

## PORTFOLIO & RISK ANALYTICS

# FIXED INCOME SOLUTIONS

# Bloomberg



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**TAKE CONTROL  
OF YOUR FIXED  
INCOME PORTFOLIO  
WITH BLOOMBERG'S  
PORTFOLIO &  
RISK ANALYTICS  
SOLUTION**

# INTRODUCING BLOOMBERG PORTFOLIO & RISK ANALYTICS

## PORT <GO> – A PORTFOLIO VIEW DESIGNED WITH YOUR FIXED INCOME WORKFLOW IN MIND

As a Fixed Income Portfolio Manager, your performance depends on various factors. You must manage and anticipate changes in complex markets every day, plan for every possibility and execute accordingly. You also need a flexible plan for responding to economic, financial and political changes. The challenges have never been greater.

Bloomberg's Portfolio & Risk Analytics solution brings together the critical data and analytical features needed to manage your fixed income portfolios. Our platform will help

you make quicker, more informed decisions and enable you to measure market-related and security-specific risk exposures for your portfolios. At Bloomberg, we are committed to continuously adding greater clarity to your investment decision making and ensuring that you feel completely confident in these critical decisions. Our PORT solution is fully integrated with the Bloomberg Professional® service at no additional fee—providing unparalleled access to the broad range of sophisticated tools required by today's asset managers.

## ACTIVE PORTFOLIO MANAGEMENT SOLUTION

### PAST

- » Backtesting
- » Performance Attribution
- » Historical Performance
- » Characteristics
- » Historical Risk



### PRESENT

- » Real Time P&L
- » Portfolio Driven News and Alerts
- » Portfolio Characteristics
- » Excel and PDF Reporting
- » Mobile Access



### FUTURE

- » Tracking Error/Volatility
- » Value-at-Risk
- » Scenario Analysis
- » Trade Simulation
- » Forward Looking Risk

Take advantage of our powerful portfolio solutions across four major fixed income markets:

- » Domestic Taxable Income
- » High Yield & Loans
- » Municipal Bonds
- » Emerging Market & Global

# DOMESTIC TAXABLE FIXED INCOME

## THE U.S. DOMESTIC BOND MARKET IS ONE OF THE LARGEST IN THE WORLD

Portfolio managers need to navigate the risks and opportunities across hundreds of return drivers throughout the Sovereign, Credit and Securitized markets. Access to daily market data, including news, a comprehensive security master database, and a flexible platform for portfolio and risk analysis is critical to your success.

## CHARACTERISTICS

Analyze the characteristics of your fixed income portfolio as of a specific date or a time series trend. Track your portfolio's duration, yield, spread and many other metrics relative to your benchmark over time.

- » Aggregate by any classification, such as sector, duration, quality, or a custom scheme that you define
- » Access to most major third-party indices as well as the new Bloomberg Index family
- » Drill down to the security level and launch your favorite Bloomberg functions

10 View - 10 Actions - 10 Settings - 10 Trade Simulation - Portfolio & Risk Analytics									
Characteristics Attribution Performance Tracking Error/Volatility VaR Intraday Holdings Scenarios									
Main View Summary Cash Flows Liquidity Risk Key Rates									
Port DOMESTIC BON vs INV GRADE IN by BICS Sectors In USD As Of 08/24/15									
Date Trend									
Name		wgt			OAD			YTM	
	Port	Bmrk	+/-	Port	Bmrk	+/-	Port	Bmrk	+/-
DOMESTIC BOND FUND	100.00	100.00	0.00	5.17	4.91	0.25	2.41	2.09	0.32
Basic Materials		1.84	-1.84		1.35	-1.35		3.52	-3.52
Cash	0.08		0.08	0.00		0.00	0.00		0.00
Communications	11.78	4.36	7.43	10.73	2.19	8.54	4.45	3.40	1.05
Consumer, Cyclical	3.76	5.83	-2.07	13.36	2.18	11.18	4.77	1.99	2.78
Consumer, Non-cyclical	4.97	2.92	2.05	0.75	1.74	-0.99	1.02	2.37	-1.35
Energy		1.05	-1.05		3.77	-3.77		8.26	-8.26
Financial	15.30	15.33	-0.03	5.17	3.31	1.87	2.72	2.53	0.18
Government	40.21	45.71	-5.50	4.82	7.42	-2.60	1.25	1.61	-0.36
Mortgage Securities	23.89	21.05	2.84	2.64	2.82	-0.18	3.06	1.97	1.10
Technology		0.92	-0.92		5.01	-5.01		3.86	-3.86
Utilities		0.99	-0.99		3.67	-3.67		2.68	-2.68

