SEPTEMBER 2021

Bond market dilemma

How to lower duration without sacrificing yield

Edward Kerschner, CFA
Chief Portfolio Strategist

Ronald Stahl
Senior Portfolio Manager
Head of Short Duration &
Stable Value

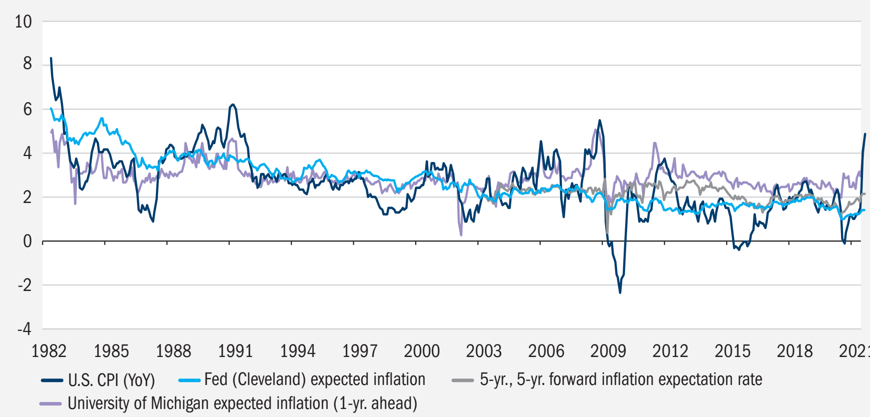
Neeraj Agarwal
Investment Research Analyst

Faced with the dilemma of historically low bond yields and high equity market valuations, investors are using short-term bonds to "park" assets until they decide what to do next. But instead of renting a short-term bond "parking space" solution, some investors are considering the benefit of owning a lower duration[1] solution as a longer term investment, one that's diversified across fixed-income sectors and designed to provide income and capital appreciation.

A challenging macro environment

Fixed-income investors are facing a challenging macroeconomic environment amid the recovery from the global pandemic. While the federal funds target rate range remains anchored at 0%–25%, we're seeing higher levels of inflation and consumer inflation expectations as global economies reopen and the outlook for future inflation — based on the Fed's 10-year model and current trading in 5-year forwards — remains low. As a result, interest rates may climb higher, but not significantly (see Exhibit 1).

Exhibit 1: Core inflation and inflation expectations (%)

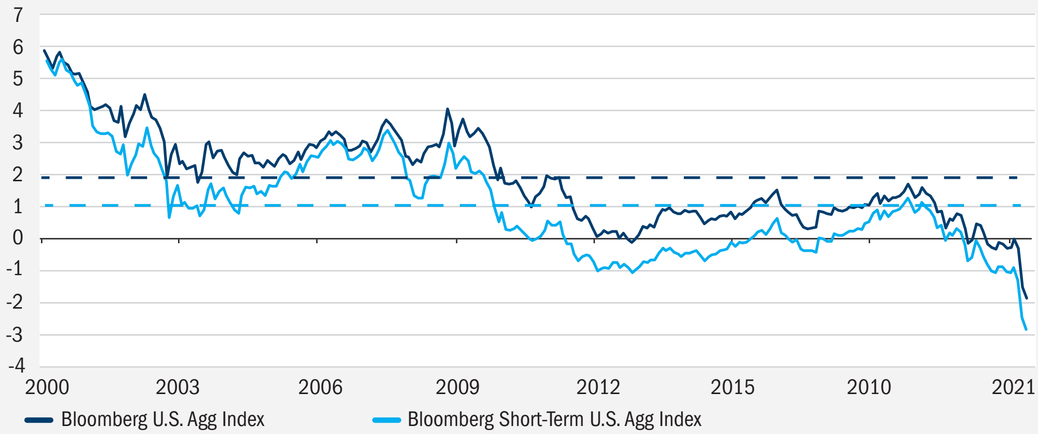


Source: Bloomberg, Federal Reserve Bank of Cleveland, Federal Reserve Bank of St. Louis, University of Michigan, data as of 05/31/21. Note: Cleveland Fed estimates are calculated using treasury yields, inflation data, inflation swaps, and survey-based measures of inflation expectations. 5-year, 5-year forward inflation expectation rate represents a measure of expected inflation derived from 5-year treasury constant maturity securities and 5-year treasury inflation indexed constant maturity securities. University of Michigan expected inflation is median expected price change next 12 months, Surveys of Consumers. **Past performance does not guarantee future results.**

[1] Duration is a measure of a bond's price sensitivity to changes in interest rates.

