Credit Analytics Product and Functional Coverage

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Product Coverage

Base Type	Variants and Details

Bonds	• Bullet
	  o Fixed Coupon
	  o Floating Rate
	  o Capped Coupon floor and ceiling
	• Amortizing Bonds
	  o Bonds with sinking funds
	  o Deterministic coupon and notional schedules
	  o Schedules specified as pay down or outstanding
	  o Accreting and capitalizing bonds
	  o Step up and Step down coupon schedules
	• Bonds with embedded schedules
	  o European Call or Put Schedules
	  o Bermudan/American Call/Put Schedules
	  o Concurrent and overlapping Calls and Puts
	  o Fix to float on exercise
	• Differing coupon, redemption, and trade/quote currencies
	• Custom bonds
	  o Custom coupon and notional schedules (pay down or outstanding)
	  o Custom coupon period generation functionality
	  o Custom quoting/settlement parameters
	  o Custom rates/credit/currency/fixing parameters
	  o Custom embedded option schedules (concurrent put/call, fix to float, American exercise dates etc)
	• TSY marked bonds – linkable to more than one treasury benchmark

Credit Default Swap (CDS)	• Varying contract details
	  o Vanilla fixed coupon CDS
	  o Amortizing notional CDS
	  o Fixed recovery CDS
	• Standardized CDS varieties
	  o ISDA style, with variants for NA SNAC, EU standard CDS, EM's STEM contract
	  o Standard 100 bps/500 bps with upfront quotes
	  o Support for old style pure running CDS
	• Custom CDS
	  o Notional/recovery schedule
	  o Highly flexible period generation and settlement rules

Credit Default Swap Index (CDX)	• Supports all the standard CDX indices traded, including CDX NA variants (on-the run and off the runs varieties), and iTRAXX EUR series, different versions and tenors
	  o CDX NA – IG, HY, HY.B, HY.BB, HVOL, XO, EM
	  o LCDX, SovX, Trac-X, LevX, TRACERS (Check CDX Coverage for the comprehensive list)
	  o ITRAXX EUR – IG, HY, HVOL, XO, NON_FIN, FIN_SNR, FIN_SUB
	• Custom CDS baskets
	  o Customizable components and their weights
	  o Customizable outstanding notional and coupon schedules, as well as component amortization schedules

Bond Basket	• Support for the standard iShares ETF
	• Support for the creation of customizable bond baskets
	  o Customizable components and their weights
	  o Customizable outstanding notional and coupon schedules, as well as component amortization schedules

Fixed Income Analytics Coverage

Category	Details
Holiday	▪ Support for holiday schedules of 126 jurisdictions
Day Count Conventions	▪ Supports 30+ day count conventions – all the main DCC
Date Adjustment and Roll	▪ Supports 7 different date adjustment/date roll conventions
Date generation	▪ Generation of the standard IR product schedules (Cash/EDF/IRS/treasury) and credit products (CDS/CDX/bond) in accordance with typical generation rules (e.g., IMM) ▪ Forward/backward generation with customizable period pay/accrual/reset dates

Calculated Analytical Measures Coverage

As a general note, product generates three versions of every measure – the base (of non-prefixed) version, the “Fair” of theoretical version, and the “market” version. Further, if the market version is available, the base defaults to that version; otherwise, it defaults to the “fair” version.

Exact measure names are given in the columns below – these names are to be used exactly as listed when querying for a given measure for any purpose (including measure based calibration).

Product	Measure
Bond	• ASW, AssetSwapSpread, FairASW, FairAssetSwapSpread, MarketASW, MarketAssetSwapSpread, MarketASW, MarketAssetSwapSpread • Accrued01, FairAccrued01, MarketAccrued01 • BondBasis, FairBondBasis, MarketBondBasis • CleanDV01, FairCleanDV01, MarketCleanDV01 • CleanPV, FairCleanPV, MarketCleanPV • CleanPrice, FairCleanPrice, MarketCleanPrice • Convexity, FairConvexity, MarketConvexity • CreditBasis, FairCreditBasis, MarketCreditBasis • CreditRisklessParPV, FairCreditRisklessParPV, MarketCreditRisklessParPV • CreditRisklessPrincipalPV, FairCreditRisklessPrincipalPV, MarketCreditRisklessPrincipalPV • CreditRiskyParPV, FairCreditRiskyParPV, MarketCreditRiskyParPV • CreditRiskyPrincipalPV, FairCreditRiskyPrincipalPV,

