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COLUMBIA THREADNEEDLE INVESTMENTS

Looking beyond the U.S. Aggregate Bond Index

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HIGHLIGHTS

Investors will need to look beyond the Agg to navigate the balance between generating income and managing volatility.

Credit-based risk has consistently provided better income and return opportunities.

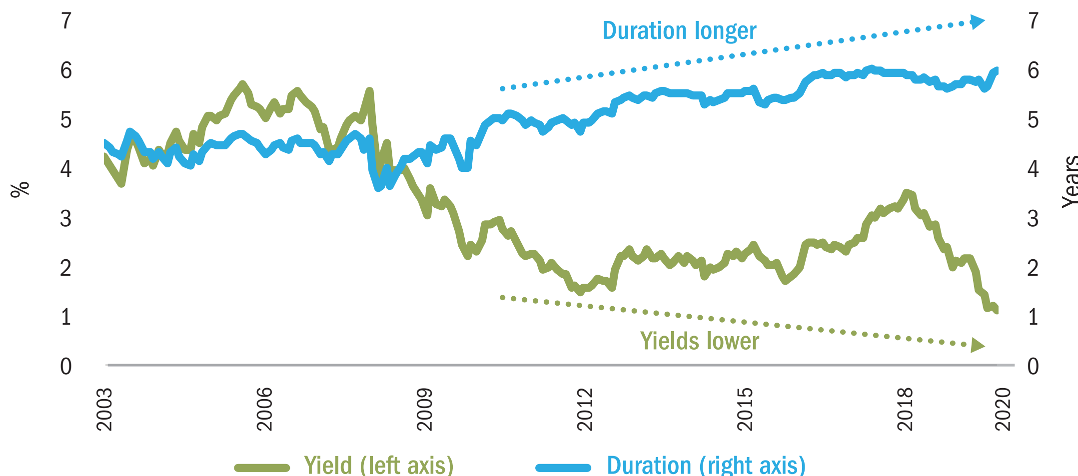
A range of credit strategies exist outside the confines of the Agg that seek to address risk without sacrificing income potential.

Bond portfolios with core holdings composed of highly rated securities have long been the choice of fixed-income investors looking for reliable income and capital preservation. Products that replicate or closely track the Bloomberg Barclays U.S. Aggregate (the Agg), which encompasses U.S. Treasuries, agency mortgage-backed securities and investment-grade corporate bonds, exploded in popularity after successfully delivering on both objectives for decades.

Thirty-five years of falling interest rates drove strong fixed-income index performance. But low yield has created unfamiliar challenges in today's environment. With yields on safe-haven debt near zero, "low-risk" portfolios have become increasingly susceptible to the price volatility that investors historically sought to avoid. Investors will need to look beyond the Agg to navigate the balance between generating income and managing volatility.

Like so many other things in life, our perception of core bond investing is heavily influenced by past events. Consider that the Agg yielded almost 8% in January 1976 (the beginning of its history) and didn't post a negative total return for 19 calendar years. For over three decades, investors could exclusively use highly rated bonds to earn a real yield with little risk to capital. However, the Federal Reserve's aggressive policy response to the 2008 financial crisis drove bond yields to unprecedented territory and government issuance increased greatly. The U.S. Treasury component of the Agg rose from 22% in 2007 to almost 40% today, increasing the index's sensitivity to interest rates (i.e., increasing duration.) Unfortunately for investors, yield compensation for that risk is near an all-time low (Exhibit 1).

EXHIBIT 1: AGG-BASED INVESTORS ARE TAKING MORE RISK TO GENERATE LESS INCOME THAN EVER BEFORE



Source: Columbia Threadneedle Investments based on Bloomberg Barclays Indices as of 06/30/20.

Based on the constituents of the Bloomberg Barclays Aggregate Bond Index. **Duration is a measure of the sensitivity of a bond's price to changes in interest rates.**

Past performance is not a guarantee of future results. It is not possible to invest directly in an index.

Given the Agg's construct, benchmark-constrained investors have little choice but to accept this unfavorable risk-reward profile. While it may seem well-diversified on the surface, the Agg's concentration in government-guaranteed debt — over 70% across U.S. Treasuries, agency mortgages and other government-backed securities — ensures that duration risk remains the driving force behind performance.

Credit-based risk has consistently provided better income and return opportunities.

Credit risk is the possibility of default, resulting from a borrower's failure to repay its debt. Investors earn a yield premium — or spread — for assuming this risk. The relative lack of credit risk in the Agg helps explain why its yield trails many fixed-income alternatives.