Holdings as of: 8/2/2015

Submitted at: 08/25/2015

Zoom 100%

## Characteristics

Track your portfolio's duration, yield, spread and many other metrics relative to your benchmark over time.



## CHARACTERISTICS – KEY RATE SUMMARY

Changes in interest rates are one of the primary drivers of risk and return for investment grade bond portfolios. Capture your daily exposures to changes in either the

Sovereign or Swap curve using Bloomberg's state of the art security valuation models.



### Key Rates

Analyze your term structure risk relative to a benchmark.

## ATTRIBUTION

Analyze relative performance by examining factors such as curve effect, spread effect, allocation and security selection.

- » Easy drill down for full data transparency to gain a greater understanding of the investment decisions driving returns
- » Flexible classification schemes to mirror your allocation decisions

- » Detailed breakout of curve outperformance
- » Comprehensive model choices to accommodate allocation by market weights or spread duration weights



### Attribution

Understand why your portfolio outperformed or underperformed the benchmark.

## TRACKING ERROR/VOLATILITY

Analyze your portfolio's ex-ante (predicted) risk utilizing Bloomberg's fixed income risk factor model. You can also analyze your portfolio's ex-ante risk as of an historical date.

» Integrated model covering hundreds of factors

- » Full transparency of factor returns, volatilities and correlations
- » Factor model also used in scenario analysis, VaR, and portfolio construction



### Tracking Error/Volatility

Quickly isolate the intended or unintended bets relative to your benchmark based on curve, spread and sector exposures.

## TRANSACTIONS-BASED ATTRIBUTION

Understand how your transactions and transacted price levels impacted the bond portfolio's total return over a historical time period.

- » Quickly identify which trades contributed or detracted from total return

- » Isolate transaction returns at the instrument level
- » Analyze Transaction Effect, which quantifies the contribution to return due to historical trades



## Transactions-Based Attribution

Attribute how much of your active return was due to transactions.

FACTOR BASED ATTRIBUTION

Leverage PORT's risk factor model to understand the historical sources of return for your portfolio and benchmark.

» Use the same comprehensive risk factors (curve, spread, inflation, etc.) within ex-ante Tracking Error to explain historical returns

- » Drill down to granular explanatory factors to isolate intended or unintended drivers of return
- » Access the Trends tab to identify how the contribution to return from key risk factors has varied over time



**Factor Based Attribution**  
Gain insight into the sources of historical return leveraging Bloomberg's risk factor model.



# HIGH YIELD & LOAN PORTFOLIOS

## COMPREHENSIVE PORTFOLIO ANALYTICS

PORT <GO> brings together the critical data and analytical features needed to manage your multi-asset portfolios. High yield managers can easily analyze industry exposure and historical performance across high yield bonds, loans, and credit default swap instruments.

## FUNDAMENTAL ANALYSIS

- » Characteristics, risk, return, scenario analysis and intraday performance delivered in one function.
- » Streamlined portfolio management workflow.