	MarketCreditRiskyPrincipalPV • DV01, FairDV01, MarketDV01 • DefaultExposure, FairDefaultExposure, MarketDefaultExposure • DefaultExposureNoRec, FairDefaultExposureNoRec, MarketDefaultExposureNoRec • DirtyDV01, FairDirtyDV01, MarketDirtyDV01 • DirtyPV, FairDirtyPV, MarketDirtyPV • DirtyPrice, FairDirtyPrice, MarketDirtyPrice • Duration, FairDuration, MarketDuration • ExpectedRecovery, FairExpectedRecovery, MarketExpectedRecovery • FirstCouponDate, FairFirstCouponRate, MarketFirstCouponRate • FirstIndexRate, FairFirstIndexRate, MarketFirstIndexRate • GSpread, FairGSpread, MarketGSpread • ISpread, FairISpread, MarketISpread • LossOnInstantaneousDefault, FairLossOnInstantaneousDefault, MarketLossOnInstantaneousDefault • PV, FairPV, MarketPV • ParPV, FairParPV, MarketParPV • ParSpread, FairParSpread, MarketParSpread • Price, FairPrice, MarketPrice • PrincipalPV, FairPrincipalPV, MarketPrincipalPV • RecoveryPV, FairRecoveryPV, MarketRecoveryPV • RisklessCleanCouponPV, FairRisklessCleanCouponPV, MarketRisklessCleanCouponPV • RisklessCleanDV01, FairRisklessCleanDV01, MarketRisklessCleanDV01 • RisklessCleanPV, FairRisklessCleanPV, MarketRisklessCleanPV • RiskyCleanCouponPV, FairRiskyCleanCouponPV, MarketRiskyCleanCouponPV • RiskyCleanDV01, FairRiskyCleanDV01, MarketRiskyCleanDV01

	• RiskyCleanPV, FairRiskyCleanPV, MarketRiskyCleanPV • RisklessDirtyCouponPV, FairRisklessDirtyCouponPV, MarketRisklessDirtyCouponPV • RisklessDirtyDV01, FairRisklessDirtyDV01, MarketRisklessDirtyDV01 • RisklessDirtyPV, FairRisklessDirtyPV, MarketRisklessDirtyPV • RiskyDirtyCouponPV, FairRiskyDirtyCouponPV, MarketRiskyDirtyCouponPV • RiskyDirtyDV01, FairRiskyDirtyDV01, MarketRiskyDirtyDV01 • RiskyDirtyPV, FairRiskyDirtyPV, MarketRiskyDirtyPV • TSYSpread, FairTSYSpread, MarketTSYSpread • WorkoutDate, FairWorkoutDate, MarketWorkoutDate • WorkoutFactor, FairWorkoutFactor, MarketWorkoutFactor • WorkoutType, FairWorkoutType, MarketWorkoutType • WorkoutYield, FairWorkoutYield, MarketWorkoutYield • Yield, FairYield, MarketYield • ZSpread, FairZSpread, MarketZSpread • MarktInputType=???
Bond Basket	▪ Accrued ▪ Accrued 01 ▪ Calculation Time ▪ Clean DV01 ▪ Clean Price ▪ Clean Price Default Free ▪ Clean PV ▪ Clean PV Default Free ▪ Convexity ▪ Coupon PV ▪ Dirty DV01 ▪ Dirty Price ▪ Dirty Price Default Free

	▪ Dirty PV ▪ Dirty PV Default Free ▪ Duration ▪ DV01 ▪ Expected Recovery ▪ Fair Clean DV01 ▪ Fair Clean Price ▪ Fair Clean Price Default Free ▪ Fair Clean PV ▪ Fair Clean PV Default Free ▪ Fair Credit Yield Basis ▪ Fair Dirty DV01 ▪ Fair Dirty Price ▪ Fair Dirty Price Default Free ▪ Fair Dirty PV ▪ Fair Dirty PV Default Free ▪ Fair G Spread ▪ Fair I Spread ▪ Fair Notional PV ▪ Fair Par Coupon ▪ Fair Price ▪ Fair Price Default Free ▪ Fair PV ▪ Fair Spread over Treasury benchmark ▪ Fair Upfront ▪ Fair Yield To Maturity ▪ Fair Yield To Maturity Default Free ▪ Fair Yield To Maturity Default Free Duration ▪ Fair Yield To Worst ▪ Fair Yield To Worst Date ▪ Fair Yield To Worst Default Free

