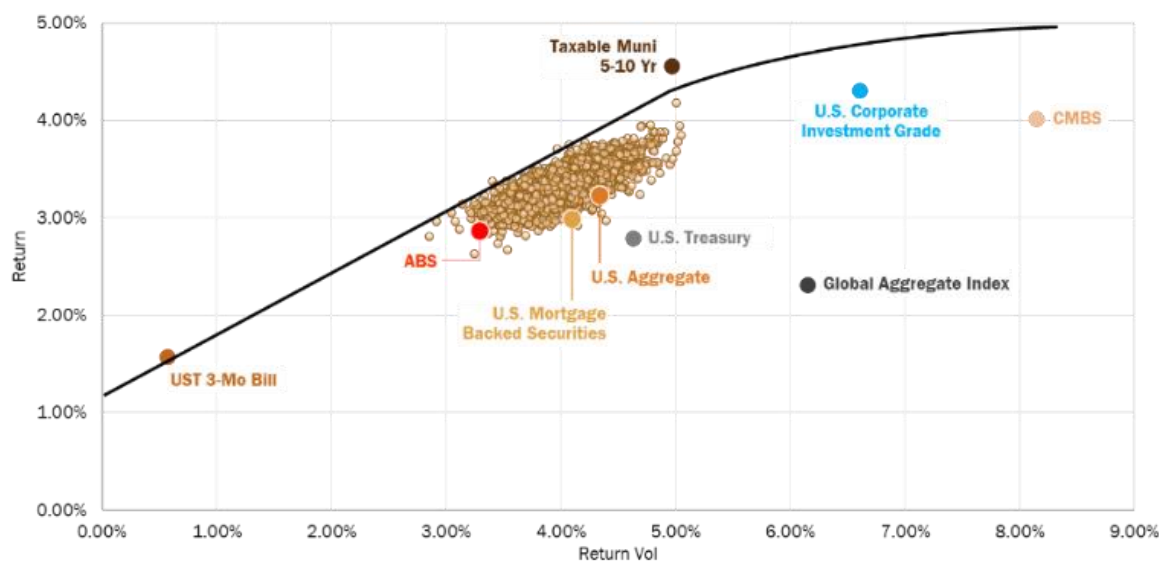


## Taxable Efficient Frontier 10-Year



Data from June 30, 2006 to May 31, 2025

US Treasury: Bloomberg US Treasury Index; US Agg: Bloomberg Global Aggregate Bond Index; IG Corps: U.S. Corp Master Index; MBS: Bloomberg U.S. Mortgage Backed Securities Index; Taxable Munis: ICE Taxable Municipal Bond Index; ABS: ICE BofA U.S. Fixed Rate Asset Backed Securities Index; CMBS: ICE BofA U.S. Fixed Rate CMBS Index.

Efficient frontier analysis is a portfolio optimization technique to illustrate a portfolio's or asset's maximum return for a given level of risk. The efficient frontier analysis above is index-based; MacKay Shields' portfolios are actively managed and would vary from any applicable or benchmarked index. Actual portfolios would be subject to fees and expenses. No fees or expenses were included in the results above. No representation is made as to the accuracy and completeness of information contained in this presentation that has been obtained from third parties. Please see disclosures and index descriptions in this document. It is not possible to invest directly in an index. Past performance is not indicative of future results.

Source: Bloomberg

### DEFINITIONS OF TERMS:

**Correlation:** Correlation shows the strength of a relationship between two variables and is expressed numerically by the correlation coefficient. The correlation coefficient's values range between -1.0 and 1.0. A perfect positive correlation means that the correlation coefficient is exactly 1. This implies that as one security moves, either up or down, the other security moves in lockstep, in the same direction. A perfect negative correlation means that two assets move in opposite directions, while a zero correlation implies no linear relationship at all.

**Modified Duration to Worst:** Modified duration measures the change in the value of a bond in response to a change in 100-basis-point (1%) change in interest rates. The modified duration to worst calculation is based on either the final maturity date or a call date within the bond's call schedule and uses the worst duration for each bond. This calculation does not adjust for changes in projected cash flows as a result of yield changes.

**Yield to Worst:** This is the yield calculation based on going through each call or put exercise date and calculating the yields to each potential call date and maturity. For callable bonds, the lowest yield is used as the YTW and for puttable bonds the highest yield is used as the YTW. The call date (or maturity) used for this yield is also used for all other "to worst" calculations.