Because income is a critical component of a bond's total return, the Agg's relative income disadvantage has caused it to underperform sectors with varying degrees of credit risk over short- and long-term periods alike:

EXHIBIT 2: LACK OF YIELD DEPRESSES TOTAL RETURN POTENTIAL

2019 3-year (%)	**2019** 5-year (%)	**2019** 7-year (%)	**2019** 10-year (%)	**2019** 15-year (%)
HY 6.37	HY 6.13	HY 5.78	HY 7.57	HY 7.20
EMD 6.07	EMD 5.84	Loans 4.41	EMD 6.62	EMD 7.16
U.S. IG 5.92	U.S. IG 4.60	EMD 4.20	U.S. IG 5.54	U.S. IG 5.22
Loans 4.48	Loans 4.54	U.S. IG 4.10	Loans 5.18	Loans 4.65
Global Non-USD 4.36	U.S. Agg 3.05	U.S. Agg 2.72	U.S. Agg 3.75	U.S. Agg 4.15
U.S. Agg 4.03	Agency MBS 2.58	Agency MBS 2.49	Agency MBS 3.15	Agency MBS 4.02
Agency MBS 3.25	Global Non-USD 1.62	Global Non-USD 0.26	Global Non-USD 1.50	Global Non-USD 2.41

Source: Columbia Threadneedle Investments based on Bloomberg Barclays Indices and Credit Suisse Indices as of 12/31/19.

U.S. Agg is represented by the Bloomberg Barclays U.S. Aggregate Bond Index; Agency MBS is represented by the Bloomberg Barclays U.S. Mortgage-Backed Securities Index; Non-USD is represented by the Bloomberg Barclays Global Aggregate ex-USD Total Return Index; U.S. IG is represented by the Bloomberg Barclays U.S. Corporate Index; EMD is represented by the Bloomberg Barclays EM USD Aggregate Total Return Index; HY is represented by the Bloomberg Barclays U.S. High Yield Corporate Index; Loans is represented by the Credit Suisse Leveraged Loan Index. **For important index information please see the disclosure page.**

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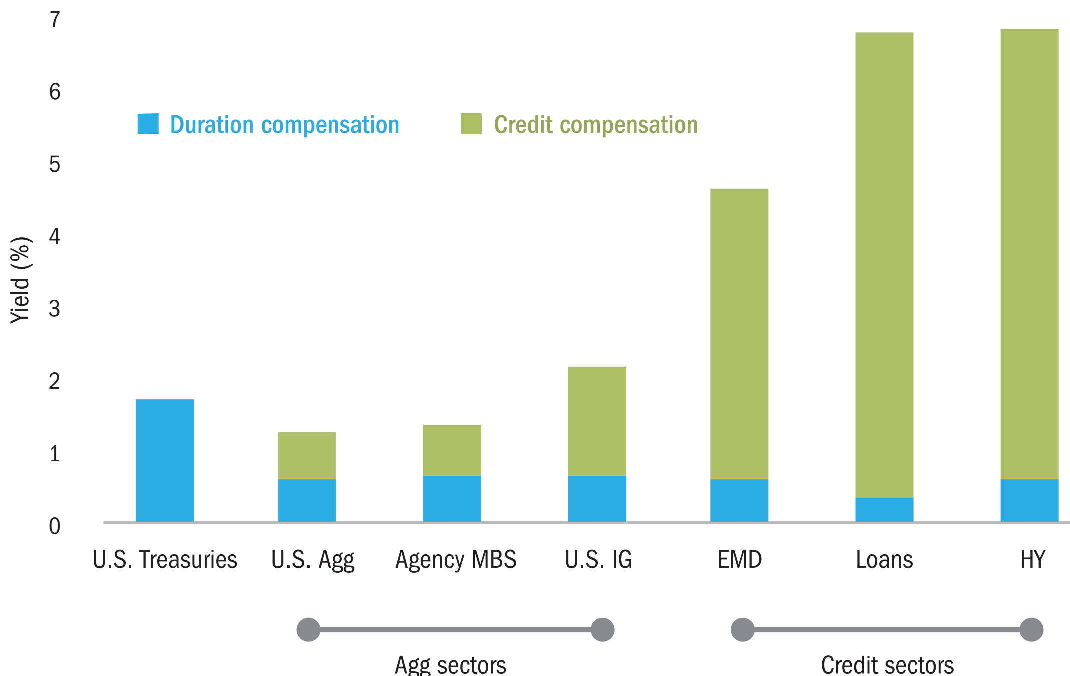
Credit-based risk has consistently provided better income and return opportunities.

