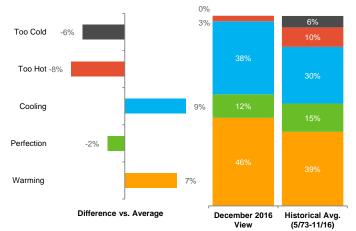
### **BNY Mellon Investment Strategy and Solutions Group**



#### REGIME BASED ASSET ALLOCATION

December 2016

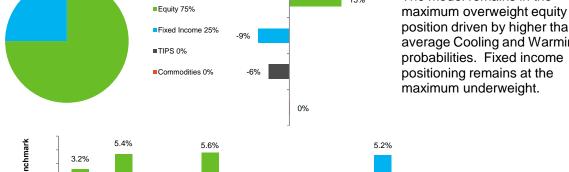
#### **December 2016 RBAA Regime Probabilities**



According to our model, Warming is once again the most likely regime, followed by Cooling. At the same time, the probability of a tail regime has receded. The market has digested the recent political uncertainty and consequently volatility has come down. Wage pressures and rising energy prices are consistent with the upward trending inflation forecast.

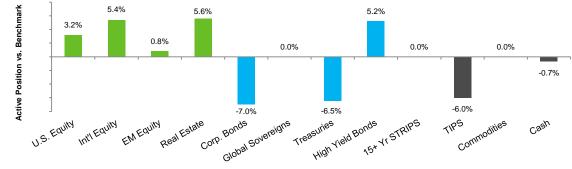
### **Positioning for these Regime Probabilities**

# **RBAA Current Allocation** Active Weights vs. Benchmark



position driven by higher than average Cooling and Warming probabilities. Fixed income positioning remains at the maximum underweight.

The model remains in the



#### **About RBAA**

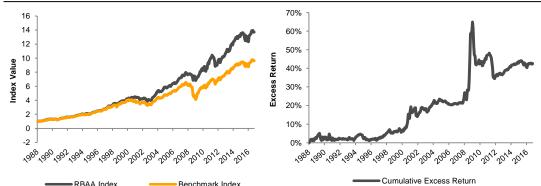
Regime Based Asset Allocation defines five macroeconomic regimes based on the interaction of growth and inflation expectations. We believe changes to these expectations drive regime shifts and influence asset returns. As assets have different returns and risk characteristics by regime, insight into the regime probabilities could lead to better performance.



#### **About ISSG**

BNY Investment Strategy & Solutions Group, LLC (ISSG) personnel, in their capacity as employees and officers of The Bank of New York Mellon, partners with clients to develop thoughtful and actionable solutions to broad investment policy issues. We engage in an ongoing dialogue with our institutional clients to achieve a deep understanding of their concerns and needs. Harnessing the full depth and breadth of our global network of specialized investment boutiques across all asset classes and return/risk objectives, we help craft comprehensive strategies relevant for our clients' specific investment objectives and policies.

#### Historical RBAA Simulation - RBAA and Benchmark Indices and Cumulative Excess Returns



	RBAA	Benchmark
Annual Return	9.0%	7.7%
Volatility	8.5%	9.3%
Max Drawdown	-15.3%	-37.0%
Up Market Return	17.7%	18.1%
Down Market Return	-18.8%	-22.5%
Risk Free Rate	4%	4%
Sharpe Ratio	0.59	0.40