## INTEGRATION WITH THE TERMINAL

- » Use LOAN <GO> and LSRC <GO> to monitor and analyze trends in the primary and secondary syndicated loan markets and create and share customized lists of loans.
- » Monitor fixed income credit movements using FICM <GO> and identify potential distressed debt investment opportunities in DIS <GO>

## COVERAGE & PRICING FOR OVER TWO MILLION FIXED INCOME INSTRUMENTS

- » Bloomberg's database has 35,000+ term loans and includes critical information from pre-mandate through syndication to retirement or maturity
- » Benefit from transparent pricing that incorporates multiple sources and quantitative models with BVAL, Bloomberg's proprietary valuation service. BVAL provides pricing on 2,000,000+ fixed income instruments including 9,000+ loans in addition to real-time intraday MSG1 pricing incorporated into the PORT Intraday tab

## POSITIONS & AGGREGATED ANALYTICS

View current positions, market value, weights and allocations across sector, security type, ratings or a custom grouping model. Analyze the fundamental characteristics of your fixed income portfolio as of a specific date or as a time series trend. View loan-specific fields such as loan tranche size and loan purpose and aggregate fixed income analytics like Yield to Maturity (YTM) or Modified Duration (Mod Dur) across multiple asset types.

Portfolio & Risk Analytics									
Main View Summary Cash Flows Liquidity Risk Key Rates									
Port	LOANS	vs	None	by	Security Type	In	USD	As Of	08/24/15
								Date	Trend
Name	Wgt	YTM	Mod Loan Purp	Loan Tranche	Loan Size	Loan Type	Loan Issue	Moody/S&P	Current Margin
LOANS	100.00	6.16	0.64					Ba3 BB	
Corporate Bonds	11.89	4.30	0.22					B2 B+	
HCA 7.19 11/15/15	11.89	4.30	0.22					B2 B+	
Term Loans	88.11	6.41	0.70					Ba2 BB	
ATICHN TL B 1L EUR	12.52	4.71	3.94 LBO	140,000,000.00	Y	TERM	SIGNED	B1 B+	350.00
CIFGR TL B2 1L EUR	10.96	19.14	0.00 LBO	287,000,000.00	N	TERM	SIGNED		525.00
CIFGR TL B3 1L EUR	0.00			460,000,000.00	N	TERM	REFINANCED		525.00
ERICOH P1K-TERM B1 1L EUR	0.00		REFINANCE DEBT	107,000,000.00	N	P1K TERM	REFINANCED	B3 B	300.00
HCA TL B4 1L USD	11.59	3.16	0.17 REFINANCE DEBT	2,372,848,246.12	N	TERM	SIGNED	Ba2 BBB-	275.00
INERLN TL B 1L EUR	13.49	4.92	0.16 LBO	200,000,000.00	N	TERM	SIGNED		500.00
KHC TL B2 1L USD	0.00			6,550,000,000.00	Y	TERM	REFINANCED		250.00
HGH TL A 1L USD	11.63	3.18	0.07 REFINANCE DEBT	1,050,000,000.00	N	TERM	SIGNED	Ba2 BB	275.00
UNIFOR TL B 1L EUR	13.31	5.13	0.01 LBO	129,500,000.00	N	TERM	SIGNED		475.00
VERUSH TL 1L EUR	12.61	6.03	0.24 GENERAL CORPORATE PURPOSES	50,000,000.00	N	TERM	SIGNED		650.00

## Characteristics

Track your portfolio's duration, yield, spread and many other metrics relative to your benchmark over time.

## MEASURES OF PORTFOLIO RISK

Analyze your portfolio's ex-ante (predicted) risk utilizing Bloomberg's fixed income risk factor model in the Tracking Error tab. Easily isolate intended and unintended bets based on curve, spread and sector. The fundamental factor model has individual factors to capture the additional spread volatility of high yield and distressed instruments as compared to investment grade bonds. Use the VaR tab to break down your portfolio's ex-ante risk using Monte Carlo or Historical Value-at-Risk methods. Evaluate the impact of historical stress scenarios like the Lehman Brothers collapse (2008) or the more recent oil crisis in Libya (2011) or create custom scenarios like spreads widen 20% or rates increase 100bps in the Scenarios tab.

## PORTFOLIO CONSTRUCTION TOOLS

Leverage PORT's 'What-if' capabilities to analyze the impact of hypothetical trades on your portfolio's duration and other risk measures. Interactively compare your simulated portfolio relative to a benchmark or your original portfolio. The Bloomberg Portfolio Optimizer incorporates the latest advances in optimization technology, and offers portfolio managers advanced capabilities for constructing and rebalancing global portfolios with tailored risk, return and exposure characteristics.

