

BlackRock

A systematic approach to high yield credit





Tom Parker, CFA
Chief Investment Officer
Systematic Fixed Income



Scott Radell
Systematic Fixed Income Head
of Portfolio Management



Jesse Kang, CFA
Global Head of Systematic Credit



Aaron Aguiar, CFA, FRM, CAIA
Systematic Fixed Income High
Yield Portfolio Management

Summary

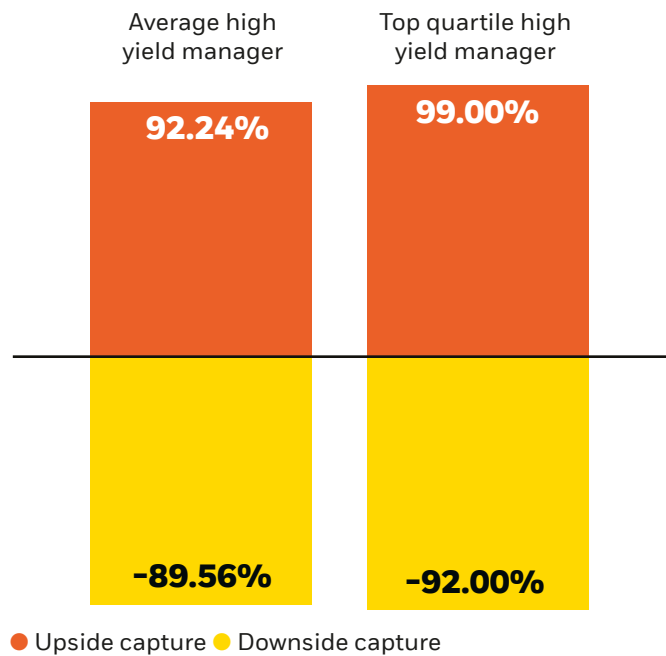
- We believe it's possible to build high yield strategies that are systematically well positioned not only to seek to deliver downside mitigation when investors need it most, but also seek to deliver potentially better upside participation when high-yield bond markets rebound.
- Historically, high yield markets are an asset class that has exhibited sharp mean reversion patterns after outsized down periods. In this paper, we more closely examine the performance of high yield managers during periods of market stress, followed by quick market rallies, we highlight the period between 2022 and 2023 as a case study as this is the most recent example of this market behavior.
- Analysis of the eVestment high yield universe confirms the average high yield manager is positioned to prioritize risk mitigation over alpha generation. By clustering high yield performance by market regime, we can better observe the defensive nature of active managers in this asset class. We view this as the Achilles' heel of both average, and even most top quartile high yield managers.
- In this paper, we more closely examine the performance of high yield managers during periods of market stress, followed by quick market rallies. We detail how even among the top quartile of high yield managers, many are not suited to fully capture the rebounding nature of this asset class and offer a systematic counter perspective to this traditional approach.

Does good defense in credit markets mean giving up offense?

A strong fourth quarter in 2023 topped off a year of positive returns for both high- and low-risk assets. The S&P 500 Index gained over 26%, U.S. high yield was up over 13%, and the Bloomberg U.S. Aggregate Bond Index, the fixed income exposure investors have relied upon as portfolio ballast, was up over 5%.¹ This was in sharp contrast to 2022 when the S&P fell over 18%, U.S. high yield was down over 11% and even the U.S. Agg fell over 13% following the Federal Reserve’s fastest rate hiking campaign in decades.² 2022-2023 created an environment for investors where all in yields looked attractive in corporate credit, but spreads were near historic tights — with these market dynamics at play, investors could exercise more selectivity in allocations to corporate credit.