	▪ Fair Yield To Worst Default Free Convexity ▪ Fair Yield To Worst Default Free Date ▪ Fair Yield To Worst Default Free Duration ▪ Fair Yield To Worst Default Free Factor ▪ Fair Yield To Worst Convexity ▪ Fair Yield To Worst Duration ▪ Fair Yield To Worst Factor ▪ Fair Z Spread ▪ First Coupon Index ▪ First Index Rate ▪ G Spread ▪ I Spread ▪ Market Credit Yield Basis ▪ Market Clean Price ▪ Market Dirty Price ▪ Market Price ▪ Market Price Default Free ▪ Market Yield to Maturity ▪ Market Yield To Maturity Convexity ▪ Market Yield To Maturity Duration ▪ Market Yield To Worst ▪ Market Yield To Worst Convexity ▪ Market Yield To Worst Date ▪ Market Yield To Worst Duration ▪ Market Yield To Worst Factor ▪ Market I Spread ▪ Market G Spread ▪ Market Z Spread ▪ Principal PV ▪ Recovery PV ▪ Spread over Treasury benchmark

	▪ Yield to Maturity ▪ Yield To Maturity Convexity ▪ Yield To Maturity Duration ▪ Yield To Worst ▪ Yield To Worst Convexity ▪ Yield To Worst Date ▪ Yield To Worst Duration ▪ Yield To Worst Factor ▪ Z Spread
CDS	▪ Accrued, Fair Accrued, Market Accrued ▪ Accrued 01, Fair Accrued 01, Market Accrued 01 ▪ Clean DV01, Fair Clean DV01, Market Clean DV01 ▪ Clean Price, Fair Clean Price, Market Clean Price ▪ Clean PV, Fair Clean PV, Market Clean PV ▪ Dirty PV, Fair Dirty PV, Market Dirty PV ▪ DV01, Fair DV01, Market DV01 ▪ Expected Loss, Fair Expected Loss, Market Expected Loss ▪ Expected Loss No Recovery, Fair Expected Loss No Recovery, Market Expected Loss No Recovery ▪ Loss on Instantaneous Default, Fair Loss on Instantaneous Default, Market Loss on Instantaneous Default ▪ Loss PV, Fair Loss PV, Market Loss PV ▪ Par Spread, Fair Par Spread, Market Par Spread ▪ Premium PV, Fair Premium PV, Market Premium PV ▪ Price, Fair Price, Market Price ▪ PV, Fair PV, Market PV ▪ Upfront, Fair Upfront, Market Upfront
CDX	▪ Accrued ▪ Accrued 01 ▪ Calculation Time ▪ Clean DV01

	▪ Clean Price ▪ Clean PV ▪ Dirty PV ▪ DV01 ▪ Expected Loss ▪ Fair Premium ▪ Loss PV ▪ Premium PV ▪ Price ▪ PV ▪ Upfront

Calculated Risk Measures Coverage

Product	Measure
Bond	▪ Bond G Spread PV 01 ▪ Bond I Spread PV 01 ▪ Bond Price Bumped PV 01 ▪ Bond Yield Bumped PV 01 ▪ Bond TSY Spread PV 01 ▪ Bond Z Spread PV 01 ▪ Parallel Bumped Credit PV 01 ▪ Parallel Bumped Credit PV Gamma ▪ Parallel Bumped IR PV 01 ▪ Parallel Bumped IR PV Gamma ▪ Parallel Bumped Recovery Rate PV 01 ▪ Parallel Bumped RR PV Gamma ▪ Parallel 10% Credit Spread Widening PV Change ▪ Tenor Bumped Credit PV 01 ▪ Tenor Bumped Credit PV Gamma (Same Node) ▪ Tenor Bumped IR PV 01 ▪ Tenor Bumped IR PV Gamma (Same Node) ▪ Tenor Bumped Recovery Rate PV 01 ▪ Tenor Bumped RR PV Gamma (Same Node) ▪ FX Spot PV 01 (as applicable)
Bond Basket	▪ Flat G Spread PV 01 ▪ Flat I Spread PV 01 ▪ Flat Price Bumped PV 01 ▪ Flat Yield Bumped PV 01 ▪ Flat TSY Spread PV 01 ▪ Flat Z Spread PV 01 ▪ Flat Parallel Bumped Credit PV 01

