

## TREASURY AND CAPITAL MARKETS

### FUSION INVEST

# Managing Inflation with Confidence

Finastra Fusion Invest offers powerful portfolio and risk management tools to help investment managers, pension fund advisors and solutions-based analysts manage inflation.



Inflation derivatives are vital in helping insurers mitigate the negative effect of low real interest rate environments and inflation uncertainty.”

#### Vital but Complex Instruments

Inflation derivatives are a fundamental building block of a diversified, risk-adjusted and goal-oriented portfolio. They offer an element of inflation hedging and help diversify the fixed income assets that make up an increasing percentage of portfolios today.

Fusion Invest offers a comprehensive inflation asset class including:

- Inflation-indexed securities (linkers) that allow asset managers preserve a real yield and increase the diversification of their investment portfolios
- Inflation derivatives that provide the asset managers from vanilla to complex pay-off for inflation risk hedging across various risk profiles

The inflation asset class is supported by a fully integrated system front-to-back including order raising for inflation securities, real-time portfolio and risk management, flexible data management, reliable analytics including stress tests scenarios, fast and accurate reporting.

#### Fusion Invest: Integrated Portfolio and Investment Management

To provide market professionals with the tools they need to manage their portfolio of inflation products effectively, Fusion Invest offers:

- Support for inflation indices with indexation types across country specificities
- Support of inflation expressed as a unit of account (virtual currency)
- Extensive pricing and risk of inflation products, including emerging countries
- Comprehensive lifecycle support including cash-flow and expiries
- Flexible data management with assignment of inflation curves by instrument
- Risk analytics for real-time risk management and efficient hedging

# Powerful Inflation Derivatives Management Tools for Risk and Portfolio Managers

Get a better view of inflation and interest rate risk to protect against macro-economic risks. Use broad product coverage to support timely decisions and diversification in developed and emerging markets.



Coverage includes listed and OTC inflation products across Europe, North America, Asia and Latin America.

## **Solutions for Risk and Portfolio Managers**

Fusion Invest offers a detailed integrated risk view for both portfolio managers and risk managers. On one hand it allows portfolio managers to capture an aggregated view of both interest rate and inflation risk at the same time, split by position and maturity buckets; on the other hand, the inflation risk in Value at Risk and Stress tests are in line with the front office exposure and other market risk factors.

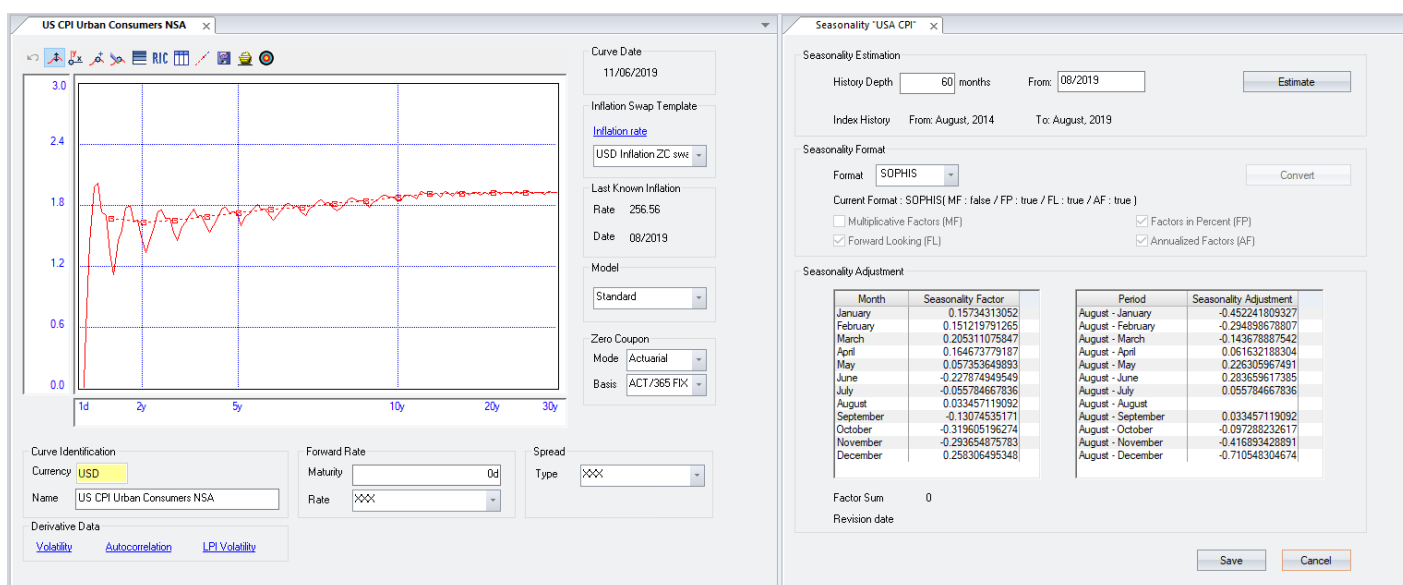
## **Fusion Invest for Portfolio Management**