The asymmetric return profile of high yield bonds cautions most portfolio managers to position for downside risk rather than upside potential. Analysis of eVestment data between 2005-2025, found the majority of high yield managers set out to build defensive portfolios irrespective of the macroeconomic regime. Figure 1 illustrates the defensive nature of managers in this asset class by comparing upside and downside capture ratios of the average vs. top quartile managers. Figure 1 shows the average manager tended to participate in 89.56% of down markets and 92.24% of up markets. This illustrates how the average U.S. high yield manager was building a “defensive” exposure largely by creating a portfolio that has a lower beta than the broad index. While top decile managers tended to capture more upside than the average manager, they still sacrificed participation in “up” market regimes in favor of downside protection.

Figure 1: The power of less downside capture
eVestment average high yield manager vs. top quartile manager capture ratio 2005-2025



The figures shown relate to past performance. Past performance is not a reliable indicator of current or future results. Source: Chart by BlackRock using data from eVestment as of June 30, 2025 to measure net of fee figures.



1 Past performance does not guarantee future returns. Indexes are unmanaged and do not reflect any management fees, transaction costs or expenses. One cannot invest directly in an index **2** Source: Bloomberg, as of March 31, 2024.

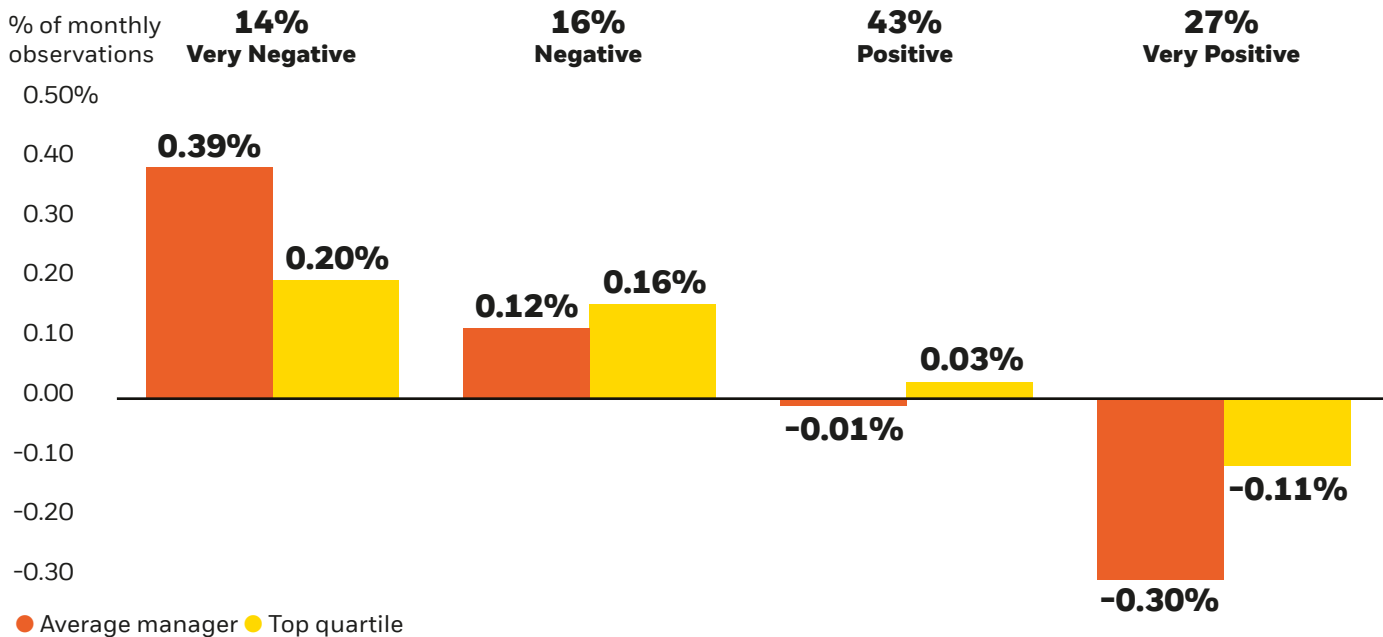
This trend was evident throughout 2022 and 2023. In 2022, the average manager outperformed their benchmark by 0.47%. At first blush, this outperformance may seem like a positive outcome, but did it come at the cost of lost upside potential? The answer is, yes. In 2023, the average U.S. high yield manager underperformed their benchmark by -0.68%.³ In a year when U.S. high yield gained over 13%, the average active manager actually failed to capture the upside and underperformed the broad high yield market.