	▪ Flat Parallel Bumped Credit PV Gamma ▪ Flat Parallel Bumped IR PV 01 ▪ Flat Parallel Bumped IR PV Gamma ▪ Flat Parallel Bumped Recovery Rate PV 01 ▪ Flat Parallel Bumped RR PV Gamma ▪ Flat Parallel 10% Credit Spread Widening PV Change ▪ Component Bond G Spread PV 01 ▪ Component Bond I Spread PV 01 ▪ Component Bond Price Bumped PV 01 ▪ Component Bond Yield Bumped PV 01 ▪ Component Bond TSY Spread PV 01 ▪ Component Bond Z Spread PV 01 ▪ Component Parallel Bumped Credit PV 01 ▪ Component Parallel Bumped Credit PV Gamma ▪ Component Parallel Bumped IR PV 01 ▪ Component Parallel Bumped IR PV Gamma ▪ Component Parallel Bumped Recovery Rate PV 01 ▪ Component Parallel Bumped RR PV Gamma ▪ Component Parallel 10% Credit Spread Widen ▪ Flat Tenor Bumped Credit PV 01 ▪ Flat Tenor Bumped Credit PV Gamma (Same Node) ▪ Flat Tenor Bumped IR PV 01 ▪ Flat Tenor Bumped IR PV Gamma (Same Node) ▪ Flat Tenor Bumped Recovery Rate PV 01 ▪ Flat Tenor Bumped RR PV Gamma (Same Node) ▪ Component Tenor Bumped Credit PV 01 ▪ Component Tenor Bumped Credit PV Gamma (Same Node) ▪ Component Tenor Bumped IR PV 01 ▪ Component Tenor Bumped IR PV Gamma (Same Node) ▪ Component Tenor Bumped Recovery Rate PV 01 ▪ Component Tenor Bumped RR PV Gamma (Same Node)

	▪ FX Spot PV 01 (as applicable)
CDS	▪ Parallel Bumped Credit Fair Premium 01 ▪ Parallel Bumped Credit Fair Premium Gamma ▪ Parallel Bumped Credit PV 01 ▪ Parallel Bumped Credit PV Gamma ▪ Parallel Bumped Credit Upfront 01 ▪ Parallel Bumped Credit Upfront Gamma ▪ Parallel Bumped IR Fair Premium 01 ▪ Parallel Bumped IR Fair Premium Gamma ▪ Parallel Bumped IR PV 01 ▪ Parallel Bumped IR PV Gamma ▪ Parallel Bumped IR Upfront 01 ▪ Parallel Bumped IR Upfront Gamma ▪ Parallel Bumped Recovery Rate Fair Premium 01 ▪ Parallel Bumped Recovery Rate Fair Premium Gamma ▪ Parallel Bumped Recovery Rate PV 01 ▪ Parallel Bumped Recovery Rate PV Gamma ▪ Parallel Bumped Recovery Rate Upfront 01 ▪ Parallel Bumped Recovery Rate Upfront Gamma ▪ Parallel 10% Credit Spread Widening PV Change ▪ Tenor Bumped Credit Fair Premium 01 ▪ Tenor Bumped Credit Fair Premium Gamma (Same Node) ▪ Tenor Bumped Credit PV 01 ▪ Tenor Bumped Credit PV Gamma (Same Node) ▪ Tenor Bumped Credit Upfront 01 ▪ Tenor Bumped Credit Upfront Gamma (Same Node) ▪ Tenor Bumped IR Fair Premium 01 ▪ Tenor Bumped IR Fair Premium Gamma (Same Node) ▪ Tenor Bumped IR PV 01 ▪ Tenor Bumped IR PV Gamma (Same Node) ▪ Tenor Bumped IR Upfront 01

	▪ Tenor Bumped IR Upfront Gamma (Same Node) ▪ Tenor Bumped Recovery Rate Fair Premium 01 ▪ Tenor Bumped Recovery Rate Fair Premium Gamma (Same Node) ▪ Tenor Bumped Recovery Rate PV 01 ▪ Tenor Bumped Recovery Rate PV Gamma (Same Node) ▪ Tenor Bumped Recovery Rate Upfront 01 ▪ Tenor Bumped Recovery Rate Upfront Gamma (Same Node)
CDX	▪ Flat Parallel Bumped Credit Fair Premium 01 ▪ Flat Parallel Bumped Credit Fair Premium Gamma ▪ Flat Parallel Bumped Credit PV 01 ▪ Flat Parallel Bumped Credit PV Gamma ▪ Flat Parallel Bumped Credit Upfront 01 ▪ Flat Parallel Bumped Credit Upfront Gamma ▪ Flat Parallel Bumped IR Fair Premium 01 ▪ Flat Parallel Bumped IR Fair Premium Gamma ▪ Flat Parallel Bumped IR PV 01 ▪ Flat Parallel Bumped IR PV Gamma ▪ Flat Parallel Bumped IR Upfront 01 ▪ Flat Parallel Bumped IR Upfront Gamma ▪ Flat Parallel Bumped Recovery Rate Fair Premium 01 ▪ Flat Parallel Bumped Recovery Rate Fair Premium Gamma ▪ Flat Parallel Bumped Recovery Rate PV 01 ▪ Flat Parallel Bumped Recovery Rate PV Gamma ▪ Flat Parallel Bumped Recovery Rate Upfront 01 ▪ Flat Parallel Bumped Recovery Rate Upfront Gamma ▪ Flat Parallel 10% Credit Spread Widening PV Change ▪ Component Parallel Bumped Credit Fair Premium 01 ▪ Component Parallel Bumped Credit Fair Premium Gamma ▪ Component Parallel Bumped Credit PV 01 ▪ Component Parallel Bumped Credit PV Gamma ▪ Component Parallel Bumped Credit Upfront 01