For now, real yields (the level of interest rates above or below the inflation rate) are negative. Bloomberg U.S. Aggregate Bond Index (Agg) real yields have been below -1.5%, compared to their long-term average of +1.9%. Real yields for the Bloomberg Short-Term Aggregate Index (Short-Term Agg) are -2.9% — well below the average of +1.0% since 2000 (see Exhibit 2).

Exhibit 2: Real yields (%)



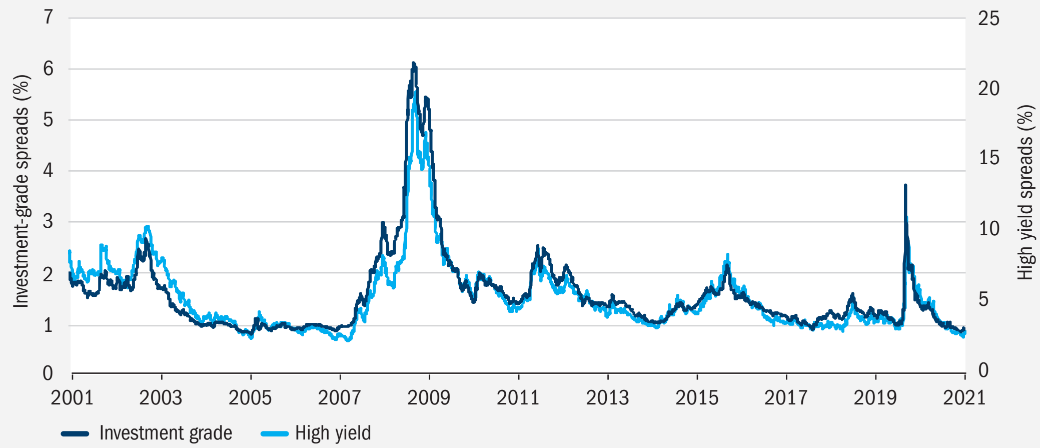
Source: Real yields = Yield-to-worst of the index minus PCE core inflation. Bloomberg, data as of 05/31/21. Note that PCE core inflation data is released with a month lag. **Past performance does not guarantee future results.**

Credit Spreads

In addition to the challenges created by low yields, investors have had to contend with historically expensive credit markets. The pandemic pushed credit spreads to their highest levels since the Great Recession — primarily because investors were forced to sell their highest quality and most liquid securities to meet redemptions and margin calls. Subsequently, the combination of monetary and fiscal policy and the gradual reopening of the global economy spurred a reversal in risk sentiment resulting in spreads tightening back to pre-pandemic levels. Investors were forced to hunt for yield, with credit spreads near historical lows. Structured assets, high yield and emerging market debt were slower to rebound as stimulus programs targeting these sectors took longer to implement.

This created opportunities for people willing to invest in those sectors. As investors today seek yield in a “lower for longer” environment, spreads may grind even tighter in riskier parts of the fixed-income market, such as high yield. Since the COVID-19 outbreak, investment-grade spreads have moved down from the peak of 373 basis points (bps) in March 2020 to 86 bps as of July 30, 2021. Similarly, high-yield spreads have moved down from the peak of 1100 bps in March 2020 to 294 bps as of July 30, 2021 (see Exhibit 3).

Exhibit 3: Credit spreads

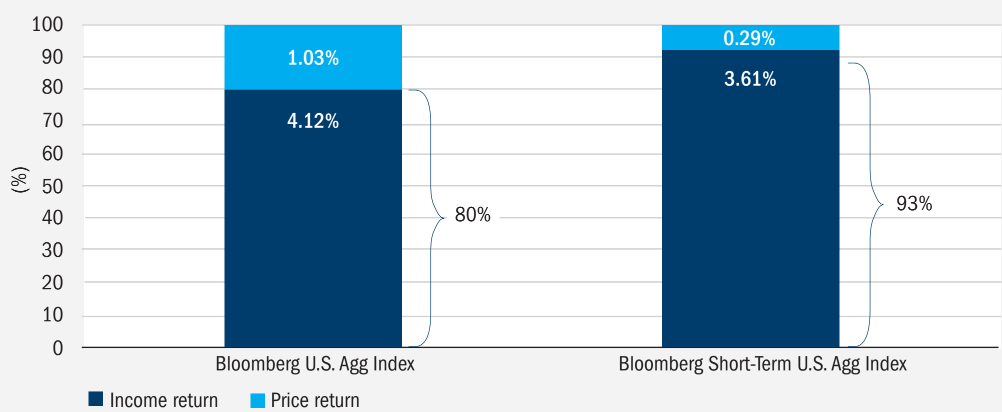


Investment grade and high yield represented by applicable Bloomberg Indices. It is not possible to invest directly in an index.
Source: Bloomberg, data as of 07/30/21. **Past performance does not guarantee future results.**