As seen in the long-term data in Figure 1, both the average and top quartile high yield managers have delivered downside mitigation. Where the average, and even most top quartile managers, have fallen short has been in their ability to capture upside performance as markets rotate. By clustering high yield performance by regimes, we can observe the defensive profile of active managers.

Using the returns of the ICE BofA High Yield Constrained Index from June 2005-June 2025,⁴ we found that U.S. high yield markets generally oscillate between four monthly performance regimes. We defined these four regimes as <1.5% (“Very Negative”), >=-1.5%<0% (“Negative”), >=0 - <1.5% (“Positive”), and >1.5% (“Very Positive”). We saw that high yield managers delivered the bulk of their excess returns in “Very Negative” regimes, and trailed index performance in “Very Positive” regimes (see Figure 2). It is also important to note that the total of “Positive” and “Very Positive” regimes (168 months) vastly outnumbered the total of “Negative” and “Very Negative” regimes (72 months), emphasizing the importance to deliver upside participation, *in addition to downside mitigation*, over the long run.⁵

Figure 2: High yield excess return by performance regime

Average high yield manager vs. top quartile manager monthly excess return 2005-2025



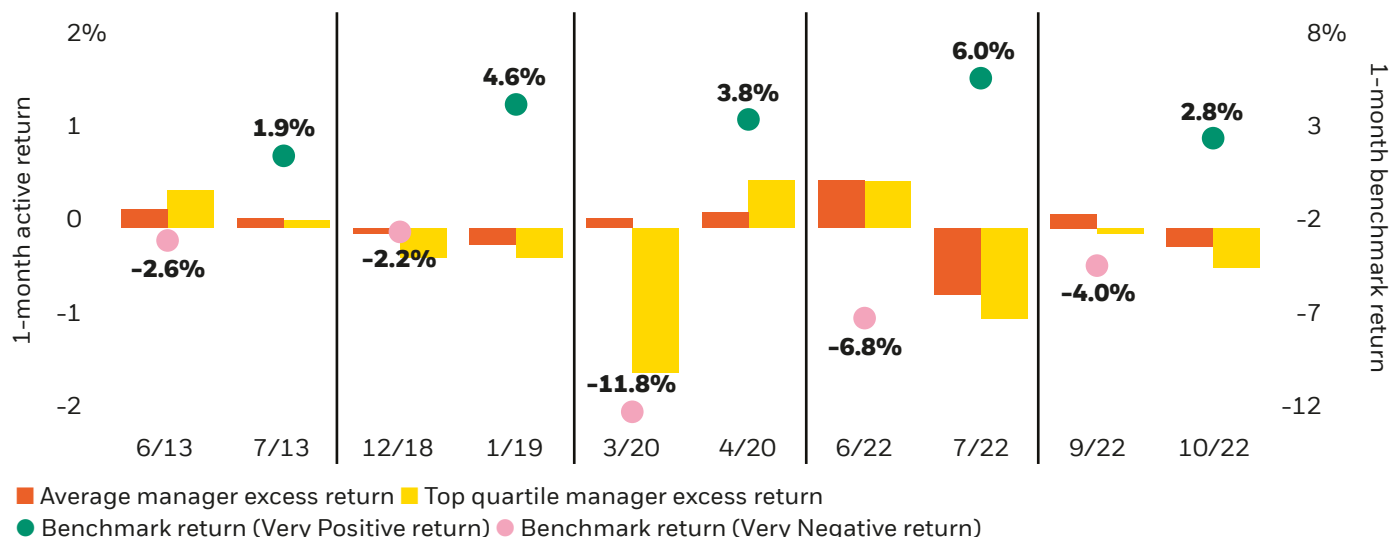
The figures shown relate to past performance. Past performance is not a reliable indicator of current or future results.