Many investors assume that introducing credit alongside high-quality, core bonds results in a riskier portfolio. But this assessment neglects the fact that credit and interest-rate risk are negatively correlated and can serve as critical counterweights to each other. This, in large part, relates to yield premiums. Sectors like high-yield bonds, leveraged loans and emerging market debt feature substantial yield premiums to entice investors to take on more credit risk. As a result, most of their yield represents compensation for credit rather than duration risk (Exhibit 3).

EXHIBIT 3: YIELD PREMIUMS GROW WHEN MOVING DOWN THE QUALITY SPECTRUM



Source: Columbia Threadneedle Investments based on Bloomberg Barclays and Credit Suisse Indices as of 06/30/20.

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U.S. Treasuries is represented by the Barclays U.S. Treasury Index; U.S. Agg is represented by the Bloomberg Barclays U.S. Aggregate Bond Index; Agency MBS is represented by the Bloomberg Barclays U.S. Mortgage-Backed Securities Index; U.S. IG is represented by the Bloomberg Barclays U.S. Corporate Index; EMD is represented by the Bloomberg Barclays EM USD Aggregate Total Return Index; HY is represented by the Bloomberg Barclays U.S. High Yield Corporate Index; Loans is represented by the Credit Suisse Leveraged Loan Index; **For important index information please see the disclosure page.**

Yield across fixed-income sectors ultimately reflects different risk compositions, which lead to different performance profiles in various market environments. For example, interest-rate risk performs best when central banks ease monetary policy to combat slowing economic growth. A flight-to-quality can also create demand for safe-haven assets. Credit risk might struggle in this environment — it performs best when risk-taking is in favor, economic growth is stronger and yield premiums sufficiently compensate for perceived default risk. This complementary performance suggests that introducing credit risk into an otherwise high-quality, duration-centric portfolio encourages diversification and may smooth returns over time.

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Of course, the questions are what credit instruments to own and when. Simply reaching for yield in some of the most volatile sectors of the market can expose portfolios to unintended risk, including a higher correlation to equities and less downside protection during risk-off episodes.

Diversification does not assure a profit or protect against loss.

A range of strategies exists outside the confines of the Agg that address risk without sacrificing income potential.

High-yield bonds, as the name implies, are one of the highest income-producing investments across global fixed-income markets. This debt carries a below-investment-grade rating, and it's typically issued by highly indebted companies that may exhibit riskier financial metrics. As a result, high-yield corporate bonds have defaulted at a higher rate than their investment-grade-rated counterparts. But those defaults have not been proportionally distributed by quality rating. In fact, lower rated CCC bonds have defaulted almost six times more frequently than the broader high-yield market. They may be star performers during a recovery, but higher rated BB and B bonds provide more consistent outcomes with less downside variability through other stages of the market cycle.

EXHIBIT 4: DEFAULT, VOLATILITY AND RETURN VARIES CONSIDERABLY ACROSS CREDIT QUALITY

	Average default rate	Volatility	Average drawdown	Annualized total return
HY	4.0%	8.87	-5.23%	7.06%
BB	0.7%	7.35	-3.89%	7.11%
B	3.4%	8.63	-5.36%	6.35%
CCC and below	26.6%	13.92	-9.10%	7.37%

Source: S&P Global Ratings, "2019 Annual Global Corporate Default Study and Rating Transitions." Average Default Rate by Rating represents the weighted long-term average from 1981-2018 of the one-year default rate. Risk and return metrics reflect trailing 15 year period ending 12/31/19. Average drawdown reflects the average of annual/calendar year maximum drawdowns.

HY is represented by the ICE BofA US Cash Pay High Yield Constrained Index; BB is represented by the ICE BofA BB US Cash Pay High Yield Constrained Index; B is represented by the ICE BofA B US Cash Pay High Yield Constrained Index; CCC and below is represented by the ICE BofA CCC and Below US Cash Pay High Yield Constrained Index. **For important index information please see the disclosure page.**

Past performance is not a guarantee of future results. It is not possible to invest directly in an index.

Anyone investing in high-yield bonds should be prepared for short-term bouts of volatility. But investors may improve the durability of their portfolios by actively navigating the quality spectrum to capitalize on high yield's income advantage and diversification potential.

On the other hand, investment-grade-rated bonds generally demonstrate both lower volatility and default risk — the tradeoff is a lower yield premium. An exception is the $4 trillion structured credit market, much of which remains insulated from the pressures of forced buying and selling by passive investment vehicles. In this market, cash-flow-producing financial assets are bundled together and repackaged into bonds through a process known as securitization — which allows financial institutions to originate consumer or business loans and transfer the credit risk from their balance sheets to investors. The cash flows received by investors are derived from the principal and interest payments made on the individual loans that collateralize the bonds. Residential mortgages represent the most common form of collateral, but securitizations may also be backed by personal loans, credit card receivables, student loans, commercial mortgages, equipment leases or leveraged loans.