## REAL-TIME PERFORMANCE

Use the Intraday tab to track portfolio movements throughout the trading day and measure real-time return for fixed income and balanced portfolios. Fixed Income intraday is unique because it leverages numerous intraday pricing feeds available via the Bloomberg Terminal. Among other sources, the Intraday tab also incorporates the MSG1 pricing source, which is derived from pricing sent to your inbox using Bloomberg's proprietary Message Mining algorithm.

## HISTORICAL PERFORMANCE & ATTRIBUTION

Identify sources of outperformance or underperformance based on interest rate bets, sector allocations and security selection decisions. Use the Brinson attribution model to analyze a high yield portfolio on a total return basis with allocation and security selection effects. View the historical portfolio performance across multiple time periods and analyze historical risk-adjusted return statistics like Sharpe Ratio and Information Ratio in the Performance tab.

The screenshot displays the 'Intraday' tab in the Bloomberg PORT interface. The top navigation bar includes '10 View', '12 Actions', '13 Settings', '14 Trade Simulation', and 'Portfolio & Risk Analytics'. Below this, the 'Main View' is active, showing a table of portfolio holdings. The table columns include Name, Basis Points, EQ Prices, Primary, FI Prices (Bid Pricing), MSG1, TRAC, EXCH, CBB, and Price. The portfolio is named 'LOANS' and is compared to 'None'. The table lists various holdings such as 'Basic Materials', 'AIGEN TL B 1L EUR', 'Communications', 'EIRCOM PDK-TERM B1 1L EUR', 'INFILN TL B 1L EUR', 'Consumer, Cyclical', 'CJGR TL B2 1L EUR', 'CJGR TL B3 1L EUR', 'MGM TL A 1L USD', 'Consumer, Non-cyclical', 'HCA 7-19 11/15/15', 'HCA TL B4 1L USD', and 'KHC TL B2 1L USD'. The table also shows real-time pricing data for each holding.

Name	Basis Points	EQ Prices	Primary	FI Prices (Bid Pricing)	MSG1	TRAC	EXCH	CBB	Price	Pr Chg (%)
LOANS	11	100.00	-80.85	-80.85	855,367	-7,494				
Basic Materials	1	13.50	-13.75	-101.70	115,501	-1,187				
AIGEN TL B 1L EUR		13.50	-13.75	-101.70	115,501	-1,187	BVAL	100,000.00	100,000.00	-0.12
Communications	2	13.48	-12.04	-89.38	115,336	-1,079				
EIRCOM PDK-TERM B1 1L EUR							BVAL	100,000.00	100,000.00	0.00
INFILN TL B 1L EUR		13.48	-12.04	-89.38	115,336	-1,079	BVAL	100,000.00	100,000.00	0.00
Consumer, Cyclical	3	22.60	-9.65	-42.72	194,085	-833				
CJGR TL B2 1L EUR		10.96	-9.75	-88.92	93,785	-841	BVAL	100,000.00	81,250,000	0.00
CJGR TL B3 1L EUR							BVAL	100,000.00	100,000.00	0.00
MGM TL A 1L USD		11.73	0.10	0.85	100,321	9	BVAL	100,000.00	99,750,000	0.00
Consumer, Non-cyclical	4	37.03	-37.85	-202.05	216,748	-3,260				
HCA 7-19 11/15/15		11.75	-14.48	-205.34	100,497	-3,105	TRAC	100,000.00	98,500,000	-2.11
HCA TL B4 1L USD		11.68	-1.75	-11.68	99,898	-115	BVAL	100,000.00	99,625,000	-0.13
KHC TL B2 1L USD								100,000.00		

### Intraday

Monitor the intraday return of your fixed income portfolio by leveraging Bloomberg's intraday fixed income pricing sources, including MSG1 pricing.



### Attribution

Analyze how the structure of your portfolio contributed to your active performance.