February 1988 through November 2016

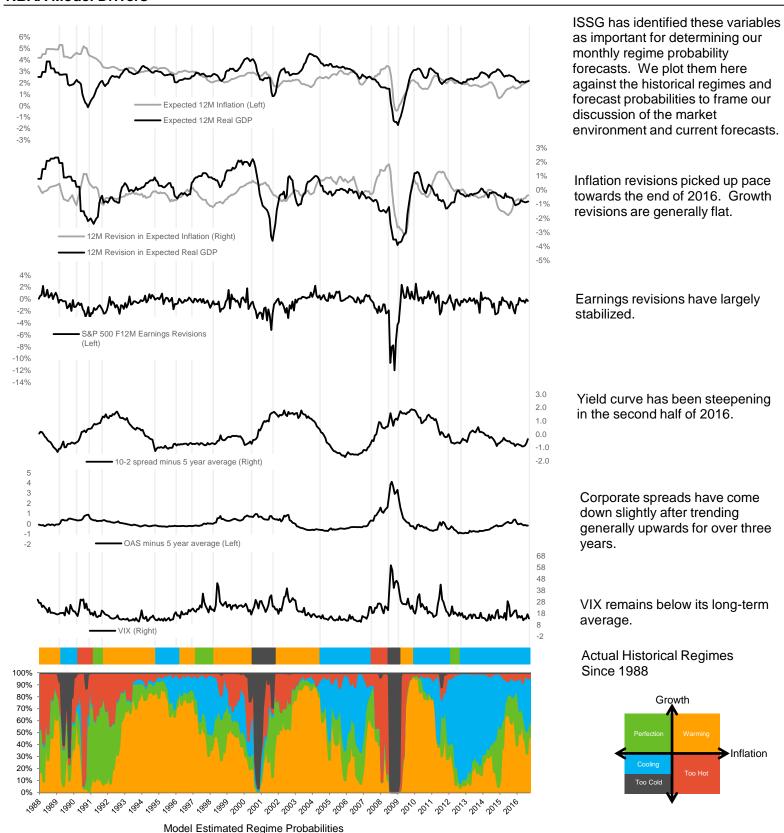


### **BNY Mellon Investment Strategy and Solutions Group**

#### REGIME BASED ASSET ALLOCATION

December 2016

#### **RBAA Model Drivers**



HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING. SIMULATED TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER COMPENSATED FOR THE IMPACT OF CERTAIN MARKET FACTORS. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK. NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF THE TRADING LOSSES ARE MATERIAL FACTORS WHICH CAN ADVERSELY AFFECT THE ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE ECONOMY OR MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS, ALL OF WHICH CAN ADVERSELY AFFECT TRADING RESULTS.

## **Benchmark Composition and Index Definitions - Page 1**

	Benchmark				_
Asset Name	Weight	Index Name	Start	End	Definition
U.S. Equity	33.0%	S&P 500	4/30/1973	11/30/2016	The S&P 500 is an index designed to track the performance of the largest 500 US companies.
Int'l Equity	18.0%	MSCI EAFE	4/30/1973	11/30/2016	The MSCI EAFE Index (Europe, Australasia, Far East) is designed to measure the equity market performance of global developed markets, excluding the US & Canada.
EM Equity	6.0%	MSCI EM	4/30/1973	11/30/2016	The MSCI EM index tracks the performance of Emerging Market Equities. Prior to 1987 the returns are combined with the IFC emerging market returns and the MSCI EAFE index.
Real Estate	3.0%	FTSE NAREIT	4/30/1973	11/30/2016	The FTSE/NAREIT index is designed to track the performance US Real Estate Investment Trusts.
Corp. Bonds	12.0%	Barcap US Corporate Agg	4/30/1973	11/30/2016	The Barcap US Corporate Aggregate Index is designed to track the performance of US Investment Grade Corporate securities.
Global Sovereigns	0.0%	JPM Government Bond Index Global	4/30/1973	11/30/2016	The JPM Government Bond Index Global is designed to track the broad universe of global government bonds. Results simulated before 1985.
Treasuries	14.0%	Barcap US Treasury Agg	4/30/1973	11/30/2016	The Barcap US Treasury Aggregate Index is designed to track the performance of US Treasury securities.
High Yield Bonds	6.0%	Barcap US High Yield	4/30/1973	11/30/2016	The Barcap High Yield Index tracks the performance of high yield debt securities. Prior to 1983 returns are regressed against the returns of the Barcap Baa and Russell 2000.
15+ Yr STRIPS	0.0%	Citi 15+ STRIPS	4/30/1973	11/30/2016	The Citi 15+ STRIPS index tracks the performance of US Treasury 15+ year STRIPS. Results simulated prior to 1991.
TIPS	6.0%	Barcap US TIPS	4/30/1973	11/30/2016	The Barcap US TIPS index is designed to track the performance of US Treasury Inflation Protected Securities. Returns are simulated prior to 1997.
Commodities	0.0%	DJ-UBS Commodities	4/30/1973	11/30/2016	Index designed to provide diversified commodity exposure with weightings based on the commodity's liquidity and economic significance. Results simulated prior to 1991.
Cash	2.0%	Citi 3 Month Treasury (Cash)	4/30/1973	11/30/2016	The Citigroup Three Month Treasury Bill index tracks the performance of 90 day U.S. Treasury bills. We use data from the Federal Reserve before 1978.