Despite the universe being large and diverse, most structured credit instruments are not represented in traditional indices. In fact, the Agg only captures agency mortgage-backed securities, which carry no credit risk as a result of their government guarantee. Without an index to track, passive investment vehicles aren't required to gain exposure to credit-based sectors of the structured product market. This lack of forced buying helps to enhance their yield profile.

Many structured credit instruments offer yields comparable to those of similarly rated corporate bonds, but with some important structural differences. As previously mentioned, cash flows to investors contain both an interest and principal component. Amortization, or the gradual return of principal, reduces the outstanding loan balance and allows the structure to delever (reduce the loan outstanding borrowed) over time. This is different from conventional corporate bonds that pay off the full principal amount in a single lump sum at maturity. Structured credit is most often secured by the asset being financed. In the event of default, investors can take possession of and sell the asset to recoup some, or all, of the outstanding loan balance. Securitizations are inherently diversified given that cash flows are based on pools of individual loans that, coupled with stronger underwriting since the financial crisis, may provide better protection against potential loss. For these reasons, structured credit has historically exhibited some defensive characteristics that can improve portfolio outcomes as the credit cycle matures and corporate credit falls out of favor.

For investors looking to broaden their opportunity set with international bonds, the Agg once again falls short.

Narrowly defined by a domestic footprint, the Agg excludes nearly two-thirds of the global bond universe and half of the available yield. Some of the most attractive overseas income prospects come from emerging markets, which are quickly growing in their importance to the global economy. Emerging market debt spans the quality spectrum and can be issued by countries or companies in a range of currencies. Hard currency debt is usually denominated in U.S. dollars, while local currency debt is denominated in the issuer's home currency. Both offer opportunities for higher yields, but the volatility associated with emerging market currencies render local bonds far riskier.

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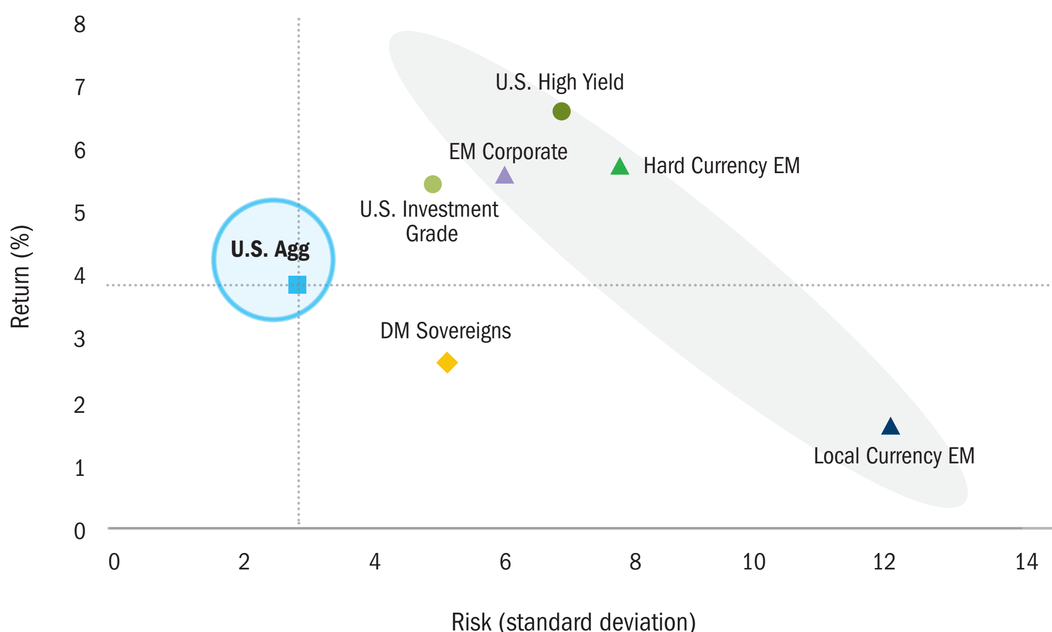
EXHIBIT 5: RISK-RETURN METRICS OF SELECT INDICES



Source: Columbia Threadneedle Investments based on JPMorgan and Bloomberg Barclays Indices, 10 years ending 06/30/20.