# MUNICIPAL BOND PORTFOLIOS

## REVIEW INVESTMENT DECISIONS

The ability to review and report how investment decisions are contributing to portfolio risk and return is more important than ever. The Bloomberg Professional service is the most comprehensive platform for understanding and communicating portfolio performance and analyzing risk. Quickly see if your portfolio reflects your investment strategy, how guarantor/state/duration bets impact portfolio risk, the effect of proposed trades, and sources of portfolio active return.

## CHARACTERISTICS

Bloomberg has updated terms and conditions for approximately 1 million municipal bonds. View portfolio allocation by State, Credit Quality, Yield, and more in order to identify exposure to a given sector of the market. Track portfolio and muni industry level analytics such as duration, yield, and credit quality to understand the overall portfolio structure.



### Characteristics

Track your portfolio's duration, yield, spread and many other metrics relative to your benchmark over time.



CASH FLOWS

Project portfolio cash flows out over a horizon date so that you can better anticipate the timing and magnitude of principal and interest payments. Cash flows can be generated to call date, maturity, or workout and viewed in either a chart or table.



**Cash Flows**  
Provides a forecast of cash flow runoff for your fixed income portfolio.



**Scenario Analysis**  
Simulate how your portfolio performs in various interest rate environments by shocking the municipal bond curve.



PERFORMANCE ATTRIBUTION

Analyze the portfolio's active return versus the benchmark in terms of curve and excess return using Bloomberg's AAA GO REV Muni Curve in order to communicate how interest rate strategy, asset allocation, and security selection have impacted the portfolio's return.



**Performance Attribution**  
Analyze how the structure of your portfolio contributed to your active performance.

TRANSACTIONS-BASED ATTRIBUTION

Understand how your transactions and transacted price levels impacted the portfolio's total return over a historical time period.

- » Quick identify which trades contributed or detracted from total return

- » Isolate transaction returns at the instrument level
- » Analyze Transaction Effect, which quantifies the contribution to return due to historical trades



**Transactions-Based Attribution**  
Attribute how much of your active return was due to transactions.

FACTOR BASED ATTRIBUTION

Leverage PORT's ex-ante fundamental risk factor model to understand the historical sources of return for your municipal bond portfolio and benchmark.

- » Use the same comprehensive risk factors (muni curve, state exposure, etc.) within ex-ante Tracking Error to explain historical returns
- » Drill down to granular explanatory factors to isolate intended or unintended drivers of return

» Access the Trends tab to identify how the contribution to return from key risk factors has varied over time

Combining industry leading analytics with the most reliable market data available, the Bloomberg Professional service provides portfolio managers with a powerful solution for the analysis of municipal bond portfolios.



**Factor Based Attribution**  
Gain insight into the sources of historical return leveraging Bloomberg's risk factor model.

# EMERGING MARKET & GLOBAL PORTFOLIOS

## ROBUST EMERGING MARKET COVERAGE

For emerging markets and/or global fixed income portfolio managers, PORT <GO> can facilitate your investment process offering cutting-edge fundamentally-based modeling techniques to managing the risk of your portfolios. PORT <GO> also perfectly bridges your risk investment decisions to performance using factor-based performance attribution models.

As a growing proportion of the financial system adopts rigorous risk management techniques and incorporates them in making investment decisions, emerging markets and global fixed income investors/managers will find the PORT <GO> fixed income emerging markets risk model an invaluable tool in navigating this exciting and increasingly challenging dimension of investing.

The PORT <GO> global fixed income risk model helps examine hard and soft currency local debt volatility trends, and it creates the context for portfolio construction via the PORT <GO> state-of-art optimizer.

## CHARACTERISTICS

Analyze the fundamental characteristics of your fixed-income portfolio as of a specific date or a time series trend. Track your portfolio's duration, yield, country spreads and many other metrics relative to your benchmark over time.