Yield is the most consistent and predictable component of total return

In fixed-income investing, returns are driven by income returns (yield) plus or minus changes in price as rates fall or rise. Since 2000, almost 80% of returns for the Agg has been driven by income. But as we move toward the short end of the curve, they become more vital. For the Short-Term Agg, income returns make up more than 90% of the returns over the past two decades (see Exhibit 4).

Exhibit 4: Income return, not price appreciation, drives total
01/00–12/20



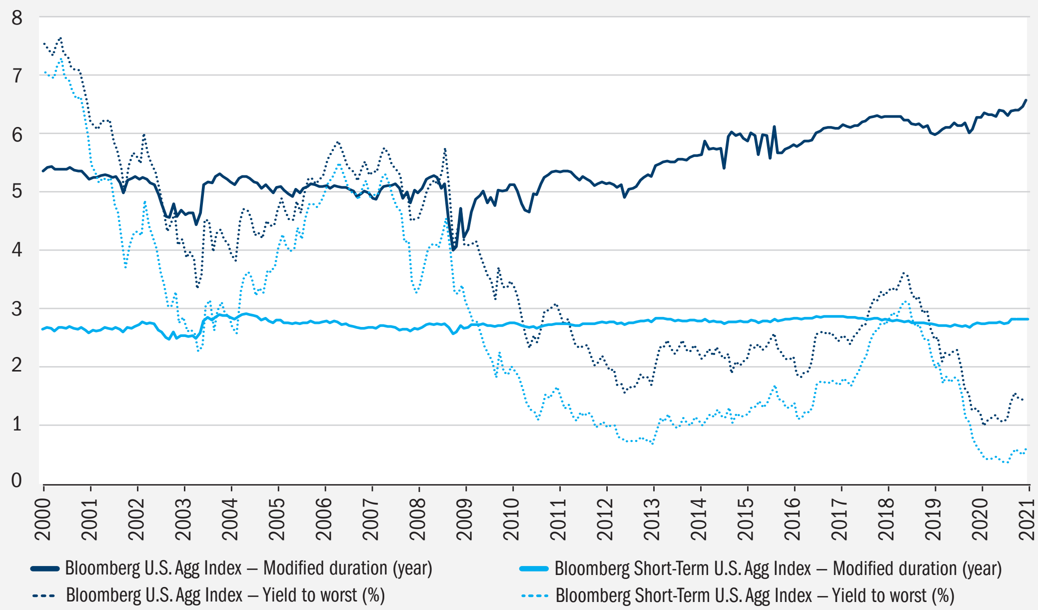
Source: Bloomberg, Barclays Live, data as of 12/31/20, update annually. **Past performance does not guarantee future results.**

The short end of the yield curve is often referred to as the “sweet spot,” where investors can typically find the most attractive risk-reward profiles. Today, investors need to consider an approach that allows them to remain invested in key sectors that can generate income, while also navigating the uncertainty of interest rate moves and market volatility.

The need for a less-generic solution

Traditional benchmarks like the Agg and Short-Term Agg delivered annualized returns of 4.9% and 3.8% since 2000, respectively. These benchmarks have changed their complexion after the Great Recession because the government issued more debt. The Agg extended duration and lowered yield because government bonds crowded out corporate and securitized bonds in the index. While duration for the Short-Term Agg is relatively constant, yields are currently very low. Meanwhile, the duration of the Agg is at its peak since 2000, at 6.6 years (see Exhibit 5). Longer duration means greater risk of price declines if rates rise even modestly.

Exhibit 5: Duration and yields



Source: Bloomberg, data as of 06/30/21. **Past performance does not guarantee future results.**

Fixed-income investors limit their opportunity set when they focus on benchmark-tracking or benchmark-hugging strategies. The constituents in the Morningstar Short-Term Bond category overwhelmingly use versions of shorter all-corporate or government/corporate indices — offering little diversification by sector, credit quality or country allocation — where wider spreads and higher yields are often found. Not surprisingly, the Short-Term Agg has a 99% correlation to the Bloomberg 1–5 Year Government/Credit Index, one of most frequently used indices in the category.

