`.
`bscr_without`	Bscr without. Reference type: `float`.
`bscr_with`	Bscr with. Reference type: `float`.
`default_module_zero_in_both`	Default module zero in both. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`eligibility_reference`
: Eligibility reference. Reference type: `str`.

`valuation_reference`
: Valuation reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("mitigation-future-ead-floor")
result <- do.call(simplified_ead_mitigation_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`simplified_expense_risk` *Art94/99/101: factor*An + *A*(G(i+shift,n)-G(i,n)).*

Description

G(r,n)=((1+r)**n-1)/r, continuously extended to G(0,n)=n. The amount is last-year expenses (life/health) or medical payments, NOT a projected BE. High-precision intermediates avoid cancellation around zero inflation.

Usage

```
simplified_expense_risk(
  previous_year_amount,
  modified_duration,
  inflation_rate,
  kind,
  proportionality_satisfied,
  qualification_reference,
  context,
  ...
)
```

Arguments

previous_year_amount	Previous year amount. Reference type: `float`.
modified_duration	Modified duration. Reference type: `float`.
inflation_rate	Inflation rate. Reference type: `float`.
kind	Kind. Reference type: `str`.
proportionality_satisfied	Proportionality satisfied. Reference type: `bool | None`.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
```

```
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("uw-simplified-baseline-life_expense-zero")
result <- do.call(simplified_expense_risk,
  c(case$kwargs, list(context = context)))
result$value
```

`simplified_fire_risk` *Maximum of qualified top-five building-neighbourhood exposures and theta.*

Description

Each category explicitly supplies five ranked centre-neighbourhood sums; nonexistent centres are qualified zero entries. Actual building geometry, full/partial200m intersection, LoBs7/19, ranking by building-specific net insured sum and recoveries not contingent on unrelated claims are external. No point-distance proxy and no second deduction of reinsurance are used.

Usage

```
simplified_fire_risk(
  exposures,
  average_residential_sum,
  residential_market_shares,
  qualification_reference,
  context,
  ...
)
```

Arguments

`exposures`	Exposures. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`average_residential_sum`	Average residential sum. Reference type: `float`.
`residential_market_shares`	Residential market shares. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2026-10-05",
  known_at = "2026-10-06",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("simpl-close-baseline-fire-no-residential")
result <- do.call(simplified_fire_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

simplified_immaterial_risk_2027

Scale the reference SCR with volume, retaining its prescribed floor.

Description

Eligibility under DIR109(2/3), reference calculation and suitability of the company-specific volume are externally established. A factor ratio in the details avoids overflow/underflow from an unnecessary intermediate float.

Usage

```
simplified_immaterial_risk_2027(
  base_scr,
  base_volume,
  current_volume,
  elapsed_years,
  is_market_risk,
  eligibility_reference,
  volume_reference,
  context,
  ...
)
```

Arguments

base_scr	Base scr. Reference type: float.
base_volume	Base volume. Reference type: float.
current_volume	Current volume. Reference type: float.
elapsed_years	Elapsed years. Reference type: float.
is_market_risk	Is market risk. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
eligibility_reference	Eligibility reference. Reference type: str.
volume_reference	Volume reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("simplification-2027-zero-volume")
result <- do.call(simplified_immaterial_risk_2027,
  c(case$kwargs, list(context = context)))
result$value
```

`simplified_lapse_risk` *Art95/102 up: half * max(qualified rate, source threshold) * years * S+.*

Description

Each contract provides termination_payment_net (after amounts recoverable from the policyholder/intermediary) and technical_provisions_excluding_rm. Negative strains never offset positive ones. Rate and period must describe the positive-strain population. The printed down formula has an unresolved sign issue and is deliberately not converted to positive capital.

Usage

```
simplified_lapse_risk(
  contracts,
  average_lapse_rate,
  runoff_period,
  kind,
  direction,
  proportionality_satisfied,
  qualification_reference,
  context,
  ...
)
```

Arguments

`contracts`	Contracts. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`average_lapse_rate`	Average lapse rate. Reference type: `float`.
`runoff_period`	Runoff period. Reference type: `float`.
`kind`	Kind. Reference type: `str`.
`direction`	Direction. Reference type: `str`.
`proportionality_satisfied`	Proportionality satisfied. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("uw-lapse-baseline-life-empty")
result <- do.call(simplified_lapse_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

simplified_life_catastrophe_risk

Art96 factor times the already contract-floored CAR sum, not death benefits.

Description

Art96 factor times the already contract-floored CAR sum, not death benefits.

Usage

```
simplified_life_catastrophe_risk(
  capital_at_risk,
  proportionality_satisfied,
  qualification_reference,
  context,
  ...
)
```

Arguments

`capital_at_risk`	Capital at risk. Reference type: `float`.
`proportionality_satisfied`	Proportionality satisfied. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("uw-biometric-baseline-catastrophe-zero")
result <- do.call(simplified_life_catastrophe_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

simplified_longevity_risk

*Art92/98: factorqn*growth**((n-1)/2)*BE on qualified selected contracts.*

Description

q is the sum-assured weighted NEXT-twelve-month mortality rate. Fractional modified durations are retained; no invented rounding or contract selection.

Usage

```
simplified_longevity_risk(
  mortality_rate,
  modified_duration,
  best_estimate,
  kind,
  proportionality_satisfied,
  qualification_reference,
  context,
  ...
)
```

Arguments

`mortality_rate`	Mortality rate. Reference type: `float`.
`modified_duration`	Modified duration. Reference type: `float`.
`best_estimate`	Best estimate. Reference type: `float`.
`kind`	Kind. Reference type: `str`.
`proportionality_satisfied`	Proportionality satisfied. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("uw-simplified-baseline-life-longevity-3")
result <- do.call(simplified_longevity_risk,
  c(case$kwargs, list(context = context)))
result$value
```

`simplified_mortality_risk` *Art91/97 finite annual sum with midyear discount and survival weighting.*

Description

q is the sum-assured weighted rate over all future years, unlike longevity. The printed upper index is modified duration: fractional values remain unqualified, never silently rounded, truncated or prorated.

Usage

```
simplified_mortality_risk(
  capital_at_risk,
  basic_spot_rates,
  mortality_rate,
  modified_duration,
  kind,
  proportionality_satisfied,
  qualification_reference,
  context,
  ...
)
```

Arguments

`capital_at_risk`	Capital at risk. Reference type: `list[float]`. Supply an ordered R list or the documented numeric vector.
`basic_spot_rates`	Basic spot rates. Reference type: `list[float]`. Supply an ordered R list or the documented numeric vector.
`mortality_rate`	Mortality rate. Reference type: `float`.
`modified_duration`	Modified duration. Reference type: `float`.
`kind`	Kind. Reference type: `str`.
`proportionality_satisfied`	Proportionality satisfied. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("uw-biometric-baseline-mortality-life-empty")
result <- do.call(simplified_mortality_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

simplified_pool_external_best_estimate

Scale externally qualified BECEP to whole-pool BECE, retaining its sign.

Description

Scale externally qualified BECEP to whole-pool BECE, retaining its sign.

Usage

```
simplified_pool_external_best_estimate(
  ceded_best_estimate,
  undertaking_share,
  eligibility_reference,
  valuation_reference,
  context,
  ...
)
```

Arguments

`ceded_best_estimate`	Ceded best estimate. Reference type: `float`.
`undertaking_share`	Undertaking share. Reference type: `float`.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("pool-simplified-baseline-external-zero")
result <- do.call(simplified_pool_external_best_estimate,
  c(case$kwargs, list(context = context)))
result$value
```

---

simplified_pool_external_mitigation

Allocate signed external pool contributions; no extra floor on individual contributions.

Description

Allocate signed external pool contributions; no extra floor on individual contributions.

Usage

```
simplified_pool_external_mitigation(
  best_estimates,
  target_counterparty,
  total_external_contribution,
  eligibility_reference,
  valuation_reference,
  context,
  ...
)
```

Arguments

`best_estimates`	Best estimates. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`target_counterparty`	Target counterparty. Reference type: `str`.
`total_external_contribution`	Total external contribution. Reference type: `float`.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
```

```
case <- reference_case("pool-simplified-baseline-contribution")
result <- do.call(simplified_pool_external_mitigation,
  c(case$kwargs, list(context = context)))
result$value
```

`simplified_pool_member_best_estimate` *PC/PU times already externally netted BEU; do not net external recoveries twice.*

Description

PC/PU times already externally netted BEU; do not net external recoveries twice.

Usage

```
simplified_pool_member_best_estimate(
  undertaking_best_estimate,
  undertaking_share,
  counterparty_share,
  eligibility_reference,
  valuation_reference,
  context,
  ...
)
```

Arguments

`undertaking_best_estimate`	Undertaking best estimate. Reference type: `float`.
`undertaking_share`	Undertaking share. Reference type: `float`.
`counterparty_share`	Counterparty share. Reference type: `float`.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("pool-simplified-baseline-member-zero")
result <- do.call(simplified_pool_member_best_estimate,
  c(case$kwargs, list(context = context)))
result$value
```

`simplified_proportional_mitigation` *Article108 proportional-contract amount with the prescribed net-BE denominator.*

Description

Article108 proportional-contract amount with the prescribed net-BE denominator.

Usage

```
simplified_proportional_mitigation(
  gross_best_estimate,
  recoverables,
  submodule_scr,
  target_counterparty,
  eligibility_reference,
  valuation_reference,
  context,
  ...
)
```

Arguments

`gross_best_estimate`	Gross best estimate. Reference type: `float`.
`recoverables`	Recoverables. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.

submodule_scr Submodule scr. Reference type: float.

target_counterparty
: Target counterparty. Reference type: str.

eligibility_reference
: Eligibility reference. Reference type: str.

valuation_reference
: Valuation reference. Reference type: str.

context Explicit Context() selecting currency, dates, rule profile and overrides.

... Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("mitigation-baseline-proportional-zero")
result <- do.call(simplified_proportional_mitigation,
  c(case$kwargs, list(context = context)))
result$value
```

---

simplified_reinsurance_default_adjustment

Positive deduction corresponding to the printed negative Article61 AdjCD.

Description

One counterparty/homogeneous group; PD is next12months, duration and BE refer to the same recoverables. Not a counterparty-default SCR or projection.

Usage

```
simplified_reinsurance_default_adjustment(
  probability_of_default,
  modified_duration,
  recoverables_best_estimate,
  proportionality_satisfied,
  qualification_reference,
  context,
  ...
)
```

Arguments

`probability_of_default`	Probability of default. Reference type: `float`.
`modified_duration`	Modified duration. Reference type: `float`.
`recoverables_best_estimate`	Recoverables best estimate. Reference type: `float`.
`proportionality_satisfied`	Proportionality satisfied. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
```

```
case <- reference_case("final-numeric-baseline-ri-zero-pd")
result <- do.call(simplified_reinsurance_default_adjustment,
  c(case$kwargs, list(context = context)))
result$value
```

`simplified_reinsurance_mitigation`

Allocate underwriting mitigation using BE recoverables plus related debtors.

Description

Only the target's nonnegative condition is imposed on individual recoveries; other signed entries are not silently floored or the resulting share capped.

Usage

```
simplified_reinsurance_mitigation(
  recoverables,
  target_counterparty,
  scr_without,
  scr_with,
  eligibility_reference,
  valuation_reference,
  context,
  ...
)
```

Arguments

`recoverables`	Recoverables. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`target_counterparty`	Target counterparty. Reference type: `str`.
`scr_without`	Scr without. Reference type: `float`.
`scr_with`	Scr with. Reference type: `float`.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("mitigation-baseline-negative-total-effect")
result <- do.call(simplified_reinsurance_mitigation,
  c(case$kwargs, list(context = context)))
result$value
```

---

simplified_single_segment_mitigation

Literal111a quadratic formula; preserve signed differences, no sub-floors.

Description

'hyp' is the scenario without the arrangement. Despite its source label, 'without' denotes the ordinary capital/volume defined in111a(b/e). Recoverables are the qualified best estimate plus corresponding receivables. Segment sigma follows117(3)/148(3), not total premium/reserve sigma.

Usage

```
simplified_single_segment_mitigation(
  cat_hyp,
  cat_without,
  premium_hyp,
  premium_without,
  sigma,
  recoverables,
  single_segment,
  eligibility_reference,
  valuation_reference,
  context,
  ...
)
```

Arguments

`cat_hyp`	Cat hyp. Reference type: `float`.
`cat_without`	Cat without. Reference type: `float`.
`premium_hyp`	Premium hyp. Reference type: `float`.
`premium_without`	Premium without. Reference type: `float`.
`sigma`	Sigma. Reference type: `float`.
`recoverables`	Recoverables. Reference type: `float`.
`single_segment`	Single segment. Reference type: `bool | None`.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2026-10-05",
  known_at = "2026-10-06",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("simpl-close-baseline-mitigation-signed")
result <- do.call(simplified_single_segment_mitigation,
  c(case$kwargs, list(context = context)))
result$value
```

`simplified_submodule_mitigation` *Floor the difference of submodule sums once, not each submodule separately.*

Description

Floor the difference of submodule sums once, not each submodule separately.

Usage

```
simplified_submodule_mitigation(
  scr_without,
  scr_with,
  eligibility_reference,
  valuation_reference,
  context,
  ...
)
```

Arguments

`scr_without`	Scr without. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`scr_with`	Scr with. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("mitigation-baseline-sum-floor")
result <- do.call(simplified_submodule_mitigation,
  c(case$kwargs, list(context = context)))
result$value
```

`small_non_complex_annual_conditions_2027`
One qualified year of Article29a criteria, not two-year status or approval.

Description

The three-year average NET combined ratio is externally qualified: the source does not prescribe a universal weighting method for its construction. investment_default_scr is only the listed investment exposures, not the whole default module. Intangible charge follows the existing Article203 API. Captive alternative never overrides the Article29a(3) absolute exclusions.

Usage

```
small_non_complex_annual_conditions_2027(
  undertaking_type,
  metrics,
  conditions,
  qualification_reference,
  context,
  ...
)
```

Arguments

`undertaking_type`	Undertaking type. Reference type: `str`.
`metrics`	Metrics. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`conditions`	Conditions. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("proportionality-scope-parent-small-group")
result <- do.call(small_non_complex_annual_conditions_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

small_non_complex_group_annual_conditions_2027

Group213a annual criteria: NOT the solo29a business-share branching.

Description

Group status/history and each method2 entity's SNC classification remain externally qualified. Group premium cap is TOTAL GWP; group surplus must be strictly positive. Two distinct foreign-premium criteria must both pass. Interest TP basis explicitly excludes method2 entities. Method2-only waives consolidated interest/investment tests, never the other group conditions.

Usage

```
small_non_complex_group_annual_conditions_2027(
  method,
  metrics,
  conditions,
  qualification_reference,
  context,
  ...
)
```

Arguments

method	Method. Reference type: str.
metrics	Metrics. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
conditions	Conditions. Reference type: Mapping. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("group-close-fail-combined_ratio_three_year_average")
result <- do.call(small_non_complex_group_annual_conditions_2027,
  c(case$kwargs, list(context = context)))
result$value
```

---

specific_exposure_spread_stress

Article180 table factors on externally qualified debt, not eligibility or BOF SCR.

Description

Published rounded discontinuities are retained. Insurer MCR breach requires external confirmation of the paragraph6 first-SFCR applicability condition.

Usage

```
specific_exposure_spread_stress(
  modified_duration,
  category,
  qualification_reference,
  credit_quality_step = NULL,
  qualification = NULL,
  context,
  ...
)
```

Arguments

`modified_duration`	Modified duration. Reference type: `float`.
`category`	Category. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`credit_quality_step`	Credit quality step. Reference type: `str | None`.
`qualification`	Qualification. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-specific-spread-regional_local-none-12")
```

```
result <- do.call(specific_exposure_spread_stress,
  c(case$kwargs, list(context = context)))
result$value
```

`spread_risk` *Sum three already valued/selected spread submodules; no missing-component defaults.*

Description

Sum three already valued/selected spread submodules; no missing-component defaults.

Usage

```
spread_risk(bonds, securitisation, credit_derivatives, context, ...)
```

Arguments

`bonds`	Bonds. Reference type: `float`.
`securitisation`	Securitisation. Reference type: `float`.
`credit_derivatives`	Credit derivatives. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-spread-sum-zero")
result <- do.call(spread_risk,
  c(case$kwargs, list(context = context)))
result$value
```

`spv_recoverable_cap` *Cap one SPV's separately valued recoverable at its external aggregate exposure.*

Description

Do not substitute collateral or sum unrelated counterparties here. Contract boundaries, basis risk and the exposure evidence remain external prerequisites.

Usage

```
spv_recoverable_cap(
  recoverable,
  aggregate_maximum_exposure,
  exposure_reference = NULL,
  context,
  ...
)
```

Arguments

`recoverable`	Recoverable. Reference type: `float`.
`aggregate_maximum_exposure`	Aggregate maximum exposure. Reference type: `float`.
`exposure_reference`	Exposure reference. Reference type: `str | None`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("future-spv-cap-zero-exposure")
result <- do.call(spv_recoverable_cap,
  c(case$kwargs, list(context = context)))
result$value
```

`supervisory_reporting_deadline_weeks` *Select an archived deadline length for an externally qualified type/scope.*

Description

Historical rows are post-transition. Future ORSA has no inherited two-week row. The returned length is not a legally determined calendar date. Explicit group scope uses separate254/256/256b or historical373 rules. Group sfcr/single_sfcr entries include public disclosure, not just filing. Optional304e extension requires an externally qualified delegated act; an extreme event alone never creates an extension. ORSA/SPV are excluded.

Usage

```
supervisory_reporting_deadline_weeks(
  report_kind,
  qualification_reference,
  scope = "solo",
  context,
  exceptional_extension_weeks = 0,
  delegated_act_reference = NULL,
  ...
)
```

Arguments

`report_kind`	Report kind. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`scope`	Scope. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`exceptional_extension_weeks`	Exceptional extension weeks. Reference type: `float`.
`delegated_act_reference`	Delegated act reference. Reference type: `str | None`.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: weeks.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("reporting-timing-baseline-deadline-orsa")
result <- do.call(supervisory_reporting_deadline_weeks,
  c(case$kwargs, list(context = context)))
result$value
```

`supervisory_reporting_evidence_check` *Inventory core or full RSR references for a qualified request/period.*

Description

Qualitative/quantitative, temporal and data-source alternatives remain alternatives: one reference documents the externally justified selection. No file inspection, content certification, board approval or filing occurs.

Usage

```
supervisory_reporting_evidence_check(
  evidence,
  assessment_reference,
  scope_reference,
  report_kind = "core",
  context,
  structure_sections = NULL,
  structure_reference = NULL,
  reporting_scope = "solo",
  group_evidence = NULL,
  ...
)
```

Arguments

`evidence`	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`assessment_reference`	Assessment reference. Reference type: `str`.
`scope_reference`	Scope reference. Reference type: `str`.
`report_kind`	Report kind. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`structure_sections`	Structure sections. Reference type: `list[str] | None`. Supply an ordered R list or the documented numeric vector.
`structure_reference`	Structure reference. Reference type: `str | None`.
`reporting_scope`	Reporting scope. Reference type: `str`.
`group_evidence`	Group evidence. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("rsr-content-baseline-empty")
result <- do.call(supervisory_reporting_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

`symmetric_adjustment` *Use an externally qualified daily mean; the selected profile determines its window and cap.*

Description

Use an externally qualified daily mean; the selected profile determines its window and cap.