Source: Chart by BlackRock using monthly return data from eVestment from June 30, 2005-June 30, 2025 to measure net of fee figures. eVestment uses data which is manager self-reported and only includes managers that opt into reporting. Top quartile managers are the average top 25% of managers with the highest total return over a 10-year period. Average manager is the average return for all managers vs. the ICE BofA HY Constrained Index over 20 years. Indexes are unmanaged and do not reflect any management fees, transaction costs or expenses. One cannot invest directly in an index.

³ Source eVestment, excess returns are net of fees as of December 31, 2023. ⁴ The ICE BofA U.S. High Yield Index is market capitalization weighted and is designed to measure the performance of U.S. dollar denominated below investment grade corporate debt publicly issued in the U.S. market. ⁵ Source: eVestment as of March 31, 2024.

Figure 3: Downside mitigation without upside capture

Excess active manager returns during “Very Negative” to “Very Positive” performance regimes 2013-2023



The figures shown relate to past performance. Past performance is not a reliable indicator of current or future results.

Source: Chart by BlackRock using data from eVestment as of March 31, 2024, net of management fee. Top quartile managers are the average top 25% of managers with the highest total return over a 10-year period. Average manager is the average return of all managers vs the ICE BofA HY Constrained Index over 20 years. Indexes are unmanaged and do not reflect any management fees, transaction costs or expenses. One cannot invest directly in an index.

In a review of periods of market stress (in Figure 3), including the 2013 taper tantrum, 2018 tightening of financial conditions, 2020 COVID drawdown and spread widening in 2022, we observed the defensive dynamic among both average and top quartile active managers. Importantly however, in the months where rapid transitions between “Very Negative” and “Very Positive” performance regimes occurred, the same group of managers were unable to capture upside as the broader market snapped back. In many cases, these managers gave up more excess return in subsequent “Very Positive” regimes than was mitigated on the downside during “Very Negative” regimes. In today’s environment, as market drawdowns have commonly been followed by quick rebounds, employing a defensive strategy that relies on beta tilts alone may likely lead to underperformance in a market rebound as shown in Figure 3.

In the first quarter of 2024, robust data and persistent inflation shifted market expectations from anticipating rate cuts to foreseeing sustained higher rates. Dramatic swings in both the market narrative and market performance reflect rapid shifts in policy expectations. The average manager outperformed by +0.35% in the first quarter of 2024, but underperformed by -0.37% for the remainder of 2024.⁶ We have seen this play out in

dramatic swings in asset performance as we noted above with the sharp rebounds in asset performance seen in Figure 3. We believe high yield strategies could be well positioned to deliver both downside mitigation and participate in market upswings.

Systematically navigating credit risk

Investors who rely on high yield bonds seeking to generate incremental return understand that periods of market stress can result in increases in downside risk. Most high yield strategies prioritize mitigating this risk, as indicated in Figure 1. But there are potential solutions in seeking to manage downside risk, along with seeking to maximize upside return potential. A systematic approach benefits from the opportunity to cover thousands of high yield issuers daily. Unlike fundamental managers, systematic financial models may be less susceptible to bias in the investment process. Our models employ strict criteria to identify entry and exit points on securities. This approach seeks to lessen the risk of emotions playing a role in closing winning positions too early or holding onto losing positions too long.

⁶ Source: eVestment excess returns as of December 31, 2024.