Significant flows in short-term bond funds and ETFs

With all the stimuli put in place since March 2020 and the 0%–25% fed funds target rate causing shorter duration investments to yield very little, today's economic environment has created a dilemma for investors. Faced with historically low bond yields and high equity market valuations, they've invested significant assets in benchmark-tracking or benchmark-hugging short-term bond funds for lack of a better solution (see Exhibit 6).

Exhibit 6: Top 5 ETFs and mutual funds (based on AUM) in short-term bond category

ETF name	AUM ($m)	Flows YTD ($m)	Flows 1-yr. ($m)
Vanguard Short-Term Corporate Bond	41,087	5,782	12,367
Vanguard Short-Term Bond	40,697	12,909	17,935
iShares 1–5 Year Investment Grade Corporate Bond	25,173	3,015	6,177
SPDR® Portfolio Short Term Corporate Bond	7,762	526	1,191
iShares Core 1–5 Year USD Bond	5,633	950	1,392

Fund name	AUM ($m)	Flows YTD ($m)	Flows 1-yr. ($m)
Vanguard Short-Term Investment-Grade	78,828	6,300	15,084
Lord Abbett Short Duration Income	61,526	4,677	6,253
Vanguard Short-Term Corporate Bond Index	41,087	5,782	12,367
Vanguard Short-Term Bond Index	40,697	12,909	17,935
American Funds Intermediate Bond Fund	31,485	2,248	5,174

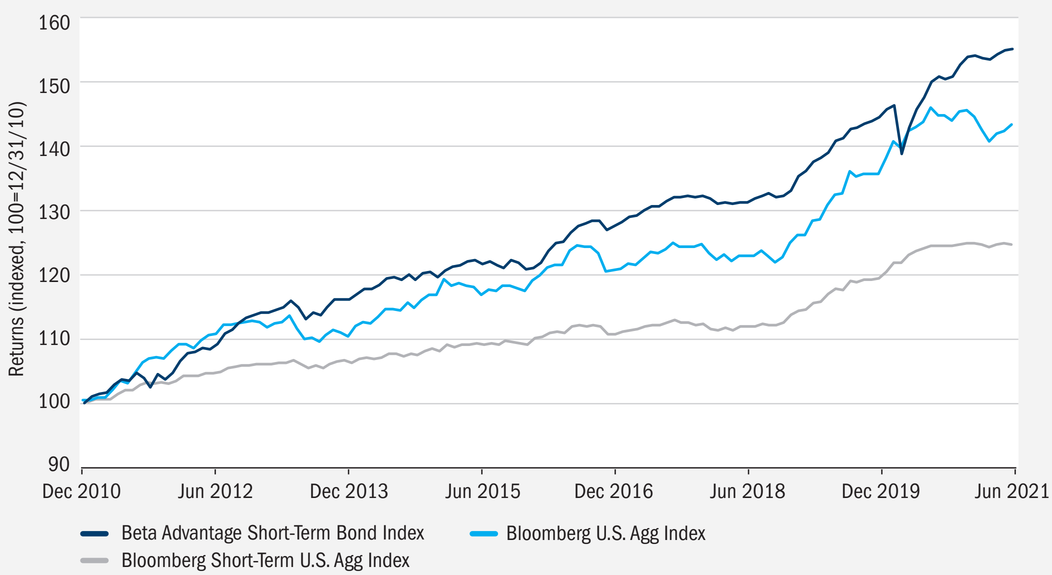
Source: Morningstar, data as of 07/31/21. **Past performance does not guarantee future results**. Note: Vanguard Short-Term Bond ETF and Vanguard Short-Term Bond Index Fund are classes of the same fund, which is a unique structure only available to the Vanguard family of funds.

Better return due to sourcing better income opportunities

Because the Morningstar Short-Term Bond category primarily uses various versions of shorter all corporate or government/corporate indices, investors could benefit from owning lower duration, diversified fixed-income solutions that invest in higher income-producing sectors, such as high-quality high yield, emerging market debt and broad use of structured assets. Together, with investment-grade corporate bonds, these sectors typically experience low correlation and can provide attractive income and capital appreciation, while keeping overall duration reasonably low.