Usage

```
symmetric_adjustment(current_index, average_index, context, ...)
```

Arguments

`current_index`	Current index. Reference type: `float`.
`average_index`	Average index. Reference type: `float`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: ratio.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("market-2027-sa-50")
result <- do.call(symmetric_adjustment,
  c(case$kwargs, list(context = context)))
result$value
```

---

symmetric_adjustment_average

Average determined daily levels, not dates, months or carried-forward values.

Description

None declares that no index was determined that day; it is not permission to hide missing observations. Exact endpoint selection and completeness remain externally qualified. Never fetch or manufacture market data.

Usage

```
symmetric_adjustment_average(
  daily_indices,
  window_months,
  complete_window,
  index_qualified,
  qualification_reference,
  context,
  ...
)
```

Arguments

`daily_indices`	Daily indices. Reference type: `Mapping[str, float | None]`. Supply a named R list with the keys shown in the example/reference case.
`window_months`	Window months. Reference type: `int`.
`complete_window`	Complete window. Reference type: `bool | None`.
`index_qualified`	Index qualified. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: index_level.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("symmetric-average-baseline-single")
result <- do.call(symmetric_adjustment_average,
  c(case$kwargs, list(context = context)))
result$value
```

`technical_provision_assumptions_evidence_check` *Inventory assumptions, management actions, FDB and behaviour evidence.*

Description

Financial models and insurer-specific behaviour remain external. Conditional evidence is selected from explicit qualified scope decisions. A fully declared inventory proves neither method appropriateness nor supervisory compliance.

Usage

```
technical_provision_assumptions_evidence_check(
  evidence,
  conditions,
  assessment_reference,
  scope_reference,
  context,
  ...
)
```

Arguments

`evidence`	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`assessment_reference`	Assessment reference. Reference type: `str`.
`scope_reference`	Scope reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("tp-assumptions-baseline-all-empty")
result <- do.call(technical_provision_assumptions_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

---

technical_provision_data_evidence_check

Inventory TP data-quality evidence without certifying data or methods.

Description

External-data use and known deficiencies activate their own controls. The 2027 climate-history safeguard is unconditional, not a defect-only rule. AVAILABLE declares a reference, never verified content or legal compliance.

Usage

```
technical_provision_data_evidence_check(
  evidence,
  external_data_used,
  data_deficiencies_present,
  assessment_reference,
  context,
  ...
)
```

Arguments

evidence	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
external_data_used	External data used. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
data_deficiencies_present	Data deficiencies present. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`assessment_reference`
: Assessment reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("tp-data-baseline-external-deficient-empty")
result <- do.call(technical_provision_data_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

---

technical_provision_projection_evidence_check

Inventory projection scope/uncertainty/expenses, not simulate cash-flows.

Description

The 2027 expense basis reflects board decisions on new business; it does not silently inherit the baseline assumption of future new business. Category controls document relevance and appropriate inclusion, including reasoned absence. Currency separation and gross reinsurance expenses remain explicit.

Usage

```
technical_provision_projection_evidence_check(
  evidence,
  conditions,
  assessment_reference,
  scope_reference,
  context,
  ...
)
```

Arguments

evidence	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
conditions	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
assessment_reference	Assessment reference. Reference type: `str`.
scope_reference	Scope reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("tp-projection-baseline-all-empty")
result <- do.call(technical_provision_projection_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

`technical_provision_validation_evidence_check` *Inventory validation and documentation references for an externally qualified scope.*

Description

The declared interval is not a calendar or proof of actual completion. Scope must identify all homogeneous groups and applicable segregated parts; references alone do not prove completeness, adequacy, or expert review.

Usage

```
technical_provision_validation_evidence_check(
  evidence,
  conditions,
  declared_interval_years,
  assessment_reference,
  scope_reference,
  context,
  ...
)
```

Arguments

`evidence`	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`declared_interval_years`	Declared interval years. Reference type: `float`.
`assessment_reference`	Assessment reference. Reference type: `str`.
`scope_reference`	Scope reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("tp-validation-audit-baseline-empty-evidence")
result <- do.call(technical_provision_validation_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

---

technical_provisions_sum

Separate BE/RM method only; negative best estimates/total provisions are not floored.

Description

Separate BE/RM method only; negative best estimates/total provisions are not floored.

Usage

```
technical_provisions_sum(
  best_estimate,
  risk_margin,
  replication_applies,
  context,
  ...
)
```

Arguments

`best_estimate`	Best estimate. Reference type: `float`.
`risk_margin`	Risk margin. Reference type: `float`.
`replication_applies`	Replication applies. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("tp-sum")
result <- do.call(technical_provisions_sum,
  c(case$kwargs, list(context = context)))
result$value
```

---

technical_provisions_transitional_value

Deduct the phased, optionally capped approved difference from current TP.

Description

Base amounts are NET on the Article308d(2) date or approved recalibration; the current provision is gross, with current recoverables remaining separate. None limit explicitly means no supervisory cap was imposed, not unknown. A negative deduction is not silently floored or turned into relief.

Usage

```
technical_provisions_transitional_value(
  current_gross_provisions,
  base_solvency2_net_provisions,
  base_legacy_net_provisions,
  supervisory_deduction_limit,
  risk_free_transition_used,
  approval_reference,
  qualification_reference,
  context,
```

```
  ...
)
```

Arguments

`current_gross_provisions`	Current gross provisions. Reference type: `float`.
`base_solvency2_net_provisions`	Base solvency2 net provisions. Reference type: `float`.
`base_legacy_net_provisions`	Base legacy net provisions. Reference type: `float`.
`supervisory_deduction_limit`	Supervisory deduction limit. Reference type: `float | None`.
`risk_free_transition_used`	Risk free transition used. Reference type: `bool | None`.
`approval_reference`	Approval reference. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("ltg-transition-baseline-tp-cap-zero")
result <- do.call(technical_provisions_transitional_value,
  c(case$kwargs, list(context = context)))
result$value
```

`underwriting_currency_basis_risk`
Art86(a) lowest-level charge plus a fraction of its joint-FX difference.

Description

The hypothetical charge is externally valued under simultaneous Art188. Multiple affected components need86(b)'s common capacity treatment, not independent repeated limits or an invented allocation of shared capacity.

Usage

```
underwriting_currency_basis_risk(
  capital_charge,
  joint_currency_stress_charge,
  single_component_only,
  eligibility_reference,
  valuation_reference,
  context,
  ...
)
```

Arguments

`capital_charge`	Capital charge. Reference type: `float`.
`joint_currency_stress_charge`	Joint currency stress charge. Reference type: `float`.
`single_component_only`	Single component only. Reference type: `bool | None`.
`eligibility_reference`	Eligibility reference. Reference type: `str`.
`valuation_reference`	Valuation reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-10-05",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("final-numeric-baseline-fx-zero")
result <- do.call(underwriting_currency_basis_risk,
  c(case$kwargs, list(context = context)))
result$value
```

---

unlisted_equity_beta *Literal formula; never infer percentage-point/fraction scaling of GM/ROCE.*

Description

The archived DE definitions do not explicitly resolve that scaling. Means, accounting equity definition and formula-native units need external review. Debt/CFO is signed; no regulatory beta floor/cap is added.

Usage

```
unlisted_equity_beta(
  gross_margin_mean,
  debt,
  cashflow_mean,
  equity_return_mean,
  formula_units_qualified,
  input_basis_reference,
  context,
  ...
)
```

Arguments

gross_margin_mean	Gross margin mean. Reference type: float.
debt	Debt. Reference type: float.
cashflow_mean	Cashflow mean. Reference type: float.
equity_return_mean	Equity return mean. Reference type: float.

`formula_units_qualified`
: Formula units qualified. Reference type: `bool | None`.

`input_basis_reference`
: Input basis reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: beta.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("unlisted-equity-baseline-beta-intercept")
result <- do.call(unlisted_equity_beta,
  c(case$kwargs, list(context = context)))
result$value
```

`unlisted_equity_portfolio_screen`
: *Check all supplied issuers; book weights differ from concentration values.*

Description

Input completeness, company consolidation, fiscal periods, FX conversion and beta methodology are externally qualified. A failed condition yields0, an unresolved condition raises REVIEW_REQUIRED instead of being treated asFalse.

Usage

```
unlisted_equity_portfolio_screen(
  investments,
  qualification_reference,
  context,
  ...
)
```

Arguments

`investments`	Investments. Reference type: `Mapping`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("unlisted-equity-baseline-portfolio-negative-beta")
result <- do.call(unlisted_equity_portfolio_screen,
  c(case$kwargs, list(context = context)))
result$value
```

`unrated_bond_simplification_conditions`
Check the inclusive rated-portfolio share and qualified bond facts.

Description

The portfolio denominator excludes Article180(2-16) positions. Classification against the referenced reporting definitions and liability cover is external; a missing rating field is never treated as evidence of an unrated bond.

Usage

```
unrated_bond_simplification_conditions(
  rated_share,
  conditions,
  qualification_reference,
  context,
  ...
)
```

Arguments

`rated_share`	Rated share. Reference type: `float`.
`conditions`	Conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("proportionality-baseline-bond-all-rated")
result <- do.call(unrated_bond_simplification_conditions,
  c(case$kwargs, list(context = context)))
result$value
```

`usp_credibility_factor`

Look up AnnexXVII credibility with the method's correct year basis.

Description

The year count is not evidence of data representativeness or required consecutive history. Revision has no nonlife segment. Terminal table rows apply to all later years; no interpolation or below-table extrapolation.