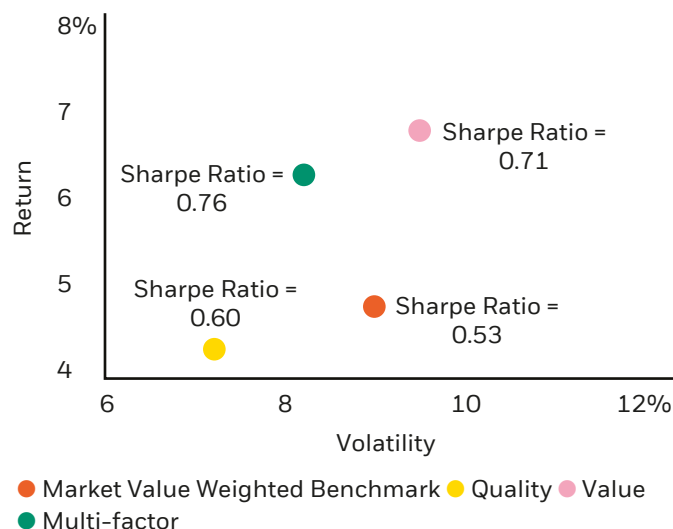
A systematic investment approach to credit also prioritizes an ability to embed defensive positioning that may help protect investors when they need it most, during down market environments. Our proprietary probability of default signal that has underpinned all of our credit strategies for over 20 years has successfully identified 77% of the defaulted bonds in the ICE BofA High Yield Index within 24 months of its default since 2010.⁷ Our probability of default signal centers on a simple economic assumption that default occurs when the value of a firm's assets fall below the value of its liabilities. The probability of default model uses accounting, market data of equity and bond instruments, bond ratings, and other economic variables to estimate the probability of default for the issuer over a forward looking 12-month period. A full balance sheet approach is taken in assessing credit quality, not dissimilar to fundamental credit analysis to evaluate risk. We believe defensive outcomes are key to integrate in credit strategies to counter the asymmetrical nature of credit markets.

The science of security selection

Unlike many high yield managers, we don't believe that upside should be sacrificed at the expense of downside mitigation. We believe the best outcomes in credit markets are possible through improved security selection using quality and value insights rather than beta tilts. Despite the unfavorable asymmetry of risk and return in credit markets, it is not always prudent to be looking for safety, irrespective of the macro-economic environment. A strategy that is flexible enough aiming to balance downside mitigation and still participate in strong market regimes is imperative to help investors navigate today's markets. An uncertain economic outlook, increased volatility in asset pricing and sharp asset class reversals demand a strategy that offers flexibility to counter market reactions to further shifts in monetary policy.

Our high yield strategies are built on the foundation of a quality screen, which aim to mitigate losses in a portfolio during periods of market decline. Using our proprietary probability of default signal, we screen out the names with the highest default probability. In a portfolio where you are solely screening for higher quality bonds, you could achieve a defensive outcome, but also lower overall total return, evidenced in Figure 4. Intuitively, reducing default risk results in a higher quality portfolio, but that also comes at the expense of total return.

Figure 4: Improved returns and Sharpe ratios when combining insights



The figures shown relate to past performance. Past performance is not a reliable indicator of current or future results.

Source: BlackRock, as of June 30, 2025. Shows the market value weighted returns of the bonds in the ICE BAML U.S. HY Corporate Bond Index. Index data was rerun and updated by BlackRock from June 30, 2005-June 30, 2025. Benchmark portfolios were constructed by market value weighting the BAML U.S. High Yield Corporate universes. Quality portfolios were constructed by screening the lowest quality quintile and market value weighting the remaining universe. Volatility calculated as standard deviation of monthly returns. An index is unmanaged and do not reflect any management fees, transaction costs or expenses. One cannot invest directly in an index.

To counterbalance our quality screen, we seek to evaluate credit value at the same time. We identify bonds that have compelling default-adjusted spread, meaning those that you are being compensated with a wider spread, adjusted for the default risk you're being asked to take. Combining these insights may lead to higher Sharpe Ratio as well as higher return than the overall high yield market.

While this approach is not overly complex, the daily application of our proprietary systematic default insights to the high yield universe, alongside a disciplined combination of both quality and value insights, is what can help potentially achieve a better optimized risk and return tradeoff. Put another way, as default risk increases, investors may want to consider avoiding buying riskier assets in order to achieve potentially higher yields. Simultaneously, as default risk declines, investors' search for yield may prove beneficial. Quality screens may help protect high yield investors on the downside, while adding value screens may help improve upside participation. This complementary approach also can help investors avoid attempts to try to time economic regimes.