The *Beta Advantage®* Short-Term Bond Index is a short-term bond fixed-weight composite index that blends six custom sub-indices based on the following Bloomberg flagship indices: U.S. Corporate, U.S. High Yield, U.S. MBS, U.S. CMBS, U.S. ABS and EM USD Aggregate. Expanding the solution to the full spectrum of short-duration fixed-income sectors may increase the yield potential and improve total returns (see Exhibits 7 and 8).

Exhibit 7: Multisector short-term bond performance



Source: Bloomberg, data as of 06/30/21. Index returns are for illustrative purposes only and do not represent actual fund performance. **Any index performance prior to the date of index inception (08/01/21) is hypothetical. The pre-inception index performance for the *Beta Advantage* Short Term Bond Index (the "Index") is based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance and cannot account for all financial risk that may affect the actual performance of the index.** The actual performance may vary significantly from the pre-inception performance of the Index. The pre-inception performance of the Index and the performance of the Bloomberg U.S. Aggregate Bond and Bloomberg Short-Term U.S. Aggregate Bond Indices are net of withholding taxes and reflects the reinvestment of dividends. The *Beta Advantage* Short Term Bond Index may present risks different from, and greater than the risks relative to, the Bloomberg U.S. Aggregate Bond and Bloomberg Short-Term U.S. Aggregate Bond Indices, including a higher expected standard deviation and Sharpe ratio. Indices are unmanaged, and one cannot invest directly in an index. Performance data quoted represents past performance. **Past performance does not guarantee future results.** Current performance data may be higher or lower than data presented here. For current index performance data and to receive the methodology of the Index, to the extent that it is publicly available, please call 888.800.4347.

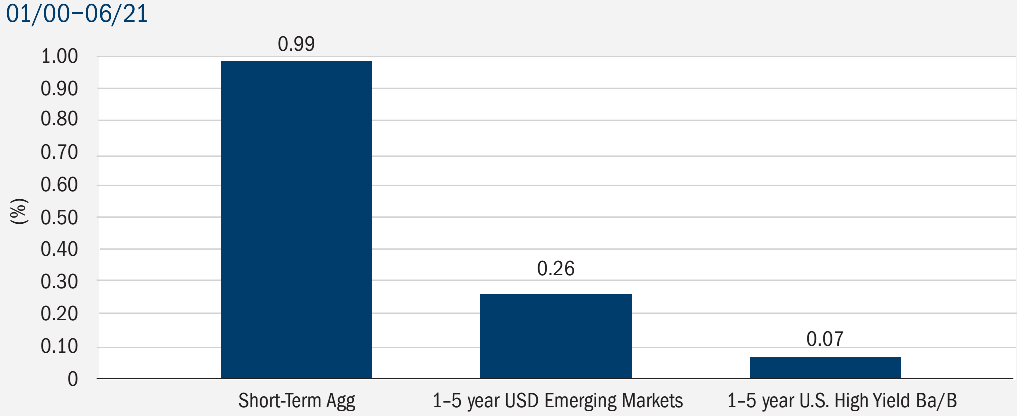
Exhibit 8: Multisector short-term bond performance

Index name	Annualized returns	Standard deviation
Beta Advantage Short Term Bond Index	4.3%	2.9%
Bloomberg U.S. Agg Index	3.5%	3.0%
Bloomberg Short-Term U.S. Agg Index	2.1%	1.3%

Source: Bloomberg, data as of 06/30/21. Index returns are for illustrative purposes only and do not represent actual fund performance. **Any index performance prior to the date of index inception (08/01/21) is hypothetical. The pre-inception index performance for the *Beta Advantage* Short Term Bond Index (the "Index") is based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance and cannot account for all financial risk that may affect the actual performance of the index.** The actual performance may vary significantly from the pre-inception performance of the Index. The pre-inception performance of the Index and the performance of the Bloomberg U.S. Aggregate Bond and Bloomberg Short-Term U.S. Aggregate Bond Indices are net of withholding taxes and reflects the reinvestment of dividends. The *Beta Advantage* Short Term Bond Index may present risks different from, and greater than the risks relative to, the Bloomberg U.S. Aggregate Bond and Bloomberg Short-Term U.S. Aggregate Bond Indices, including a higher expected standard deviation and Sharpe ratio. Indices are unmanaged, and one cannot invest directly in an index. Performance data quoted represents past performance. **Past performance does not guarantee future results.** Current performance data may be higher or lower than data presented here. For current index performance data and to receive the methodology of the Index, to the extent that it is publicly available, please call 888.800.4347.