Usage

```
usp_credibility_factor(
  years,
  method,
  risk_module,
  segment = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`years`	Years. Reference type: `int`.
`method`	Method. Reference type: `str`.
`risk_module`	Risk module. Reference type: `str`.
`segment`	Segment. Reference type: `str | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: factor.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-credibility-baseline-life")
result <- do.call(usp_credibility_factor,
  c(case$kwargs, list(context = context)))
result$value
```

---

usp_data_evidence_check

Inventory active USP data references, never certify their content or quality.

Description

Inventory active USP data references, never certify their content or quality.

Usage

```
usp_data_evidence_check(
  evidence,
  external_data_used,
  multiple_external_sources,
  assessment_reference,
  context,
  ...
)
```

Arguments

`evidence`	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`external_data_used`	External data used. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`multiple_external_sources`	Multiple external sources. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`assessment_reference`	Assessment reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-governance-baseline-evidence-empty-true-true")
result <- do.call(usp_data_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

usp_excess_of_loss_estimate *Estimate raw NP-prime for one homogeneous F1 excess-of-loss group.*

Description

F1 uses the second RAW moment, not variance. upper_limit is the absolute upper loss threshold b2, not layer width. Data representativeness, five reporting years, expense exclusion, gross/net basis, lognormal fit and treaty eligibility need external qualification. No approval or automatic standard-formula substitution follows from this component.

Usage

```
usp_excess_of_loss_estimate(
  ultimate_claims,
  retention,
  upper_limit = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

ultimate_claims	Ultimate claims. Reference type: list[float]. Supply an ordered R list or the documented numeric vector.
retention	Retention. Reference type: float.
upper_limit	Upper limit. Reference type: float | None.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: factor.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-f1-baseline-unlimited")
result <- do.call(usp_excess_of_loss_estimate,
  c(case$kwargs, list(context = context)))
result$value
```

---

usp_excess_of_loss_group_weighting

Weight raw F1/F2 group estimates by externally qualified premium volumes.

Description

Same-segment homogeneity and Article116(3) volume measurement are not inferred from group labels. This is a weighted mean, not diversification, credibility weighting or permission to replace a standard parameter. F2 only supports weighting externally qualified estimates here; its printed estimator/moment anomalies are not repaired or evaluated. No inferred F2 cap.

Usage

```
usp_excess_of_loss_group_weighting(
  estimated_factors,
  premium_volumes,
  qualification_reference,
  method = "nonproportional_1",
  context,
  ...
)
```

Arguments

`estimated_factors`
: Estimated factors. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.

`premium_volumes`
: Premium volumes. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.

`qualification_reference`
: Qualification reference. Reference type: `str`.

method	Method. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: factor.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-f1-groups-baseline-single")
result <- do.call(usp_excess_of_loss_group_weighting,
  c(case$kwargs, list(context = context)))
result$value
```

---

usp_lognormal_credibility_blend

Apply B/C1 finite-history correction BEFORE credibility blending.

Description

c*sigma_hat*sqrt((T+1)/(T-1)) + (1-c)*sigma_standard. This correction does not belong to F1/F2 or reserve method2. Appropriate standard sigma and fitted sigma qualification are explicit external inputs.

Usage

```
usp_lognormal_credibility_blend(
  estimated_sigma,
  standard_sigma,
  credibility,
  years,
```

```
  method,
  calibration_reference,
  context,
  ...
)
```

Arguments

`estimated_sigma`	Estimated sigma. Reference type: `float`.
`standard_sigma`	Standard sigma. Reference type: `float`.
`credibility`	Credibility. Reference type: `float`.
`years`	Years. Reference type: `int`.
`method`	Method. Reference type: `str`.
`calibration_reference`	Calibration reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: factor.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-lognormal-blend-baseline-premium-zero")
result <- do.call(usp_lognormal_credibility_blend,
  c(case$kwargs, list(context = context)))
result$value
```

`usp_lognormal_fit` *Fit prescribed delta/gamma, returning raw sigma before credibility.*

Description

Both boundary faces and deterministic interior starts are searched. Optional numerical controls are reported, never treated as regulatory parameters. Nonconvergence and constant log-ratios are REVIEW_REQUIRED, not zero sigma. Data assumptions, consecutive history and supervisory approval stay external.

Usage

```
usp_lognormal_fit(
  losses,
  volumes,
  method,
  qualification_reference,
  context,
  max_iterations = 1000,
  gradient_tolerance = 1e-07,
  ...
)
```

Arguments

`losses`	Losses. Reference type: `list[float]`. Supply an ordered R list or the documented numeric vector.
`volumes`	Volumes. Reference type: `list[float]`. Supply an ordered R list or the documented numeric vector.
`method`	Method. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`max_iterations`	Max iterations. Reference type: `int`.
`gradient_tolerance`	Gradient tolerance. Reference type: `float`.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: factor.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-fit-baseline-premium-upper-boundary")
result <- do.call(usp_lognormal_fit,
  c(case$kwargs, list(context = context)))
result$value
```

---

usp_lognormal_sigma *Evaluate prescribed sigma and objective at explicit delta/gamma.*

Description

This does NOT claim the supplied pair minimizes the objective. B uses accident-year aggregated claims and earned premiums; C1 uses financial-year end reserves plus payments for opening claims, and opening reserves. Both include servicing expenses, unlike the F1 individual-claim estimator. Consecutiveness, adjustments, statistical assumptions and fitting need separate qualification. No automatic standard-formula replacement.

Usage

```
usp_lognormal_sigma(
  losses,
  volumes,
  mixing,
  log_coefficient,
  method,
  qualification_reference,
  context,
  ...
)
```

Arguments

losses	Losses. Reference type: list[float]. Supply an ordered R list or the documented numeric vector.
volumes	Volumes. Reference type: list[float]. Supply an ordered R list or the documented numeric vector.
mixing	Mixing. Reference type: float.
log_coefficient	Log coefficient. Reference type: float.
method	Method. Reference type: str.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: factor.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-lognormal-baseline-premium-delta0")
result <- do.call(usp_lognormal_sigma,
  c(case$kwargs, list(context = context)))
result$value
```

`usp_method_data_evidence_check` *Inventory method-specific references, with explicit gross/net and year bases.*

Description

B/C/D/E include servicing expenses; F1/F2 exclude them. A reference is never inspected or treated as verified data, calibration or approval. This inventory neither enables the blocked F2 estimator nor extends the square-triangle reserve2 calculator to rectangular development histories.

Usage

```
usp_method_data_evidence_check(
  evidence,
  method,
  data_basis,
  assessment_reference,
  context,
  ...
)
```

Arguments

`evidence`	Evidence. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`method`	Method. Reference type: `str`.
`data_basis`	Data basis. Reference type: `str`.
`assessment_reference`	Assessment reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-method-data-baseline-premium-net-empty")
result <- do.call(usp_method_data_evidence_check,
  c(case$kwargs, list(context = context)))
result$value
```

---

usp_nonproportional_credibility_blend

*c*NP_est + (1-c)*NP_standard; separate from either F1/F2 estimator.*

Description

Input-factor qualification and their source-defined calibration are external. The engine neither estimates loss distributions here nor substitutes this result into a standard-formula calculation or grants approval.

Usage

```
usp_nonproportional_credibility_blend(
  estimated_factor,
  standard_factor,
  credibility,
  method,
  calibration_reference,
  context,
  ...
)
```

Arguments

`estimated_factor`	Estimated factor. Reference type: `float`.
`standard_factor`	Standard factor. Reference type: `float`.
`credibility`	Credibility. Reference type: `float`.
`method`	Method. Reference type: `str`.
`calibration_reference`	Calibration reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: factor.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-blend-baseline-nonproportional_1-full")
result <- do.call(usp_nonproportional_credibility_blend,
  c(case$kwargs, list(context = context)))
result$value
```

`usp_parameter_scope_check` *Check declared replacement scope, not data/method fitness or authorization.*

Description

Gross-premium sigma and the NP factor cannot both be replaced in one segment. Revision is available only absent material inflation risk; materiality follows decision relevance, not an invented numeric cutoff.

Usage

```
usp_parameter_scope_check(
  replacements,
  risk_module,
  segment = NULL,
  qualified_reinsurance = NULL,
  material_inflation_risk = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`replacements`	Replacements. Reference type: `list[str]`. Supply an ordered R list or the documented numeric vector.
`risk_module`	Risk module. Reference type: `str`.
`segment`	Segment. Reference type: `str | None`.
`qualified_reinsurance`	Qualified reinsurance. Reference type: `bool | None`.
`material_inflation_risk`	Material inflation risk. Reference type: `bool | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-governance-baseline-segment-nonlife-1")
result <- do.call(usp_parameter_scope_check,
  c(case$kwargs, list(context = context)))
result$value
```

`usp_reinsurance_contract_conditions` *Check collective coverage and each contract's declared209/210/211/213 compliance.*

Description

For multiple contracts the coverage conditions apply collectively, whereas every individual contract must satisfy the cross-article requirements. Qualified equivalent SPV arrangements are included; equivalent transfer is externally assessed, never inferred from the name or number of contracts. Finite/similar transfers invalidate this submitted contract set for USP; omit none from the declaration (empty means all are qualified non-finite).