These benchmarks are broad-based indices which are used for comparative purposes only and have been selected as they are well known and are easily recognizable by investors. Comparisons to benchmarks have limitations because benchmarks have volatility and other material characteristics that may differ from the portfolio. For example, investments made for the portfolio may differ significantly in terms of security holdings, industry weightings and asset allocation from those of the benchmark. Accordingly, investment results and volatility of the portfolio may differ from those of the benchmark. Also, the indices noted in this presentation are unmanaged, are not available for direct investment, and are not subject to management fees, transaction costs or other types of expenses that the portfolio may incur. In addition, the performance of the indices reflects reinvestment of dividends and, where applicable, capital gain distributions. Therefore, investors should carefully consider these limitations and differences when evaluating the comparative benchmark data performance.

# **Model Driver Definitions - Page 2**

	3			
Series Name	Series Title	Start	End	Definition
Expected 12M Inflation	Expected 12M Inflation	2/29/1988	11/30/2016	A measure of the forward 12 month US inflation forecast using data from the Survey of Professional Forecasters and Consensus Economics.
Expected 12M Real GDP	Expected 12M Real GDP	2/29/1988	11/30/2016	A measure of the forward 12 month US real GDP forecast using data from the Survey of Professional Forecasters and Consensus Economics.
12M Revision in Expected Inflation	12M Revision in Expected Inflation	2/29/1988	11/30/2016	A measure of the aggregate revisions to the forward 12 month US inflation forecast over a twelve month time period.
12M Revision in Expected Real GDP	12M Revision in Expected Real GDP	2/29/1988	11/30/2016	A measure of the aggregate revisions to the forward 12 month US real GDP forecast over a twelve month time period.
S&P 500 F12M Earnings Revision	S&P 500 F12M Earnings Revision	2/29/1988	11/30/2016	The ISSG calculates monthly revisions to the forward 12 month earnings outlook for the S&P 500 using estimates from Datastream.
10-2 Spread minus 5Y Avg	10-2 Spread minus 5Y Avg	2/29/1988	11/30/2016	The ISSG calculates the spread between the constant maturity 10 and 2 year treasury bonds from the FRED database and compares it to its five year average
OAS minus 5Y Avg	OAS minus 5Y Avg	2/29/1988	11/30/2016	The ISSG created a time series of option adjusted spreads which compares the Barclays US Aggregate Credit Avg OAS to its five year average
VIX	CBOE SPX Volatility Index	2/29/1988	11/30/2016	CBOE Volatility Index reflects a market estimate of future volatility for the S&P 500 Index based on a weighted average of the implied volatilites for a wide range of option strikes.

### **Disclosures**

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The forecasts contained herein are for illustrative purposes only and are not to be relied upon as advice, interpreted as a recommendation, or be guarantees of performance. In addition, the forecasts are based upon subjective estimates and assumptions about circumstances and events that may not have taken place and may never do so.

The RBAA portfolio is a dynamically adjusted portfolio based on the benchmark assets and weights as defined above. ISSG has defined historical regimes for the period starting in May 1973. All of our trading simulations begin in February 1988 as we use 15 years of data to train our asset allocation model. The RBAA portfolio and benchmark returns are based on simulations using various index returns. Indices are unmanaged, and are not subject to management fees, transaction costs or other types of expenses that a portfolio may incur. As an illustration of these fees, returns are shown net of 50 basis points (bps) on all assets. The following provides a simplified example of the cumulative effect of management fees on investment performance. An annual management fee of 50 bps applied over a five-year period to a \$100 million portfolio with an annualized gross return of 10% would produce a 9.5% annual return and reduce the value of the portfolio from \$161 million to \$157 million. The models used herein have not been independently verified.

The results shown are provided for illustration purposes only and are not indicative of future results. In addition, the historical returns used as a basis for the charts are based on information gathered by The Bank of New York Mellon Corporation from third party sources, and have not been independently verified. The indices used in the benchmark portfolio defined in this report are trademarks and have been licensed for use by The Bank of New York Mellon Corporation (together with its affiliates and subsidiaries) and are used solely herein for comparative purposes. The foregoing index licensers are not affiliated with The Bank of New York Mellon Corporation, do not endorse, sponsor, sell or promote the investment strategies or products mentioned in this presentation and they make no representation regarding advisability of investing in the products and strategies described herein.

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