The better returns for the *Beta Advantage®* Short-Term Bond Index can be attributable in part to the inclusion and diversification of higher yielding sectors, such as emerging market and high yield debt, which typically exhibit low correlations to the Bloomberg 1–5 Year Government/Credit Index (see Exhibit 9).

Exhibit 9: Correlation with Bloomberg 1–5 yr. Government/Credit Index
01/00–06/21

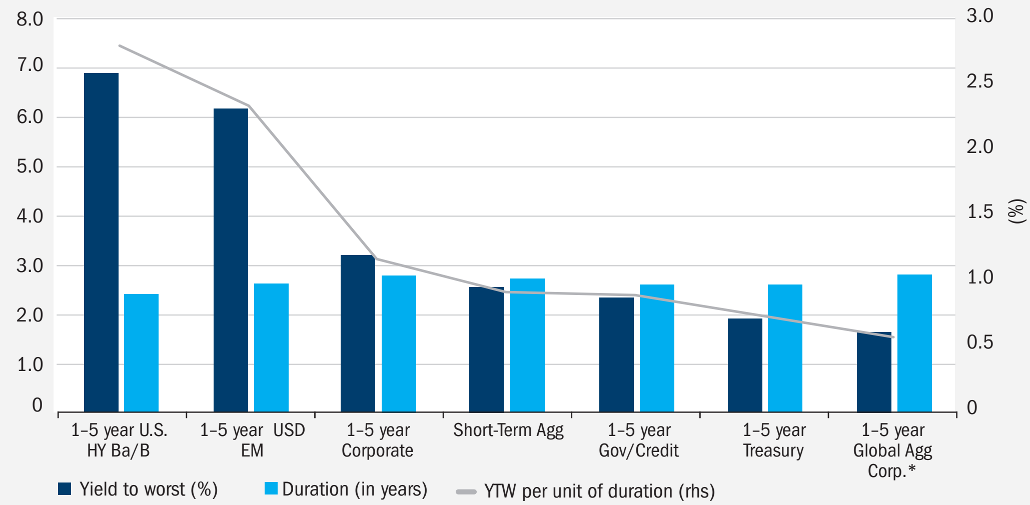


Correlation between applicable Bloomberg Indices. It is not possible to invest directly in an index. Source: Bloomberg, data as of 06/30/21.
Past performance does not guarantee future results.

Utilizing high yield and emerging market debt in a short-duration portfolio offers materially higher yield without increasing duration. Both offer significantly higher yield per unit of duration making them attractive sectors that can enhance the total return potential of the *Beta Advantage®* Short-Term Bond Index (see Exhibit 10).

Exhibit 10: Yield to worst per unit of duration

Average (01/01–07/21)



Yield to worst and duration represented by applicable Bloomberg Indices. It is not possible to invest directly in an index.
Source: Bloomberg, data as of 07/30/21. * For 1–5 Global Agg Corp., data starts from 04/18.
Past performance does not guarantee future results.

The Securitized Index — using a customized blend of MBS, ABS and CMBS — is designed to be the stable anchor of the portfolio. By using a blend of MBS, ABS and CMBS, the *Beta Advantage®* Short Term Bond Index may have a more efficient outcome (i.e., higher risk-adjusted returns). These three sectors each have their own behaviors in different economic environments, as do investment-grade credit, high yield and emerging market debt. Using these securitized sectors with customized rules has provided an additional 1% annualized return over the Bloomberg U.S. Treasury 1–5 Index for the ten-year period ending June 30, 2021.

ABS has a high Sharpe ratio, but by adding an interest-sensitive component (MBS) and a credit-sensitive component (CMBS), there are better returns over time than MBS and ABS — with one year less duration than MBS and less credit sensitivity than CMBS.

Key filters for the *Beta Advantage®* sub-indices can increase quality and/or yield and/or liquidity. For example, U.S. Investment-grade Corporate Bonds must be rated BAA1 to BAA3; U.S. High Yield bonds must be rated above between and inclusive of BA1 and BA3; and Emerging Markets debt must be rated BAA1 to BA1 and Emerging Market corporate bonds are excluded due to their typically small issue size. Being selective in the construction of the *Beta Advantage®* Short Term Bond Index helps to maximize the income potential of each sector and diversification potential of the sectors combined, while minimizing the volatility and correlation between sectors.