Usage

```
usp_reinsurance_contract_conditions(
  coverage_conditions,
  contract_requirements,
  contract_type,
  qualification_reference,
  finite_reinsurance_ids = list(),
  context,
  ...
)
```

Arguments

`coverage_conditions`	Coverage conditions. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`contract_requirements`	Contract requirements. Reference type: `Mapping[str, bool]`. Supply a named R list with the keys shown in the example/reference case.
`contract_type`	Contract type. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`finite_reinsurance_ids`	Finite reinsurance ids. Reference type: `list[str] | tuple`. Supply an ordered R list or the documented numeric vector.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-governance-baseline-treaty-excess_of_loss-15")
result <- do.call(usp_reinsurance_contract_conditions,
  c(case$kwargs, list(context = context)))
result$value
```

---

usp_reserve2_credibility_blend

D(4) linear blend, WITHOUT the different B/C1 finite-history correction.

Description

D(4) linear blend, WITHOUT the different B/C1 finite-history correction.

Usage

```
usp_reserve2_credibility_blend(
  estimated_sigma,
  standard_sigma,
  credibility,
  calibration_reference,
  context,
  ...
)
```

Arguments

`estimated_sigma`	Estimated sigma. Reference type: `float`.
`standard_sigma`	Standard sigma. Reference type: `float`.
`credibility`	Credibility. Reference type: `float`.

calibration_reference	Calibration reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: factor.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-reserve2-blend-baseline-large")
result <- do.call(usp_reserve2_credibility_blend,
  c(case$kwargs, list(context = context)))
result$value
```

---

usp_reserve2_estimate *Compute sqrt(MSEP)/reserve for a qualified square cumulative triangle.*

Description

Rows run oldest to newest accident year with lengths n,n-1,...,1. I>J is permitted by D(2)e but needs a separately qualified treatment of the printed formula's out-of-range diagonal indices; no silent padding. Consecutive years, expense inclusion, matching net reinsurance basis, negligible oldest-year tail and stochastic assumptions remain external.

Usage

```
usp_reserve2_estimate(cumulative_claims, qualification_reference, context, ...)
```

Arguments

`cumulative_claims`	Cumulative claims. Reference type: `list[list[float]]`. Supply an ordered R list or the documented numeric vector.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: factor.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-reserve2-baseline-square")
result <- do.call(usp_reserve2_estimate,
  c(case$kwargs, list(context = context)))
result$value
```

---

usp_revision_compound_quantile

Return the upper numerical bracket of the prescribed compound quantile.

Description

Uses prescribed raw-data moments, not a Monte Carlo or internally chosen insurer model. The lower/upper severity-rounding order is mathematical; the floating-point guard is NOT formally certified interval arithmetic. Numerical controls, backend versions, bounds and clipping are disclosed. Nonconvergence or degenerate distribution fits require external review.

Usage

```
usp_revision_compound_quantile(
  annual_benefits,
  qualification_reference,
  context,
  relative_tolerance = 0.001,
  max_grid_power = 20,
  ...
)
```

Arguments

annual_benefits	Annual benefits. Reference type: `Mapping[str, list[float]]`. Supply a named R list with the keys shown in the example/reference case.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
relative_tolerance	Relative tolerance. Reference type: `float`.
max_grid_power	Max grid power. Reference type: `int`.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-revision-quantile-baseline-standard")
result <- do.call(usp_revision_compound_quantile,
  c(case$kwargs, list(context = context)))
result$value
```

`usp_revision_credibility_blend` *c*(quantile-mean)/mean+(1-c)*S, preserving the source's absence of a floor.*

Description

The quantile of the independent negative-binomial/lognormal compound sum is externally qualified, NOT generated here. Probability must match the active profile (including explicit analyst override). Credibility is supplied, not inferred from the ambiguous printed E(4)a 'section7' cross-reference.

Usage

```
usp_revision_credibility_blend(
  mean_increase,
  quantile_increase,
  credibility,
  quantile_probability,
  risk_module,
  calibration_reference,
  context,
  ...
)
```

Arguments

`mean_increase`	Mean increase. Reference type: `float`.
`quantile_increase`	Quantile increase. Reference type: `float`.
`credibility`	Credibility. Reference type: `float`.
`quantile_probability`	Quantile probability. Reference type: `float`.
`risk_module`	Risk module. Reference type: `str`.
`calibration_reference`	Calibration reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: factor.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-revision-blend-baseline-life-no-floor")
result <- do.call(usp_revision_credibility_blend,
  c(case$kwargs, list(context = context)))
result$value
```

`usp_revision_moments` *Return expected annual increases and prescribed sample moments.*

Description

Each beneficiary supplies aligned A0..AT, including the initial baseline. Only strictly positive changes enter severity statistics. Frequency includes ALL years, including zero-event years. Negative changes are not netted. Computable moments do not prove negative-binomial/lognormal suitability, independence, immaterial inflation risk or the prescribed aggregate quantile.

Usage

```
usp_revision_moments(annual_benefits, qualification_reference, context, ...)
```

Arguments

`annual_benefits`	Annual benefits. Reference type: `Mapping[str, list[float]]`. Supply a named R list with the keys shown in the example/reference case.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-revision-moments-baseline-mixed")
result <- do.call(usp_revision_moments,
  c(case$kwargs, list(context = context)))
result$value
```

---

usp_standard_method_selection

Select a qualified more accurate method, otherwise conservative capital result.

Description

Capital requirements must be comparable under the same qualified inputs. We do not assume that the largest raw parameter always gives the largest capital requirement. Ties use a disclosed deterministic technical ordering, not a claimed regulatory preference for one standardized method.

Usage

```
usp_standard_method_selection(
  method_results,
  parameter,
  superiority_demonstrated,
  superior_method = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`method_results`	Method results. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`parameter`	Parameter. Reference type: `str`.
`superiority_demonstrated`	Superiority demonstrated. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`superior_method`	Superior method. Reference type: `str | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: factor.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("usp-governance-baseline-selection-single-premium_sigma-premium")
result <- do.call(usp_standard_method_selection,
  c(case$kwargs, list(context = context)))
result$value
```

`valuation_accounting_equity_adjustment` *Deduct already scope-aligned goodwill and Article12-zero intangibles.*

Description

Method eligibility, hierarchy and Article13(2) exclusions are external. Inputs use the same held-participation basis; never apply ownership twice.

Usage

```
valuation_accounting_equity_adjustment(
  participation_value,
  goodwill_amount,
  zero_valued_intangibles_amount,
  method,
  qualification_reference,
  context,
  ...
)
```

Arguments

`participation_value`	Participation value. Reference type: `float`.
`goodwill_amount`	Goodwill amount. Reference type: `float`.
`zero_valued_intangibles_amount`	Zero valued intangibles amount. Reference type: `float`.
`method`	Method. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("valuation-baseline-accounting-negative-ias_equity_fallback")
result <- do.call(valuation_accounting_equity_adjustment,
  c(case$kwargs, list(context = context)))
result$value
```

---

valuation_accounts_method_conditions

Check declared Article9(4) facts; never establish method compatibility.

Description

The IFRS-group exclusion is distinct from the four Article9 conditions. Article13/16 restrictions and substantive comparison evidence remain separate.

Usage

```
valuation_accounts_method_conditions(
  conditions,
  in_ifrs_consolidation_group,
  qualification_reference,
  context,
  ...
)
```

Arguments

conditions	Conditions. Reference type: Mapping[str, bool]. Supply a named R list with the keys shown in the example/reference case.
in_ifrs_consolidation_group	In ifrs consolidation group. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: indicator.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("valuation-accounts-baseline-group")
result <- do.call(valuation_accounts_method_conditions,
  c(case$kwargs, list(context = context)))
result$value
```

---

valuation_adjusted_equity_component

Apply the held share to externally qualified Article13 net assets.

Description

No floor, method-ranking decision, Article13(2) exclusion determination or asset/technical-provision valuation is inferred from this arithmetic.

Usage

```
valuation_adjusted_equity_component(
  excess_assets_over_liabilities,
  share,
  qualification_reference,
  context,
  ...
)
```

Arguments

excess_assets_over_liabilities	Excess assets over liabilities. Reference type: float.
share	Share. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("valuation-baseline-equity-zero")
result <- do.call(valuation_adjusted_equity_component,
  c(case$kwargs, list(context = context)))
result$value
```

---

valuation_balance_sheet_excess

Sum externally qualified positions, retaining negative values and surplus.

Description

Own shares remain assets and subordinated debt remains a liability here; the separate Article88 component subsequently adjusts those exactly once. A declared complete input scope does not certify a complete insurer balance.

Usage

```
valuation_balance_sheet_excess(
  assets,
  liabilities,
  complete_scope,
  qualification_reference,
  context,
  ...
)
```

Arguments

assets	Assets. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
liabilities	Liabilities. Reference type: `Mapping[str, float]`. Supply a named R list with the keys shown in the example/reference case.
complete_scope	Complete scope. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
qualification_reference	Qualification reference. Reference type: `str`.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("valuation-balance-baseline-zero")
result <- do.call(valuation_balance_sheet_excess,
  c(case$kwargs, list(context = context)))
result$value
```

`valuation_contingent_liability` *Discount externally expected settlement payments on a basic risk-free curve.*

Description

Recognition/materiality, complete runoff, probability weighting and curve construction are external. In particular VA/MA curves are not accepted.