Hard Currency EM is represented by the JPM EMBI Global TR USD index; Local Currency EM is represented by the JP Morgan GBI-EM Global Diversified TR USD index; EM Corporate is represented by the JP Morgan CEMBI Broad Diversified TR USD index; DM Sovereigns are represented by the JP Morgan GBI Broad TR USD index; U.S. High Yield is represented by the Bloomberg Barclays US Corporate High Yield TR USD index; U.S. Investment Grade is represented by the Bloomberg Barclays US Corp Bond TR USD index; U.S. Agg is represented by the Bloomberg Barclays US Agg Bond TR USD index.

Past performance is not a guarantee of future results. It is not possible to invest directly in an index.

With a diverse range of issuers, emerging market bonds expose investors to equally diverse macroeconomic sensitivities, political systems and idiosyncratic risks that may affect portfolio returns. For example, commodity exporters often benefit from accelerating global growth as demand for raw materials increases. Conversely, countries with larger hard currency debt balances may face pressure if the U.S. dollar strengthens, making it more expensive to pay those debts back. Equally important to a country's ability to pay is its willingness — a country with less stable political institutions may face higher default risk regardless of its economic profile. A targeted approach that seeks to tease out these vulnerabilities may help investors achieve their income objectives while mitigating some of the risks that accompany emerging market bond investing.

Bottom line

The Agg has been synonymous with the U.S. bond market for decades, but its utility as an investment solution has faded. Low yields and interest-rate uncertainty make the current fixed-income environment challenging and traditional duration exposures less attractive for long-term investors. But where there are challenges, there are opportunities. And expanding the opportunity set to include diversified credit may benefit income-oriented investors beyond just a higher yield. A flexible approach and the ability to adapt to a given market environment may position investors for more consistent returns and restore the critical balance between income and capital preservation.

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Past performance is not a guarantee of future results.

* In U.S. dollars as of March 31, 2020. Source: Ameriprise Q1 Earnings Release. Contact us for more current data.

The **Bloomberg Barclays Emerging Market USD Aggregate Index** is an unmanaged index that tracks total returns for external-currency-denominated debt instruments of the emerging markets.

The **Bloomberg Barclays Municipal Index** is an unmanaged index considered representative of the tax-exempt bond market.

The **Bloomberg Barclays U.S. Aggregate Bond Index** is a market-value-weighted index that tracks the daily price, coupon, pay-downs and total return performance of fixed-rate, publicly placed, dollar-denominated and non-convertible investment-grade debt issues with at least $250 million par amount outstanding and with at least one year to final maturity.

The **Bloomberg Barclays U.S. Corporate Index** measures the investment-grade, fixed-rate, taxable, corporate bond market.

The **Bloomberg Barclays U.S. Corporate Investment Grade Index** measures the investment grade, taxable corporate bond market.

The **Bloomberg Barclays U.S. High Yield Corporate Index** is a market-value-weighted index which covers the U.S> non-investment-grade fixed-rate debt market.

The **Bloomberg Barclays U.S. Mortgage-Backed Securities Index** measures the performance of investment-grade, fixed-rate, mortgage-backed pass-through securities.

The **Bloomberg Barclays U.S. Treasury Index** includes public obligations of the U.S. Treasury.

The **Credit Suisse Leveraged Loan Index** tracks the investable market of the U.S.-dollar-denominated leveraged loan market. It consists of issues rated “5B” or lower, meaning that the highest rated issues included in this index are Moody’s/S&P ratings of Baa1/BB+ or Ba1/BBB+. All loans are funded term loans with a tenor of at least one year and are made by issuers domiciled in developed countries.

The **ICE BofA US Cash Pay High Yield Constrained Index** tracks the performance of US dollar denominated below investment grade rated corporate debt publicly issued in the US domestic market.

The **ICE BofA BB US Cash Pay High Yield Constrained Index** tracks the performance of US dollar denominated BB rated corporate debt publicly issued in the US domestic market.

The **ICE BofA B US Cash Pay High Yield Constrained Index** tracks the performance of US dollar denominated B rated corporate debt publicly issued in the US domestic market.

The **ICE BofA CCC and Below US Cash Pay High Yield Constrained Index** tracks the performance of US dollar denominated CCC and Below corporate debt publicly issued in the US domestic market.

The **JP Morgan EMBI Global Total Return U.S. Dollar Index** measures total returns for traded external debt instruments in the emerging markets.

The **JP Morgan GBI-EM Global Diversified Total Return U.S. Dollar Index** measures local currency denominated fixed rate government debt issued in emerging markets.

The **JP Morgan CEMBI Broad Diversified Total Return U.S. Dollar Index** measures liquid global emerging market corporate bonds.

The **JP Morgan GBI Broad Total Return U.S. Dollar Index**, measures the developed market government bond market.

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

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