For a complete description of the filters see the Appendix.

Conclusion

Investors faced with macroeconomic and capital market uncertainties have been moving into short-duration fixed-income solutions. Dominated by shorter all corporate or government/corporate debt, these "parking space" solutions offer little diversification by sector, credit quality or country allocation — where wider spreads and higher yields are often found. Investors could benefit from investing in a lower duration, diversified fixed-income solution that invests in high income-producing sectors, such as high-quality high yield, emerging market debt and broad use of structured assets. Together, with investment-grade corporate bonds, these sectors typically experience low correlation and can provide attractive income and capital appreciation while keeping overall duration reasonably low. Further filtering to be selective of the bonds used can help to improve the quality, yield and liquidity of such a solution.

Appendix: *Beta Advantage®* Short Term Bond Index methodology summary

Sector		Highlighted Approach	Rationale
U.S. Investment-Grade Corporates		▪ Select BAA1 to BAA3 (BBB+ to BBB-) securities with a maturity less than seven years, with the four largest bonds per issuer selected	▪ Remove higher end of ratings with lower yield
Investment-Grade Securitized	**Agency Mortgage-Backed Securities**	▪ Select Fannie and Freddie 15-year MBS issued within the last 32 months	▪ Remove longer term securities with longer duration ▪ No GNMA, which typically trade at a premium due to the explicit government support
	Asset-Backed Securities	▪ Select securities with collateral type of auto and a weighted average life of less than five years ▪ Effectively excludes student loans	▪ Low average life lowers interest rate risk and spread volatility ▪ Better cashflow profile for a short-duration focus ▪ Constitutes the vast majority and most liquid segments of the ABS market ▪ Larger investor base improves liquidity profile ▪ Exclude student loans to avoid legislative risk
	Commercial Mortgage-Backed Securities	▪ Select securities with a weighted average life of less than five years	▪ Shorter average life lowers interest rate risk and spread volatility ▪ Improves cashflow ▪ Constitutes more seasoned tranches that have built up higher credit support reducing credit risk ▪ Larger initial deal size improves liquidity profile
U.S. High Yield		▪ Only bonds with index rating between and including BA3 to BA1 (BB- to BB+) and outstanding face amount greater than $500 million ▪ Exclude bonds with five or more years to maturity	▪ Remove lower end of ratings with historically higher default rate
Emerging Market Sovereign Debt		▪ Only USD-denominated sovereign debt ▪ Only bonds with index rating between and including BAA1 to BA3 (BBB+ to BB-) ▪ Shorter term maturities between one and six years ▪ Issuers are subject to maximum 10% country weighting	▪ No corporate issuers to reduce potential risk ▪ Remove higher end of ratings with lower yield ▪ Remove lower end of ratings, which typically reflect political uncertainty ▪ Use USD-denominated to reduce currency risk

Columbia Threadneedle Investments is a leading global asset manager that provides a broad range of investment strategies for individual and institutional clients. With over 450 investment professionals across 17 countries, we manage $593 billion* across asset classes. Our global investment team debates and challenges their best ideas to make better decisions, leading to better outcomes for you and your clients.

To find out more, call 800.426.3750
or visit columbiathreadneedle.com

COLUMBIA THREADNEEDLE INVESTMENTS

*In U.S. dollars as of June 30, 2021. Source: Ameriprise Q2 Earnings Release. Contact us for more current data.