**Return Volatility:** Return volatility refers to the degree of variation in the returns of a financial asset, such as a stock, bond, or portfolio, over a specific period of time. It is a statistical measure that captures the extent to which the returns fluctuate around their average (mean) return.

### COMPARISONS TO AN INDEX

Comparisons to a financial index are provided for illustrative purposes only. Comparisons to an index are subject to limitations because portfolio holdings, volatility and other portfolio characteristics may differ materially from the index. Unlike an index, portfolios within the composite are actively managed and may also include derivatives. There is no guarantee that any of the securities in an index are contained in any managed portfolio. The performance of an index may assume reinvestment of dividends and income, or follow other index-specific methodologies and criteria, but does not reflect the impact of fees, applicable taxes or

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The following indices may be referred to in this document:

#### **ICE BOFA US Agency Index**

ICE BofA US Agency Index tracks the performance of US dollar denominated US agency senior debt issued in the US domestic market. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch). In addition, qualifying securities must be unsubordinated, must have at least one year remaining term to final maturity, at least 18 months to final maturity at point of issuance, a fixed coupon schedule and a minimum amount outstanding of \$250 million. "Global" securities (debt issued simultaneously in the eurobond and US domestic markets) qualify for inclusion in the Index. Callable perpetual securities qualify provided they are at least one year from the first call date. Fixed-to-floating rate securities also qualify provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Securities in legal default are excluded from the Index.

#### **ICE BOFA US Fixed Rate Asset Backed Securities Index**

ICE BofA US Fixed Rate Asset Backed Securities Index tracks the performance of US dollar denominated investment grade fixed rate asset backed securities publicly issued in the US domestic market.

#### **ICE BOFA US Fixed Rate CMBS Index**

ICE BofA US Fixed Rate CMBS Index tracks the performance of US dollar denominated investment grade fixed rate commercial mortgage-backed securities publicly issued in the US domestic market.

#### **ICE BofA U.S. Mortgage Backed Securities Index**

ICE BofA U.S. Mortgage Backed Securities Index tracks the performance of U.S. dollar denominated fixed rate and hybrid residential mortgage pass-through securities publicly issued by U.S. agencies in the U.S. domestic market. 30-year, 20-year and 15-year fixed rate mortgage pools are included in the Index provided they have at least one year remaining term to final maturity and a minimum amount outstanding of at least \$5 billion per generic coupon and \$250 million per production year within each generic coupon. Hybrid, interest-only, balloon, mobile home, graduated payment and quarter coupon fixed rate mortgages are excluded from the index, as are all collateralized mortgage obligations.

#### **ICE BofA U.S. Taxable Municipal Securities Index**

ICE BofA U.S. Taxable Municipal Securities Index tracks the performance of U.S. dollar denominated debt publicly issued by U.S. states and territories, and their political subdivisions, in the U.S. domestic market. Qualifying securities must be subject to U.S. federal taxes and must have at least 18 months to maturity at point of issuance, at least one year remaining term to final maturity to enter the index and one month remaining term to final maturity to remain in the index, a fixed coupon schedule (including zero coupon bonds) and an investment grade rating (based on an average of Moody's, S&P and Fitch). The call date on which a pre-refunded bond will be redeemed is used for purposes of determining qualification with respect to final maturity requirements. Minimum size requirements vary based on the initial term to final maturity at time of issuance. Securities with an initial term to final maturity greater than or equal to one year and less than five years must have a current amount outstanding of at least \$10 million. Securities with an initial term to final maturity greater than or equal to five years and less than ten years must have a current amount outstanding of at least \$15 million. Securities with an initial term to final maturity of ten years or more must have a current amount outstanding of at least \$25 million. "Direct pay" Build America Bonds (i.e., a direct federal subsidy is paid to the issuer) qualify for inclusion in the index, but "tax-credit" Build America Bonds (i.e., where the investor receives a tax credit on the interest payments) do not. Local bonds issued by U.S. territories within their jurisdictions that are tax exempt within the U.S. territory but not elsewhere are excluded from the Index. All 144a securities, both with and without registration rights, and securities in legal default are excluded from the Index. Index constituents are market capitalization weighted. Accrued interest is calculated assuming next-

day settlement. Cash flows from bond payments that are received during the month are retained in the index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the index.