⁷ Source: BlackRock, ICE BofA ML as of March 31, 2024, using data since January 2010.

Seeking to capture alpha opportunity in high yield

Across high yield and investment grade credit approaches, a combination of credit model signals help us align risk characteristics to help ensure our portfolios exclude any unintended sector, ratings, or duration deviation from relevant benchmarks. Our portfolio construction framework has evolved over decades, is enhanced by our systematic expertise, and enriched by signals that seek to capitalize on the inherent biases in credit markets. Our systematic approach to high yield credit markets allows us to have a view on thousands of bond issuers daily.

We believe the best outcomes in credit markets are possible through improved security selection aiming to mitigate downside risk and is well positioned to capitalize on market rotation. Our financial models employ strict criteria to identify entry and exit points on each security, which means anticipating and countering the impact of monetary policy, geopolitical headwinds or pinpointing the next recession is already built into the framework that underpins each of our systematic credit strategies. We believe investors should be able to systematically capture upside opportunities in the high yield segment of credit markets, without losing sleep over fears of downside risk in their portfolio.



FOR PROFESSIONAL, INSTITUTIONAL INVESTORS, QUALIFIED INVESTORS, WHOLESALE INVESTORS AND PROFESSIONAL CLIENT USE ONLY – NOT FOR PUBLIC DISTRIBUTION (PLEASE READ IMPORTANT DISCLOSURES)

For investors in Italy: This document is marketing material. Before investing please read the Prospectus and the PRIIPS KID available on www.blackrock.com/it, which contain a summary of investors' rights.

Risk warnings

Capital at risk. The value of investments and the income from them can fall as well as rise and are not guaranteed. Investors may not get back the amount originally invested.

Past performance is not a reliable indicator of current or future results and should not be the sole factor of consideration when selecting a product or strategy.

Changes in the rates of exchange between currencies may cause the value of investments to diminish or increase. Fluctuation may be particularly marked in the case of a higher volatility product or strategy and the value of an investment may fall suddenly and substantially. Levels and basis of taxation may change from time to time.

Companies which issue higher yield bonds typically have an increased risk of defaulting on repayments. In the event of default, the value of investors investment may reduce. Economic conditions and interest rate levels may also impact significantly the values of high yield bonds.

Important information

This material is provided for educational purposes only and is not intended to be relied upon as a forecast, research or investment advice, and is not a recommendation, offer or solicitation to buy or sell any securities or to adopt any investment strategy. The opinions expressed are subject to change. References to specific securities, asset classes and financial markets are for illustrative purposes only and are not intended to be and should not be interpreted as recommendations. Reliance upon information in this material is at the sole risk and discretion of the reader. The material was prepared without regard to specific objectives, financial situation or needs of any investor.

This material may contain "forward-looking" information that is not purely historical in nature. Such information may include, among other things, projections, forecasts and estimates of yields or returns. No representation is made that any performance presented will be achieved by any BlackRock Funds, or that every assumption made in achieving, calculating or presenting either the forward-looking information or any historical performance information herein has been considered or stated in preparing this material. Any changes to assumptions that may have been made in preparing this material could have a material impact on the investment returns that are presented herein. Past performance is not a reliable indicator of current or future results and should not be the sole factor of consideration when selecting a product or strategy.

The information and opinions contained in this material are derived from proprietary and nonproprietary sources deemed by BlackRock to be reliable, are not necessarily all-inclusive and are not guaranteed as to accuracy.

In the U.S., this material is for Institutional use only – not for public distribution.

In Canada, this material is intended for institutional investors, is for educational purposes only, does not constitute investment advice and should not be construed as a solicitation or offering of units of any fund or other security in any jurisdiction.

This material is for distribution to Professional Clients (as defined by the Financial Conduct Authority or MiFID Rules) only and should not be relied upon by any other persons.