Usage

```
valuation_contingent_liability(
  cashflows,
  recognised_under_article11,
  runoff_complete,
  curve_basis,
  qualification_reference,
  curve_reference,
  context,
  ...
)
```

Arguments

`cashflows`	Cashflows. Reference type: `Mapping[str, dict]`. Supply a named R list with the keys shown in the example/reference case.
`recognised_under_article11`	Recognised under article11. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`runoff_complete`	Runoff complete. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`curve_basis`	Curve basis. Reference type: `str`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`curve_reference`	Curve reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("valuation-extra-baseline-zero")
result <- do.call(valuation_contingent_liability,
  c(case$kwargs, list(context = context)))
result$value
```

---

valuation_deferred_tax_net

Net externally recognised, undiscounted tax balances only when qualified.

Description

Positive results are net assets; negative results are net liabilities. No tax rates, taxable-profit projections, expiry or LAC-DT are calculated.

Usage

```
valuation_deferred_tax_net(
  deferred_tax_assets,
  deferred_tax_liabilities,
  legally_enforceable_offset,
  same_tax_authority,
  same_taxable_entity,
  undiscounted,
  qualification_reference,
  context,
  excluded_participations = NULL,
  valuation_level = NULL,
  recognition_conditions = NULL,
  recognition_documents = NULL,
  ...
)
```

Arguments

`deferred_tax_assets`
: Deferred tax assets. Reference type: `float`.

`deferred_tax_liabilities`
: Deferred tax liabilities. Reference type: `float`.

`legally_enforceable_offset`
: Legally enforceable offset. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`same_tax_authority`
: Same tax authority. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`same_taxable_entity`
: Same taxable entity. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`undiscounted`
: Undiscounted. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.

`qualification_reference`
: Qualification reference. Reference type: `str`.

`context`
: Explicit `Context()` selecting currency, dates, rule profile and overrides.

`excluded_participations`
: Excluded participations. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`valuation_level`
: Valuation level. Reference type: `str | None`.

`recognition_conditions`
: Recognition conditions. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`recognition_documents`
: Recognition documents. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.

`...`
: Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("valuation-tax-net-baseline-zero")
result <- do.call(valuation_deferred_tax_net,
  c(case$kwargs, list(context = context)))
result$value
```

`valuation_intangible_value` *Apply goodwill/other-intangible zero rules, not a fair-value model.*

Description

Positive recognition requires both external Article12 qualifications and a separately supplied Article10 value. Unused values are rejected, not ignored.

Usage

```
valuation_intangible_value(
  asset_type,
  separately_saleable = NULL,
  active_market_value_evidenced = NULL,
  qualified_value = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`asset_type`	Asset type. Reference type: `str`.
`separately_saleable`	Separately saleable. Reference type: `bool | None`.
`active_market_value_evidenced`	Active market value evidenced. Reference type: `bool | None`.
`qualified_value`	Qualified value. Reference type: `float | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-23",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("valuation-baseline-goodwill-zero")
result <- do.call(valuation_intangible_value,
  c(case$kwargs, list(context = context)))
result$value
```

---

valuation_liability_excluding_own_credit

Remove externally isolated cumulative own-credit value change since initial recognition.

Description

The input is a monetary valuation effect, not a spread or a period-only delta. Initial-recognition credit is retained; do not also apply this correction to a bottom-up value already holding initial credit constant.

Usage

```
valuation_liability_excluding_own_credit(
  current_value,
  own_credit_change,
  qualification_reference,
  context,
  ...
)
```

Arguments

current_value	Current value. Reference type: float.
own_credit_change	Own credit change. Reference type: float.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("valuation-own-credit-baseline-signed")
result <- do.call(valuation_liability_excluding_own_credit,
  c(case$kwargs, list(context = context)))
result$value
```

---

valuation_method_checked_value

Forward a value only on an explicitly supported Article16 method path.

Description

The closed method vocabulary describes this component's supported scope; a rejected unimplemented technique is not thereby declared unlawful. Required cost flags mean material costs were assessed and adjusted where necessary. The future deposit exception delegates its profile, threshold and override checks to the existing component. No zero/default substitutes for missing data.

Usage

```
valuation_method_checked_value(
  qualified_value,
  position_type,
  method,
  qualification_reference,
  conditions = NULL,
  deposit_terms = NULL,
  hierarchy = NULL,
  own_credit = NULL,
  context,
  ...
)
```

Arguments

qualified_value	Qualified value. Reference type: `float`.
position_type	Position type. Reference type: `str`.
method	Method. Reference type: `str`.
qualification_reference	Qualification reference. Reference type: `str`.
conditions	Conditions. Reference type: `Mapping[str, bool] | None`. Supply a named R list with the keys shown in the example/reference case.
deposit_terms	Deposit terms. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
hierarchy	Hierarchy. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
own_credit	Own credit. Reference type: `Mapping | None`. Supply a named R list with the keys shown in the example/reference case.
context	Explicit `Context()` selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("valuation-method-baseline-16-3-pass")
result <- do.call(valuation_method_checked_value,
  c(case$kwargs, list(context = context)))
result$value
```

`valuation_participation_value` *Apply two externally qualified exclusions, not a group-scope decision.*

Description

Flags refer specifically to Directive214(2) and229. Otherwise the external Article13 value passes through without a floor or a second ownership share.

Usage

```
valuation_participation_value(
  excluded_from_group_supervision,
  deducted_from_group_own_funds,
  qualified_value = NULL,
  qualification_reference,
  context,
  ...
)
```

Arguments

`excluded_from_group_supervision`	Excluded from group supervision. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`deducted_from_group_own_funds`	Deducted from group own funds. Reference type: `bool`. Supply a single TRUE or FALSE, not a numeric flag.
`qualified_value`	Qualified value. Reference type: `float | None`.
`qualification_reference`	Qualification reference. Reference type: `str`.
`context`	Explicit `Context()` selecting currency, dates, rule profile and overrides.
`...`	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A `Result` list with `value`, `unit`, `formula_id`, `sources`, `context`, reproducible R `input_hash`/`profile_hash`, `details` and `status`. Value unit: context currency.

See Also

`Context()`, `NumericOverride()`, `reference_cases()`

Examples

```
context <- Context(
  as_of = "2025-01-17",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2024-2025-v0.1")
case <- reference_case("valuation-extra-baseline-retained")
result <- do.call(valuation_participation_value,
  c(case$kwargs, list(context = context)))
result$value
```

---

valuation_short_term_deposit_cost_2027

Apply the 2027 deposit exception, without computing cost or amortisation.

Description

Deposit classification, term basis, SNC status and materiality are external. Both comparisons are strict; failure does not invent a fair-value fallback.

Usage

```
valuation_short_term_deposit_cost_2027(
  cost_value,
  term_years,
  small_non_complex,
  no_material_valuation_error,
  alternative_value = NULL,
  method,
  qualification_reference,
  context,
  ...
)
```

Arguments

cost_value	Cost value. Reference type: float.
term_years	Term years. Reference type: float.
small_non_complex	Small non complex. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
no_material_valuation_error	No material valuation error. Reference type: bool. Supply a single TRUE or FALSE, not a numeric flag.
alternative_value	Alternative value. Reference type: float | None.
method	Method. Reference type: str.
qualification_reference	Qualification reference. Reference type: str.
context	Explicit Context() selecting currency, dates, rule profile and overrides.
...	Reserved; unknown inputs are rejected rather than ignored.

Details

Monetary inputs use context currency, not implicit thousands. Ratios and rates are decimal fractions unless a named input says otherwise. Missing, NA, NaN and infinite numeric inputs are rejected; vectors are not silently recycled. Scope and applicability guards follow the Golden Source.

Value

A Result list with value, unit, formula_id, sources, context, reproducible R input_hash/profile_hash, details and status. Value unit: context currency.

See Also

Context(), NumericOverride(), reference_cases()

Examples

```
context <- Context(
  as_of = "2027-01-30",
  known_at = "2026-09-30",
  currency = "EUR",
  profile_id = "EU-S2-DOCUMENTS-2027-v0.1")
case <- reference_case("valuation-deposit-future-cost")
result <- do.call(valuation_short_term_deposit_cost_2027,
  c(case$kwargs, list(context = context)))
result$value
```

Index

∗ **package**
solvency2-package, 11

aggregate_risk, 12
aggregate_risk(), *11*
api_catalogue, 13
api_catalogue(), *11, 12*
assigned_credit_eligibility_screen, 14
assigned_credit_issuer_financial_screen, 15
assigned_credit_yield_screen, 17

basic_scr, 18
basic_scr(), *11*
best_estimate_approximation_conditions, 19
best_estimate_cashflows, 20
best_estimate_cashflows(), *11*
best_estimate_contract_cashflows, 22
best_estimate_with_curve, 23
bond_spread_stress, 24

calculate *(*Engine*)*, 117
calculate(), *11*
CalculationError, 25
CalculationError(), *12*
capital_add_on_amount, 26
capital_breach_requirements, 27
capital_recovery_plan_evidence_check, 29
captive_interest_currency, 30
captive_interest_duration, 32
captive_nonlife_aggregation, 33
captive_nonlife_segment, 34
captive_simplification_conditions, 35
catastrophe_effective_sum, 36
catastrophe_group_weighted_sum, 38
catastrophe_region_aggregation, 39
catastrophe_weighted_sum, 40
catastrophe_zone_aggregation, 41
catastrophe_zone_ordinal, 42
coinvestment_numeric_screen, 43
concentration_adjusted_exposure, 45
concentration_asset_loss, 46
concentration_assets, 47
concentration_credit_quality, 48
concentration_excess, 49
concentration_exposure_sum, 50
concentration_factor, 51
concentration_risk, 52
concentration_single_name_quality, 53
concentration_threshold, 54
Context, 55
Context(), *11–13*, *15–55*, *57–63*, *65–115*, *117*, *119–124*, *126, 127*, *129–154*, *156–201*, *203–235*, *237–241*, *243–266*, *268–278*, *280–285*, *287–319*, *321–332*, *334, 335*, *337–339*, *343*, *345–347*, *349–355*, *357, 358*, *365–377*, *379–404*, *406–412*, *414–420*, *422–424*, *426–437*, *439–445*, *447–464*, *466–549*
contract_boundary_exclusion, 56
contract_recognition_due, 57
contract_unilateral_right, 59
counterparty_solvency_ratio, 60
coverage, 61
coverage(), *11*
credit_cat_default_loss, 62
credit_cat_recession_loss, 63
credit_derivative_scenario_charge, 64
credit_spread_stress, 65
currency_participation_bof_change, 67
currency_peg_factor, 68
currency_peg_rate_stress, 69
currency_rate_stress, 70
currency_risk, 71
currency_scenario_charge, 72