The **Bloomberg Emerging Markets USD Aggregate 1–5 Year Index Unhedged** is a hard currency Emerging Markets debt benchmark that includes USD-denominated debt from sovereign, quasi-sovereign, and corporate EM issuers with a remaining maturity of between one and up to five years. **Bloomberg Global Aggregate Corporate 1–5 Year Index** is a measure of global investment-grade, fixed-rate corporate debt with a remaining time to maturity of between one and up to, but not including, five years. This multi-currency benchmark includes bonds from developed and emerging market issuers within the industrial, utility and financial sectors. The **Bloomberg U.S. 1–5 Year Government/Credit Float Adjusted Index** includes U.S. Treasury and agency obligations, as well as investment-grade (rated Baa3 or above by Moody's) corporate and international dollar-denominated bonds, all having maturities of one to five years. The **Bloomberg U.S. 1–5 Year Corporate Bond Index** includes U.S. dollar-denominated, investment-grade, fixed-rate, taxable securities issued by industrial, utility and financial companies, with maturities between one and five years The **Bloomberg 1–5 Year U.S. Treasury Index** includes all publicly issued, U.S. Treasury securities that have a remaining maturity of greater than or equal to one year and less than five years, are rated investment grade, and have $250 million or more of outstanding face value. The **Bloomberg U.S. CMBS Investment Grade Index** measures the market of U.S. Agency and U.S. Non-agency conduit and fusion CMBS deals with a minimum current deal size of $300m. The index is divided into two subcomponents: the U.S. Aggregate-eligible component, which contains bonds that are ERISA eligible under the underwriter's exemption, and the non-U.S. Aggregate-eligible component, which consists of bonds that are not ERISA eligible. The **Bloomberg U.S. High Yield 1–5 Year Bond Index** is a broad-based benchmark that measures the short-term U.S. dollar-denominated, high yield corporate bond market. It is comprised of U.S. dollar denominated, taxable corporate bonds that have a remaining maturity of less than five years. The **Bloomberg U.S. MBS Index** measures the performance of the U.S. agency mortgage pass-through segment of the U.S. investment-grade bond market. The term "U.S. agency mortgage pass-through security" refers to a category of pass-through securities backed by pools of mortgages and issued by one of the following U.S. government-sponsored enterprises: Government National Mortgage Association (GNMA); Federal National Mortgage Association (FNMA) and Federal Home Loan Mortgage Corporation (FHLMC). **Bloomberg Short-Term U.S. Aggregate Bond Index** is a subset of the Bloomberg Barclays U.S. Aggregate Index and measures the investment-grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes treasuries, government-related and corporate securities with up to, but not including, five years to maturity. **Bloomberg U.S. Agg ABS Total Return Value Unhedged USD (ABS)** includes asset-backed auto loans, home equity loans and credit card debt. The **Bloomberg U.S. Aggregate Bond Index (U.S. Aggregate)** is a broad-based benchmark that measures the investment-grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS and CMBS (agency and non-agency). The **Bloomberg Emerging Markets Hard Currency Aggregate Index (EM USD Aggregate)** is a flagship hard currency Emerging Markets debt benchmark that includes USD-denominated debt from sovereign, quasi-sovereign and corporate EM issuers. The **Bloomberg U.S. Corporate Bond Index (U.S. Investment-Grade Corporates)** measures the investment-grade, fixed-rate, taxable corporate bond market. It includes USD-denominated securities publicly issued by U.S. and non-U.S. industrial, utility and financial issuers. The **Bloomberg U.S. Corporate High Yield Bond Index (U.S. Corp High Yield)** measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Barclays EM country definition, are excluded.

Indices shown are unmanaged and do not reflect the impact of fees. It is not possible to invest directly in an index.

There are risks associated with fixed-income investments, including credit risk, interest rate risk, and prepayment and extension risk. In general, bond prices rise when interest rates fall and vice versa. This effect is usually more pronounced for longer term securities. Securities issued or guaranteed by federal agencies and U.S. government-sponsored instrumentalities may or may not be backed by the full faith and credit of the U.S. government, and the U.S. government may be unable or unwilling to honor its financial obligations. Non-investment-grade (high-yield or junk) securities present greater price volatility and more risk to principal and income than higher rated securities. International investing involves certain risks and volatility due to potential political, economic or currency instabilities and different financial and accounting standards. These risks are enhanced for emerging markets issuers. Diversification does not assure a profit or protect against loss.

The views expressed are as of September 2021, may change as market or other conditions change and may differ from views expressed by other Columbia Management Investment Advisers, LLC (CMIA) associates or affiliates. Actual investments or investment decisions made by CMIA and its affiliates, whether for its own account or on behalf of clients, will not necessarily reflect the views expressed. This information is not intended to provide investment advice and does not account for individual investor circumstances. Investment decisions should always be made based on an investor's specific financial needs, objectives, goals, time horizon and risk tolerance. Asset classes described may not be suitable for all investors. Past performance does not guarantee future results, and no forecast should be considered a guarantee either. Since economic and market conditions change frequently, there can be no assurance that the trends described here will continue or that the forecasts are accurate.

Investment products offered through Columbia Management Investment Distributors, Inc., member FINRA. Advisory services provided by Columbia Management Investment Advisers, LLC.

Columbia Threadneedle Investments (Columbia Threadneedle) is the global brand name of the Columbia and Threadneedle group of companies.

CTNP **116681 C (09/21)** XKGS/3726834
Exp. 9/30/2022