In the UK and Non-European Economic Area (EEA) countries: This is Issued by BlackRock Investment Management (UK) Limited, authorised and regulated by the Financial Conduct Authority. Registered office: 12 Throgmorton Avenue, London, EC2N 2DL. Tel: + 44 (0)20 7743 3000. Registered in England and Wales No. 02020394. For your protection telephone calls are usually recorded. Please refer to the Financial Conduct Authority website for a list of authorised activities conducted by BlackRock.

In the European Economic Area (EEA): This is Issued by BlackRock (Netherlands) B.V. is authorised and regulated by the Netherlands Authority for the Financial Markets. Registered office Amstelplein 1, 1096 HA, Amsterdam, Tel: 020 – 549 5200, Tel: 31-20-549-5200. Trade Register No. 17068311. For your protection telephone calls are usually recorded.

For Italy, for information on investor rights and how to raise complaints please go to <https://www.blackrock.com/corporate/compliance/investor-right> available in Italian.

For qualified investors in Switzerland: This document is marketing material.

This document shall be exclusively made available to, and directed at, qualified investors as defined in Article 10 (3) of the CISA of 23 June 2006, as amended, at the exclusion of qualified investors with an opting-out pursuant to Art. 5 (1) of the Swiss Federal Act on Financial Services ("FinSA"). For information on art. 8/9 Financial Services Act (FinSA) and on your client segmentation under Art. 4 FinSA, please see the following website: www.blackrock.com/finisa.

Blackrock Advisors (UK) Limited-Dubai Branch is a DIFC Foreign Recognised Company registered with the DIFC Registrar of Companies (DIFC Registered Number 546), with its office at Unit L1.5-01A, ICD Brookfield Place, Dubai International Financial Centre, PO Box 506661, Dubai, UAE, and is regulated by the DFSA to engage in the regulated activities of 'Advising on Financial Products' and 'Arranging Deals in Investments' in or from the DIFC, both of which are limited to units in a collective investment fund (DFSA Reference Number FO00738).

In DIFC, the information contained in this document is intended strictly for Professional Clients as defined under the Dubai Financial Services Authority ("DFSA") Conduct of Business Rules. The information contained in this document, does not constitute and should not be construed as an offer of, invitation or proposal to make an offer for, recommendation to apply for or an opinion or guidance on a financial product, service and/or strategy. Whilst great care has been taken to ensure that the information contained in this document is accurate, no responsibility can be accepted for any errors, mistakes or omissions or for any action taken in reliance thereon. You may only reproduce, circulate and use this document (or any part of it) with the consent of BlackRock. The information contained in this document is for information purposes only. It is not intended for and should not be distributed to, or relied upon by, members of the public. The information contained in this document, may contain statements that are not purely historical in nature but are "forward-looking statements." These include, amongst other things, projections, forecasts or estimates of income. These forward-looking statements are based upon certain assumptions, some of which are described in other relevant documents or materials. If you do not understand the contents of this document, you should consult an authorised financial adviser.

In the Kingdom of Saudi Arabia, issued by BlackRock Saudi Arabia, authorised and regulated by the Capital Market Authority (License Number 18-192-30). Registered office: 7976 Salim Ibn Abi Bakr Shaikan St, 2223 West Umm Al Hamam District Riyadh, 12329 Riyadh, Kingdom of Saudi Arabia, Tel: +966 11 838 3600. CR No. 1010479419. For your protection telephone calls are usually recorded. Please refer to the Capital Market Authority website for a list of authorised activities conducted by BlackRock Saudi Arabia. You may only reproduce, circulate and use this document (or any part of it) with the consent of BlackRock.

In South Africa, please be advised that BlackRock Investment Management (UK) Limited is an authorised Financial Services provider with the South African Financial Services Conduct Authority, FSP No. 43288.

For investors in Israel: BlackRock Investment Management (UK) Limited is not licensed under Israel's Regulation of Investment Advice, Investment Marketing and Portfolio Management Law, 5755-1995 (the "Advice Law"), nor does it carry insurance thereunder.