de_branch_minimum_amount, 74
de_cover_assets_minimum, 75
de_cover_property_value, 77
de_liquidity_coverage, 78
default_ccp_fund_lgd_2027, 80
default_clearing_conditions, 81
default_collateral_factor, 82
default_collateral_market_adjustment, 83
default_defaulted_loan_lgd_2027, 84
default_derivative_lgd, 86
default_derivative_netting_value, 87
default_exposure_type, 88
default_mortgage_lgd, 90
default_other_lgd, 91
default_pool_lgd, 92
default_pool_member_ratio, 94
default_pool_solvency_ratio, 95
default_pool_type_a_lgd, 96
default_probability, 98
default_protected_probability, 99
default_reinsurance_lgd, 100
default_risk_adjusted_collateral, 102
default_risk_adjusted_mortgage, 104
default_risk_mitigation, 105
default_securities_financing_lgd_2027, 106
default_single_name_count, 107
default_single_name_lgd, 109
default_single_name_pd, 110
default_type1, 111
default_type2_shock, 112
default_type2_shock_2027, 113
discount_curve_factor *(*DiscountCurve*)*, 115
discount_curve_factor(), *116*
discount_curve_from_dict *(*DiscountCurve*)*, 115
discount_curve_from_spot_rates, 114
discount_curve_to_dict *(*DiscountCurve*)*, 115
discount_curve_to_dict(), *116*
DiscountCurve, 115
DiscountCurve(), *11*, *23*, *115*, *116*, *236*
documentation, 117
documentation(), *11*, *12*

Engine, 117
Engine(), *11*

equity_shock, 118
equity_stress_amount_2027, 119
export_resources, 121
external_model_checked_value, 122

financial_issuer_spread_stress, 123

governance_evidence_check, 125
governance_remuneration_deferral_years, 126
group_combined_component_surplus_2027, 128
group_combined_currency_exposure_2027, 129
group_consolidated_best_estimate, 131
group_consolidated_minimum, 132
group_consolidated_risk_margin, 133
group_consolidated_scr, 134
group_consolidated_surplus, 136
group_immaterial_participation_screen_2027, 137
group_insurance_holding_conditions_2027, 138
group_long_term_equity_limit_2027, 140
group_method2_best_estimate_sum, 141
group_method2_component_surplus, 142
group_minority_excess_2027, 144
group_model_scr_contribution, 145
group_nonavailable_own_funds_cap, 147
group_orsa_evidence_check, 148
group_orsa_method1_scr_difference, 149
group_own_funds_transfer_timing_screen, 151
group_pre_acquisition_scr_exception_2027, 152
group_reinsurance_elimination, 153
group_required_shortfall, 155
group_sector_capital_requirement_2027, 156
group_sector_contribution_2027, 158
group_significant_branch_screen, 159
group_simplified_participation_scr_2027, 160
group_standard_scr_contribution, 162
guaranteed_sts_securitisation_spread_stress, 163

health_accident_benefit_mean, 164
health_accident_benefit_sum, 165

health_accident_concentration_loss, 167
health_accident_country_aggregation, 168
health_adc_recovery_2027, 169
health_adc_reserve_factor_2027, 170
health_biometric_selection, 172
health_biometric_stress, 173
health_disability_risk, 174
health_expense_inflation_stress, 176
health_expense_level_stress, 177
health_hres_mixed_sigma, 178
health_hres_sigma_bound, 179
health_income_incidence_stress, 180
health_income_transition_stress, 181
health_lapse_option_stress, 182
health_lapse_risk, 183
health_mass_accident_loss, 184
health_mass_lapse_factor, 186
health_medical_inflation_stress, 187
health_medical_payment_stress, 188
health_medical_risk, 189
health_module_scope, 190
health_nslt_lapse_factor, 191
health_pandemic_income_exposure, 192
health_pandemic_loss, 193
health_pandemic_medical_cost, 194
health_premium_reserve_risk, 195
health_premium_volume, 196
health_reserve_volume, 198
health_revision_stress, 199

infrastructure_corporate_eligibility_screen, 200
infrastructure_project_eligibility_screen, 202
insured_deposit_concentration_factor, 203
insurer_solvency_spread_stress, 205
intangible_risk, 206
intangible_risk(), *11*
interest_additive_shift_2027, 207
interest_down_floor_2027, 208
interest_down_stress_2027, 209
interest_participation_bof_change, 210
interest_relative_factor_2027, 211
interest_scenario_charge, 212
interest_stress, 214
interest_ufr_stress_2027, 215

lac_dt, 216
lac_dt_profit_assumptions_check, 217
lac_dt_stress_amount, 218
lac_tp, 219
lapse_stress, 220
liability_cat_claim_count, 221
liability_cat_loss, 222
life_biometric_selection, 223
life_biometric_stress, 225
life_cashflow_grouping_conditions, 226
life_catastrophe_rate_stress, 227
life_expense_inflation_stress, 228
life_expense_level_stress, 229
life_lapse_option_stress, 230
life_lapse_risk, 231
life_mass_lapse_factor, 232
life_mass_lapse_special_eligibility, 233
life_revision_stress, 235
load_discount_curve_csv *(*load_discount_curve_json*)*, 236
load_discount_curve_json, 236
load_numeric_overrides_json *(*numeric_overrides_from_dict*)*, 276
lookthrough_exposure_amount, 237
lookthrough_fallback_conditions, 238
lookthrough_grouping_limit, 239

manmade_concentration_loss, 241
market_risk_from_interest_scenarios, 242
matching_fundamental_spread_increase, 243
mcr_absolute_floor, 245
mcr_capital_at_risk, 246
mcr_combined, 247
mcr_combined(), *11*
mcr_life, 248
mcr_linear, 249
mcr_nonlife, 250
mcr_notional_requirement, 251
mcr_notional_scr, 252
model_va_scr_floor_2027, 253
mortgage_type2_eligibility_screen, 255
motor_assumed_limit, 256
motor_cat_loss, 257
motor_vehicle_count, 258

natural_cat_event_loss, 259
natural_cat_insured_sum, 260
natural_cat_other_diversification, 262
natural_cat_other_loss, 263
natural_cat_scenario_risk, 264
natural_cat_weighted_cap, 265
non_snc_proportionality_size_screen_2027, 267
nonlife_adc_recovery_2027, 268
nonlife_adc_reserve_factor_2027, 270
nonlife_lapse_factor, 271
nonlife_premium_volume, 272
nonlife_reserve_volume, 273
nonprop_property_cat_loss, 275
numeric_overrides_from_dict, 276
NumericOverride, 277
NumericOverride(), *11*, *13*, *15, 16*, *18–21*, *23*, *25*, *27*, *29–32*, *34–37*, *39–47*, *49–59*, *61–63*, *65–68*, *70–73*, *75, 76*, *78–80*, *82–85*, *87–89*, *91, 92*, *94–97*, *99, 100*, *102–104*, *106–110*, *112–114*, *119, 120*, *123, 124*, *126, 127*, *129–131*, *133–135*, *137–139*, *141–143*, *145, 146*, *148–151*, *153, 154*, *156–158*, *160, 161*, *163–167*, *169–171*, *173–177*, *179–194*, *196–198*, *200, 201*, *203–208*, *210–216*, *218–225*, *227–235*, *238–241*, *243, 244*, *246–250*, *252–254*, *256–262*, *264–266*, *268, 269*, *271–276*, *278*, *280, 281*, *283–285*, *287–289*, *291–294*, *296, 297*, *299–302*, *304–306*, *308–310*, *312–314*, *316–319*, *321, 322*, *324–327*, *329*, *331, 332*, *334, 335*, *337–339*, *343*, *345–347*, *349–351*, *353–355*, *358*, *361*, *366–368*, *370–372*, *374–377*, *379, 380*, *382–385*, *387–389*, *391–393*, *395–397*, *399–401*, *403, 404*, *406–408*, *410–412*, *414, 415*, *417–420*, *422–424*, *426, 427*, *429–431*, *433, 434*, *436, 437*, *439, 440*, *442–445*, *447–449*, *451, 452*, *454–456*, *458–461*, *463, 464*, *466, 467*, *469, 470*, *472–474*, *476–478*, *480–482*, *484–486*, *488–491*, *493, 494*, *496–498*, *500–502*, *504–506*, *508–511*, *513, 514*, *516–518*, *520–522*, *524, 525*, *527–530*, *532–534*, *536–539*, *541, 542*, *544–546*, *548, 549*

obligation_derecognition_condition, 278
operational_risk, 279
orsa_additional_macro_analysis_required_2027, 280
orsa_biennial_captive_conditions_2027, 282
orsa_climate_scenario_requirement_2027, 283
orsa_climate_scenario_structure_2027, 284
orsa_conditional_evidence_check, 286
orsa_core_evidence_check, 287
orsa_guidance_evidence_check, 288
orsa_max_assessment_interval_2027, 290
orsa_phase_in_currency_exemption_2027, 291
orsa_report_evidence_check, 292
other_nonlife_cat_loss, 294
own_funds_basic_before_adjustments, 295
own_funds_classification_evidence_check, 296
own_funds_distribution_policy_amount, 298
own_funds_distribution_policy_ratio, 299
own_funds_expected_future_fee_profit_2027, 300
own_funds_expected_future_premium_profit, 302
own_funds_financial_deduction_tier, 303
own_funds_financial_exemption_screen, 304
own_funds_financial_participation_deduction, 305
own_funds_foreseeable_distributions_2027, 307
own_funds_mcr_allocation, 308
own_funds_reconciliation_reserve, 309
own_funds_restricted_deduction, 311
own_funds_scr_allocation, 312
own_funds_step_up_limit, 313

own_funds_tier1_loss_absorption_trigger, 315
own_funds_tier1_mechanism_requirements, 316