	▪ Component Parallel Bumped Credit Upfront Gamma ▪ Component Parallel Bumped IR Fair Premium 01 ▪ Component Parallel Bumped IR Fair Premium Gamma ▪ Component Parallel Bumped IR PV 01 ▪ Component Parallel Bumped IR PV Gamma ▪ Component Parallel Bumped IR Upfront 01 ▪ Component Parallel Bumped IR Upfront Gamma ▪ Component Parallel Bumped Recovery Rate Fair Premium 01 ▪ Component Parallel Bumped Recovery Rate Fair Premium Gamma ▪ Component Parallel Bumped Recovery Rate PV 01 ▪ Component Parallel Bumped Recovery Rate PV Gamma ▪ Component Parallel Bumped Recovery Rate Upfront 01 ▪ Component Parallel Bumped Recovery Rate Upfront Gamma ▪ Component Parallel 10% Credit Spread Widening PV Change ▪ Flat Tenor Bumped Credit Fair Premium 01 ▪ Flat Tenor Bumped Credit Fair Premium Gamma (Same Node) ▪ Flat Tenor Bumped Credit PV 01 ▪ Flat Tenor Bumped Credit PV Gamma (Same Node) ▪ Flat Tenor Bumped Credit Upfront 01 ▪ Flat Tenor Bumped Credit Upfront Gamma (Same Node) ▪ Flat Tenor Bumped IR Fair Premium 01 ▪ Flat Tenor Bumped IR Fair Premium Gamma (Same Node) ▪ Flat Tenor Bumped IR PV 01 ▪ Flat Tenor Bumped IR PV Gamma (Same Node) ▪ Flat Tenor Bumped IR Upfront 01 ▪ Flat Tenor Bumped IR Upfront Gamma (Same Node) ▪ Flat Tenor Bumped Recovery Rate Fair Premium 01 ▪ Flat Tenor Bumped Recovery Rate Fair Premium Gamma (Same Node) ▪ Flat Tenor Bumped Recovery Rate PV 01 ▪ Flat Tenor Bumped Recovery Rate PV Gamma (Same Node) ▪ Flat Tenor Bumped Recovery Rate Upfront 01

	▪ Flat Tenor Bumped Recovery Rate Upfront Gamma (Same Node) ▪ Component Tenor Bumped Credit Fair Premium 01 ▪ Component Tenor Bumped Credit Fair Premium Gamma (Same Node) ▪ Component Tenor Bumped Credit PV 01 ▪ Component Tenor Bumped Credit PV Gamma (Same Node) ▪ Component Tenor Bumped Credit Upfront 01 ▪ Component Tenor Bumped Credit Upfront Gamma (Same Node) ▪ Component Tenor Bumped IR Fair Premium 01 ▪ Component Tenor Bumped IR Fair Premium Gamma (Same Node) ▪ Component Tenor Bumped IR PV 01 ▪ Component Tenor Bumped IR PV Gamma (Same Node) ▪ Component Tenor Bumped IR Upfront 01 ▪ Component Tenor Bumped IR Upfront Gamma (Same Node) ▪ Component Tenor Bumped Recovery Rate Fair Premium 01 ▪ Component Tenor Bumped Recovery Rate Fair Premium Gamma (Same Node) ▪ Component Tenor Bumped Recovery Rate PV 01 ▪ Component Tenor Bumped Recovery Rate PV Gamma (Same Node) ▪ Component Tenor Bumped Recovery Rate Upfront 01 ▪ Component Tenor Bumped Recovery Rate Upfront Gamma (Same Node)