#### **ICE BofA U.S. 3-Month Treasury Bill Index**

Comprised of a single issue purchased at the beginning of the month and held for a full month. At the end of the month that issue is sold and rolled into a newly selected issue. The issue selected at each month-end rebalancing is the outstanding Treasury Bill that matures closest to, but not beyond, three months from the rebalancing date. To qualify for selection, an issue must have settled on or before the month-end rebalancing date. While the index will often hold the Treasury Bill issued at the most recent 3-month auction, it is also possible for a seasoned 6-month Bill to be selected.

#### **ICE BofA U.S. Treasury Index**

ICE BofA U.S. Treasury Index tracks the performance of U.S. dollar denominated sovereign debt publicly issued by the U.S. government in its domestic market. Qualifying securities must have at least one year remaining term to final maturity, a fixed coupon schedule and a minimum amount outstanding of \$1 billion. Qualifying securities must have at least 18 months to final maturity at the time of issuance. Callable perpetual securities qualify provided they are at least one year from the first call date. Fixed-to-floating rate securities also qualify provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Bills, inflation-linked debt and strips are excluded from the Index; however, original issue zero coupon bonds are included in the index and the amounts outstanding of qualifying coupon securities are not reduced by any portions that have been stripped. Securities issued or marketed primarily to retail investors do not qualify for inclusion in the index. Index constituents are market capitalization weighted. Accrued interest is calculated assuming next-day settlement. Cash flows from bond payments that are received during the month are retained in the index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the index.

#### **ICE BofA U.S. Corporate Index**

ICE BofA U.S. Corporate Index tracks the performance of U.S. dollar denominated investment grade corporate debt publicly issued in the U.S. domestic market. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch), at least 18 months to final maturity at the time of issuance, at least one year remaining term to final maturity as of the rebalancing date, a fixed coupon schedule and a minimum amount outstanding of \$250 million. Original issue zero coupon bonds, 144a securities (with and without registration rights), and pay-in-kind securities (including toggle notes) are included in the index. Callable perpetual securities are included provided they are at least one year from the first call date. Fixed-to-floating rate securities are included provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Contingent capital securities ("cocos") are excluded, but capital securities where conversion can be mandated by a regulatory authority, but which have no specified trigger, are included. Other hybrid capital securities, such as those issues that potentially convert into preference shares, those with both cumulative and non-cumulative coupon deferral provisions, and those with alternative coupon satisfaction mechanisms, are also included in the index. Equity-linked securities, securities in legal default, hybrid securitized corporates, euro dollar bonds (USD securities not issued in the U.S. domestic market), taxable and tax-exempt U.S. municipal securities and DRD-eligible securities are excluded from the index. Index constituents are market capitalization weighted. Accrued interest is calculated assuming next-day settlement. Cash flows from bond payments that are received during the month are retained in the index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the index.

#### **Bloomberg U.S. Taxable Municipal Index**

The Bloomberg U.S. Taxable Municipal Bond Index is a rules-based, market-value-weighted index engineered for the long-term taxable bond market. To be included in the index, bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies if all three rate the bond: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade. They must have an outstanding par value of at least \$7 million and be issued as part of a transaction of at least \$75 million. The bonds must be fixed rate and must be at least one year from their maturity date. Remarketed issues (unless converted to fixed rate), bonds with floating rates, and derivatives, are excluded from the benchmark.

#### **Bloomberg Global Aggregate Index**

The Bloomberg Global Aggregate Index is a flagship measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

#### **Bloomberg U.S. Aggregate Bond Index**

The Bloomberg U.S. Aggregate Index represents securities that are SEC-registered, taxable, and dollar denominated. Must have at least one year to final maturity regardless of call features. Must have at least \$300 million par amount outstanding. Must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies: Moody's, S&P, Fitch. Must be dollar-denominated and non-convertible.

#### **Bloomberg U.S. Treasury Index**

Public obligations of the U.S. Treasury with a remaining maturity of one year or more. Must be a U.S. Treasury security. Must have at least \$300 million par amount outstanding. Must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies: Moody's, S&P, Fitch. Must be fixed rate. Must be dollar-denominated and non-convertible.

#### **Bloomberg U.S. Mortgage-Backed Securities Index**

The Bloomberg U.S. MBS Index covers the mortgage-backed pass-through securities of Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC). Must have a weighted average maturity (WAM) of at least one year. Must have at least \$300 million par amount outstanding. Must be fixed rate.

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