parameter, 318
parameter(), *11*, *56*, *277*, *436*
partial_model_bscr, 319
partial_public_guarantee_zero_amount_2027, 320
premium_future_component, 321
premium_net_of_reinsurance, 323
premium_reserve_diversification, 324
premium_reserve_geographic_region, 325
premium_reserve_parameterised_risk, 327
premium_reserve_risk, 328
print.Result, 329
property_value_stress, 330
proportionality_application_evidence_2027, 331
prudent_deterministic_best_estimate_2027, 333
prudent_deterministic_eligibility_2027, 334
prudent_deterministic_non_snc_size_screen_2027, 336
public_counter_guarantee_conditions_2027, 337
public_exposure_zero_factor, 339

reference_case, 340
reference_case(), *11*, *341*
reference_cases, 341
reference_cases(), *11*, *13*, *15*, *16*, *18–21*, *23*, *25*, *27*, *29–32*, *34–37*, *39–47*, *49–55*, *57–59*, *61–63*, *65–68*, *70–73*, *75*, *76*, *78–80*, *82–85*, *87–89*, *91*, *92*, *94–97*, *99*, *100*, *102–104*, *106–110*, *112–114*, *119*, *120*, *123*, *124*, *126*, *127*, *129–131*, *133–135*, *137–139*, *141–143*, *145*, *146*, *148–151*, *153*, *154*, *156–158*, *160*, *161*, *163–167*, *169–171*, *173–177*, *179–194*, *196–198*, *200*, *201*, *203–208*, *210–216*, *218–225*, *227–235*, *238–241*, *243*, *244*, *246–250*, *252–254*, *256–262*, *264–266*, *268*, *269*, *271–275*, *278*, *280*, *281*, *283–285*, *287–289*, *291–294*, *296*, *297*, *299–302*, *304–306*, *308–310*, *312–314*, *316*, *317*, *319*, *321*, *322*, *324–327*, *329*, *331*, *332*, *334*, *335*, *337–340*, *342*, *343*, *345–347*, *349–351*, *353–355*, *358*, *366–368*, *370–372*, *374–377*, *379*, *380*, *382–385*, *387–389*, *391–393*, *395–397*, *399–401*, *403*, *404*, *406–408*, *410–412*, *414*, *415*, *417–420*, *422–424*, *426*, *427*, *429–431*, *433*, *434*, *436*, *437*, *439*, *440*, *442–445*, *447–449*, *451*, *452*, *454–456*, *458–461*, *463*, *464*, *466*, *467*, *469*, *470*, *472–474*, *476–478*, *480–482*, *484–486*, *488–491*, *493*, *494*, *496–498*, *500–502*, *504–506*, *508–511*, *513*, *514*, *516–518*, *520–522*, *524*, *525*, *527–530*, *532–534*, *536–539*, *541*, *542*, *544–546*, *548*, *549*
reference_dataset *(*reference_datasets*)*, 341
reference_dataset(), *11*
reference_datasets, 341
reference_portfolios, 342
reference_portfolios(), *11*, *341*
regular_supervisory_report_interval, 342
regulatory_euro_amount_indexation, 344
reinsurance_adjusted_recoverable, 345
reinsurance_counterparty_recognition_factor, 346
reinsurance_default_adjustment, 348
reinsurance_default_loss, 349
reinsurance_nonlife_allocation, 351
reinsurance_recoverable_cashflows, 352
reinsurance_recoverables_from_net, 353
replicated_cashflow_value, 354
reporting_bound_rule_check, 356
reporting_bound_rule_check(), *11*
reporting_captive_itemised_exemption_2027, 357
reporting_catalog, 358
reporting_catalog(), *11*
reporting_closed_rule_check, 359
reporting_data, 360
reporting_data(), *11*

reporting_instance, 360
reporting_instance(), *11*
reporting_metric_value_check, 362
reporting_rule_precondition, 362
reporting_table, 363
reporting_validation_status, 364
restricted_portfolio_scenario_charge, 364
restricted_portfolio_scr_sum, 366
Result *(*print.Result*)*, 329
rfr_archived_corporate_pd, 367
rfr_archived_corporate_spread, 369
rfr_archived_government_spread, 370
rfr_archived_ltas, 371
rfr_archived_spot_rate, 373
rfr_credit_risk_adjustment, 374
rfr_credit_spread_sensitivity, 375
rfr_currency_risk_adjustment, 376
rfr_curve_spot_2027, 378
rfr_default_adjusted_cashflow, 380
rfr_default_loss_on_market_value, 381
rfr_downgrade_expected_loss, 382
rfr_equivalent_annual_rate, 383
rfr_extrapolated_forward_2027, 384
rfr_extrapolated_spot_2027, 386
rfr_extrapolation_alpha_2027, 387
rfr_fsp_currency_percentage_2027, 388
rfr_fundamental_spread, 390
rfr_fundamental_spread_other_than_pd, 391
rfr_last_liquid_forward_2027, 392
rfr_macro_country_factor, 394
rfr_macro_volatility_adjustment, 395
rfr_market_rate_adjustment, 396
rfr_matching_adjustment, 398
rfr_matching_mortality_headroom, 399
rfr_matching_mortality_selected_be, 400
rfr_matching_mortality_stress, 402
rfr_monthly_data, 403
rfr_pegged_credit_spread_sensitivity, 404
rfr_portfolio_risk_correction, 405
rfr_reference_portfolio_spread, 406
rfr_risk_corrected_spread, 408
rfr_risk_correction_2027, 409
rfr_smith_wilson_spot, 410
rfr_spot_discount_factor, 412
rfr_transitional_spot_rate, 413
rfr_ultimate_forward_rate, 414
rfr_va_pvbp, 416
rfr_volatility_adjustment, 417
rfr_volatility_adjustment_2027, 418
risk_margin, 420
risk_margin_adjusted_duration_2027, 421
risk_margin_duration, 422
risk_margin_internal_model_required, 424
risk_margin_lob_allocation, 425
risk_margin_percentage, 426
risk_margin_proportional_scr, 428
risk_margin_reference_asset_balance, 429
risk_margin_reference_evidence_check, 430
risk_margin_reserve_scr, 432
risk_mitigation_recognition_factor, 433
rsr_long_term_equity_extra_disclosure_2027, 435
rule_profiles, 436
rule_profiles(), *11*, *56*, *342*

scenario_loss, 437
scope_ancillary_risk_conditions, 438
scope_volume_conditions, 439
scope_volume_entry_trigger, 441
scope_volume_release_history, 442
scr_standard_formula, 443
scr_standard_formula(), *11*
secured_bond_spread_stress, 445
securitisation_spread_stress, 446
select_scenario, 447
sfcr_balance_sheet_audit_required_2027, 448
sfcr_captive_disclosure_conditions_2027, 450
sfcr_content_evidence_check, 451
sfcr_publication_evidence_check, 453
significant_cross_border_activity_2027, 454
simplification_proportionality_conditions, 456
simplification_share_screen_2027, 457
simplified_bond_spread_risk, 458
simplified_bond_spread_stress, 459

simplified_capital_at_risk, 461
simplified_default_group_pd, 462
simplified_disability_risk, 463
simplified_ead_mitigation_2027, 465
simplified_expense_risk, 466
simplified_fire_risk, 468
simplified_immaterial_risk_2027, 469
simplified_lapse_risk, 471
simplified_life_catastrophe_risk, 472
simplified_longevity_risk, 473
simplified_mortality_risk, 475
simplified_pool_external_best_estimate, 476
simplified_pool_external_mitigation, 477
simplified_pool_member_best_estimate, 479
simplified_proportional_mitigation, 480
simplified_reinsurance_default_adjustment, 481
simplified_reinsurance_mitigation, 483
simplified_single_segment_mitigation, 484
simplified_submodule_mitigation, 486
small_non_complex_annual_conditions_2027, 487
small_non_complex_group_annual_conditions_2027, 488
solvency2 *(*solvency2-package*)*, 11
solvency2-package, 11
specific_exposure_spread_stress, 489
spread_risk, 491
spv_recoverable_cap, 492
supervisory_reporting_deadline_weeks, 493
supervisory_reporting_evidence_check, 495
symmetric_adjustment, 496
symmetric_adjustment_average, 497

technical_provision_assumptions_evidence_check, 499
technical_provision_data_evidence_check, 500
technical_provision_projection_evidence_check, 501
technical_provision_validation_evidence_check, 503
technical_provisions_sum, 504
technical_provisions_transitional_value, 505

underwriting_currency_basis_risk, 507
unlisted_equity_beta, 508
unlisted_equity_portfolio_screen, 509
unrated_bond_simplification_conditions, 511
usp_credibility_factor, 512
usp_data_evidence_check, 513
usp_excess_of_loss_estimate, 515
usp_excess_of_loss_group_weighting, 516
usp_lognormal_credibility_blend, 517
usp_lognormal_fit, 519
usp_lognormal_sigma, 520
usp_method_data_evidence_check, 522
usp_nonproportional_credibility_blend, 523
usp_parameter_scope_check, 524
usp_reinsurance_contract_conditions, 526
usp_reserve2_credibility_blend, 527
usp_reserve2_estimate, 528
usp_revision_compound_quantile, 529
usp_revision_credibility_blend, 531
usp_revision_moments, 532
usp_standard_method_selection, 533

valuation_accounting_equity_adjustment, 535
valuation_accounts_method_conditions, 536
valuation_adjusted_equity_component, 537
valuation_balance_sheet_excess, 538
valuation_contingent_liability, 540
valuation_deferred_tax_net, 541
valuation_intangible_value, 543
valuation_liability_excluding_own_credit, 544
valuation_method_checked_value, 545
valuation_participation_value, 547
valuation_short_term_deposit_cost_2027, 548