- Real-time portfolio view that aggregates all positions:
  - Position-keeping, hedging and P&L calculation with marked to market and theoretical prices
- Easy drill-down of the portfolio with on-the-fly aggregated reports by currency, underlying rate, maturity, counterparty
- Real-time P&L breakdown:
  - Unrealized, realized, accrued, ex-coupon, cash income
- Dedicated inflation indicators:
  - Inflation fixings and projected rates, real and nominal YTM, inflation break-even, IE01, inflation convexity, inflation vega
- Lifecycle management:
  - Automatic management of coupons, fixings, expiries, exercises, rebase
  - Generation of alerts

## **Fusion Invest for Risk Management:**

The alignment of the market risks across the front office and risk management is a true benefit of our integrated system.

- Standard sensitivities by position and by underlying: DV01 (basis and spread), inflation sensitivity, inflation convexity, Inflation vega, theta
- Inflation risk aligned to interest rate risk in terms of methodology and preferences, while computing both risks at the same time
- Exposure to the inflation rate and inflation market volatilities by time bucket
- Tracking error to fixed income benchmarks
- Breakdown of inflation first order exposures by inflation derivatives for Parametric VaR and tracking error
- Historical and Monte-Carlo Value at Risk with shocks applied to the inflation curve and inflation volatility, including shock adjustments on index release date and start of month
- Stress tests with flexible curve transformations, e.g. inflation steepener/flattener



## USA CPI Curve implied by swap prices and historical seasonality

### Product Coverage

Our large product coverage (17 countries worldwide, including Europe, North America, Asia and Latin America) enables inflation asset managers to maintain or extend the investment more easily in most of the developed and emerging markets, with inflation linked securities, as well as inflation derivatives (inflation swaps and options).

The inflation derivatives are supported by a reliable pricing model accounting for the inflation rate volatility and autocorrelation which fits perfectly the inflation market products prices.

### Bonds: Deterministic Pricing

- Inflation-linked bonds with local indexation rules for Europe, US, Canada, Japan, Australia and emerging countries such as Argentina, Brazil, Chile, Columbia, Mexico
- Specific cash flow structures for emerging country government debts such as Brazil, Argentina and Mexico

### Futures and Swaps: Deterministic Pricing with Convexity Adjustment

- HICP futures, DI-indexed futures
- Zero-coupon and year-on-year swaps
- Capped/Floored inflation swaps