12 View • 12 Actions • 13 Settings • 14 Trade Simulation • Portfolio & Risk Analytics												
Characteristics Attribution Performance Tracking Error/Volatility Valr Scenarios Holdings Intraday												
Main View Summary Cash Flows Liquidity Risk Key Rates												
Port iShares JP Mo vs (EMIC) ML Hf by Country of Ri in USD As Of 08/24/15												
Date Trend												
Name	DAD			CTD			DASD			CTSD		
	Port	Bmkr	+/-	Port	Bmkr	+/-	Port	Bmkr	+/-	Port	Bmkr	+/-
iShares JP Morgan USD Emerging...	7.16	5.26	1.91	7.16	5.26	1.91	6.96	5.21	1.75	6.96	5.21	1.75
Kazakhstan	7.37	6.11	1.26	0.28	0.09	0.19	7.14	5.95	1.19	0.27	0.09	0.18
Kenya	6.43		6.43	0.04		-0.04	6.31		6.31	0.04		-0.04
Kuwait		3.26	-3.26		0.01	-0.01		4.10	-4.10		0.02	-0.02
Latvia	4.13		4.13	0.02		0.02	4.09		4.09	0.02		0.02
Lebanon	6.03		6.03	0.20		0.20	5.92		5.92	0.19		0.19
Lithuania	4.63		4.63	0.10		0.10	4.58		4.58	0.10		0.10
Macau		3.73	-3.73		0.00	0.00		7.19	-7.19		0.00	0.00
Malaysia	7.06	5.50	1.56	0.21	0.11	0.10	6.84	5.41	1.43	0.21	0.11	0.09
Mexico	9.19	7.31	1.88	0.48	0.65	-0.16	8.83	7.09	1.74	0.47	0.63	-0.16
Mongolia	5.73		5.73	0.02		0.02	5.63		5.63	0.02		0.02
Morocco	6.25	8.42	-2.16	0.03	0.03	0.01	6.15	8.17	-2.03	0.03	0.03	0.01
Oman		5.45	-5.45		0.01	-0.01		5.36	-5.36		0.01	-0.01
Pakistan	4.65		4.65	0.03		0.03	4.59		4.59	0.03		0.03
Panama	8.11	3.68	4.43	0.18	0.00	0.17	7.90	3.65	4.25	0.17	0.00	0.17
Paraguay	13.62		13.62	0.05		0.05	12.92		12.92	0.05		0.05

A Global EM Corp hard currency tracker to the BofA Merrill Lynch High Grade Emerging Markets Corporate Plus Constrained Index.

## ATTRIBUTION

Gain an in-depth understanding about why you outperformed or underperformed your EM/Global benchmark based on your past interest rate bets, sector spread bets based on country and currency exposures.

## PERFORMANCE

View the historical performance of your portfolio across multiple time periods. You can look at your portfolio from a specific date or user-specified time periods such as 1-day return, 1-month return, MTD return, YTD return. Also analyze historical risk-adjusted return statistics with measures including Sharpe Ratio and Information Ratio.

## TRACKING ERROR

Analyze your portfolio's ex-ante (predicted) risk utilizing Bloomberg's Emerging Market fixed-income risk factor model. Quickly isolate the intended or unintended bets relative to your EM/Global benchmark based on curve, spread and sector bets. You can also analyze your portfolio's ex-ante risk as of a historical date.

## SCENARIOS

Evaluate your portfolio using a variety of historical stress scenarios like the Lehman Brothers collapse (2008) or the more recent oil crisis in Libya (2011). You can also create custom scenarios based on your specific views to measure potential portfolio profit/loss under specific circumstances (e.g., Rates up 100bps, Bull Flatteners).

## PORTFOLIO CONSTRUCTION TOOLS

Trade Simulations: Change existing weights or positions of your holdings, add new securities and rebalance your portfolio using the Trade Simulation feature. Analyze the hypothetical impact of such changes on your portfolio's duration and other risk measures relative to an EM/Global FI benchmark or your original portfolio.