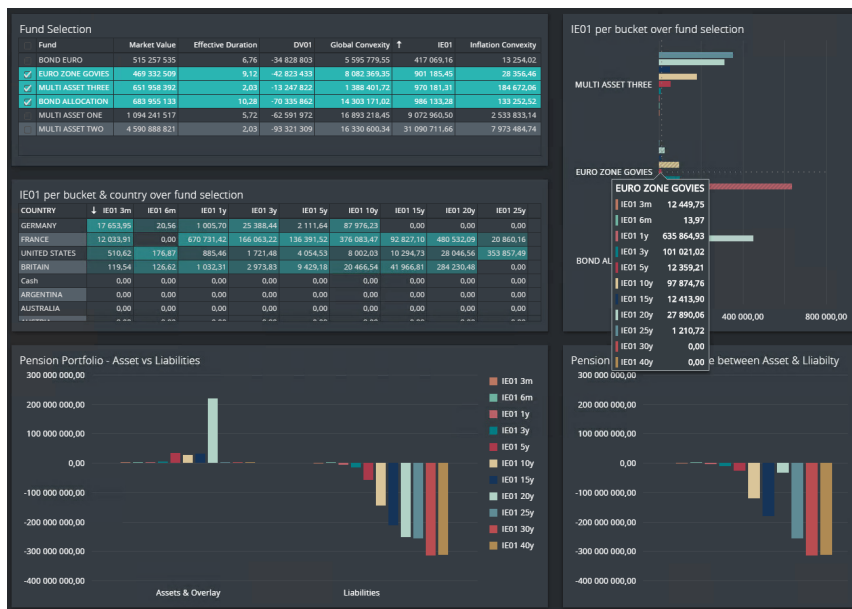
### Options: Hybrid Inflation-Interest Rate Diffusion (Brigo-Mercurio, 2006) with Closed Formulae

- Caps and floors: zero-coupon, year-on-year, digital
- Swaptions: zero-coupon (zero-coupon cap)

### Structured Inflation Swap: Greenwood Model with SABR Calibration

- LPI swaps: compounded period-on-period capped/floored inflation, with floor protection

# Use Inflation Market Data From Leading Data Providers To Input Into Your Investment Risk Computations



Inflation sensitivity dashboard

## Contracts and Market Data Support

Market data is the building block of an investment portfolio, along with accurate analytics and reporting. Our comprehensive source of inflation market data allows asset managers to assign with a high precision and flexibility, the correct data to their inflation products.

The market data coverage is completed with a connectivity to the primary market data providers allowing our users to schedule regular uploads of their data.

With inflation specifically, market data can be calibrated from inflation market products prices including seasonal and convexity adjustments.

## Inflation Index

- Automatic update of inflation index history (Bloomberg)
- Large coverage of inflation fixing lags and interpolation rules including "Start of Month" rules, linear interpolation rules and specific Brazilian, Argentinian, Japanese and Australian rules

## Inflation Curves

- Several inflation curves by inflation index - defines different inflation curves by market instrument
- Automatic update of the inflation curve market points with ZC Inflation swap rates. Real-time market feed (Bloomberg, Reuters)

- Implied inflation curves from zero-coupon swaps, year-on-year swaps, or real bond prices
- Manage regional inflation or multiple indices with Inflation cross index spread curves e.g. IT CPI vs EU HICP or UK CPI vs UK RPI curves
- Seasonality adjustments with historical seasonal factors estimated from an ARIMA(11) process
- Convexity adjustments on the forward rate for year-on-year and forward starting ZC Inflation rate
- Automatic upload of inflation bond definitions

## Inflation Volatility and Correlation

- Volatility calibration from year-on-year inflation cap and floors prices, caplet/floorlet volatilities
- Cross-asset correlation matrices including interest rates, inflation, equities and FX, auto-correlation for inflation

For more information on how we can help with your inflation derivatives management, or other investment management issues, please contact us at [capitalmarkets@finastra.com](mailto:capitalmarkets@finastra.com) or visit: [finastra.com/investment-management](https://finastra.com/investment-management)

## About Finastra

Finastra is building an open platform that accelerates collaboration and innovation in financial services, creating better experiences for people, businesses and communities. Supported by the broadest and deepest portfolio of financial services software, Finastra delivers this vitally important technology to financial institutions of all sizes across the globe, including 90 of the world's top100 banks. Our open architecture approach brings together a number of partners and innovators. Together we are leading the way in which applications are written, deployed and consumed in financial services to evolve with the changing needs of customers. Learn more at [finastra.com](https://finastra.com)

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