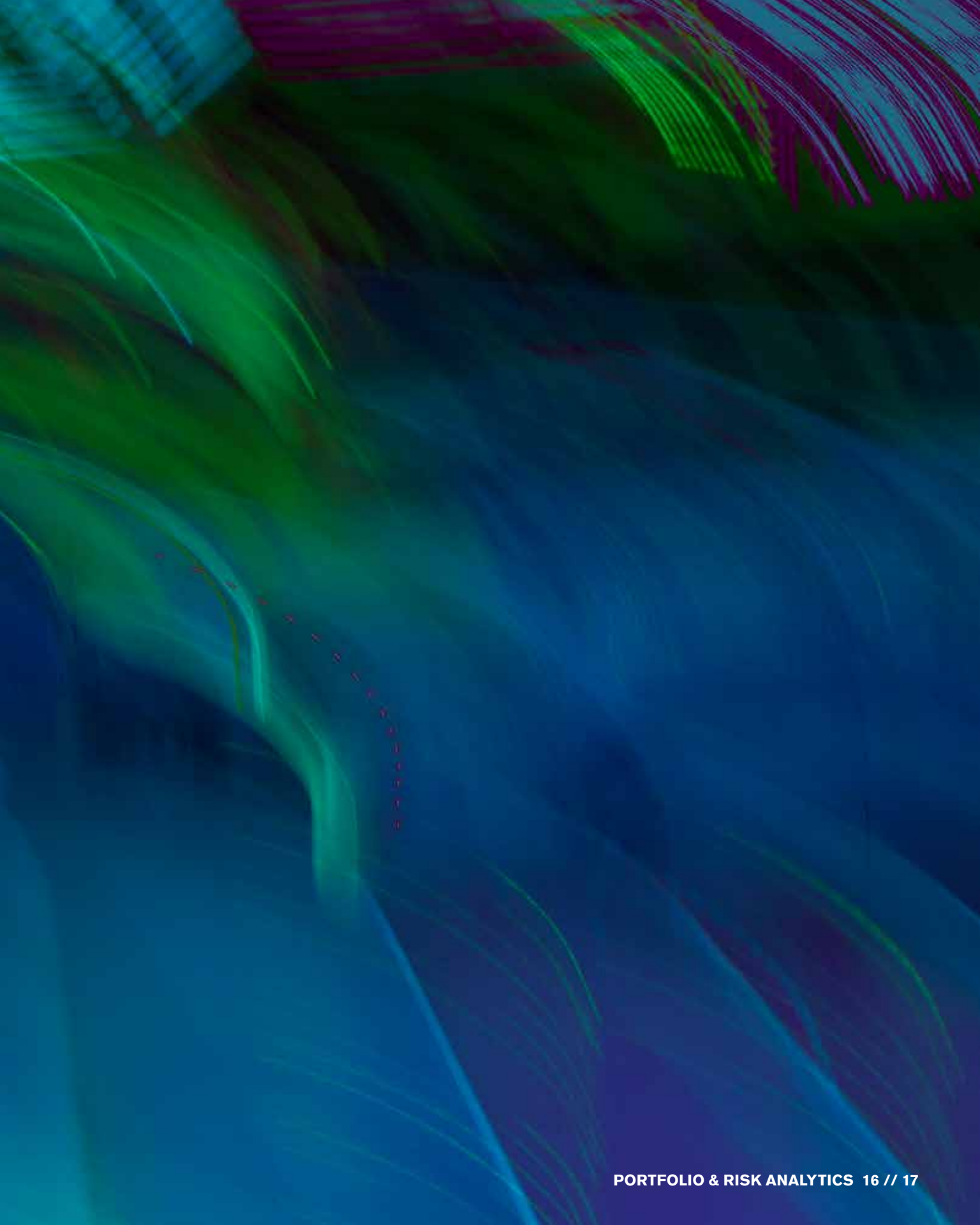


A low tracking error achieved for tracker to the BofA Merrill Lynch High Grade Emerging Markets Corporate Plus Constrained Index using PORT <GO>'s Portfolio Construction Tools.





[illegible]



To learn more about what Bloomberg's Portfolio & Risk Analytics solution can do for you, visit BPRA &ltGO> on the terminal or send an email to our team at: [portsolution@bloomberg.net](mailto:portsolution@bloomberg.net).

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