In Latin America, for Institutional Investors and Financial Intermediaries Only (Not for public distribution). This material is for educational purposes only and does not constitute an offer or solicitation to sell or a solicitation of an offer to buy any shares of any fund (nor shall any such shares be offered or sold to any person) in any jurisdiction in which an offer, solicitation, purchase or sale would be unlawful under the securities law of that jurisdiction. It is possible that some or all of the funds mentioned in this document have not been registered with the securities regulator of Argentina, Brazil, Chile, Colombia, Mexico, Panama, Peru, Uruguay or any other securities regulator in any Latin American country and thus might not be publicly offered within any such country. The securities regulators of such countries have not confirmed the accuracy of any information contained herein. No information discussed herein can be provided to the general public in Latin America.

In Argentina, only for use with Qualified Investors under the definition as set by the Comisión Nacional de Valores (CNV).

In Brazil, this private offer does not constitute a public offer, and is not registered with the Brazilian Securities and Exchange Commission, for use only with professional investors as such term is defined by the *Comissão de Valores Mobiliários*.

In Chile, the offer of each security not registered with the Comisión para el Mercado Financiero ("CMF") is subject to General Rule No. 336 issued by the SVS (now the CMF). The subject matter of this offer may include securities not registered with the CMF; therefore, such securities are not subject to the supervision of the CMF. Since the securities are not registered in Chile, there is no obligation of the issuer to make publicly available information about the securities in Chile. The securities shall not be subject to public offering in Chile unless registered with the relevant registry of the CMF.

FOR PROFESSIONAL, INSTITUTIONAL INVESTORS, QUALIFIED INVESTORS, WHOLESALE INVESTORS AND PROFESSIONAL CLIENT USE ONLY – NOT FOR PUBLIC DISTRIBUTION (PLEASE READ IMPORTANT DISCLOSURES)

In Colombia, the offer of each Fund is addressed to less than one hundred specifically identified investors, and such Fund may not be promoted or marketed in Colombia or to Colombian residents unless such promotion and marketing is made in compliance with Decree 2555 of 2010 and other applicable rules and regulations related to the promotion of foreign financial and/or securities related products or services in Colombia.

IN MEXICO, FOR INSTITUTIONAL AND QUALIFIED INVESTORS USE ONLY. INVESTING INVOLVES RISK, INCLUDING POSSIBLE LOSS OF PRINCIPAL. THIS MATERIAL IS PROVIDED FOR EDUCATIONAL AND INFORMATIONAL PURPOSES ONLY AND DOES NOT CONSTITUTE AN OFFER OR SOLICITATION TO SELL OR A SOLICITATION OF AN OFFER TO BUY ANY SHARES OF ANY FUND OR SECURITY.

This information does not consider the investment objectives, risk tolerance or the financial circumstances of any specific investor. This information does not replace the obligation of financial advisor to apply his/her best judgment in making investment decisions or investment recommendations. It is your responsibility to inform yourself of, and to observe, all applicable laws and regulations of Mexico. If any funds, securities or investment strategies are mentioned or inferred in this material, such funds, securities or strategies have not been registered with the Mexican National Banking and Securities Commission (Comisión Nacional Bancaria y de Valores, the "CNBV") and thus, may not be publicly offered in Mexico. The CNBV has not confirmed the accuracy of any information contained herein. The provision of investment management and investment advisory services ("Investment Services") is a regulated activity in Mexico, subject to strict rules, and performed under the supervision of the CNBV. These materials are shared for information purposes only, do not constitute investment advice, and are being shared in the understanding that the addressee is an Institutional or Qualified investor as defined under Mexican Securities (Ley del Mercado de Valores). Each potential investor shall make its own investment decision based on their own analysis of the available information. Please note that by receiving these materials, it shall be construed as a representation by the receiver that it is an Institutional or Qualified investor as defined under Mexican law. BlackRock México Operadora, S.A. de C.V., Sociedad Operadora de Fondos de Inversión ("BlackRock México Operadora") is a Mexican subsidiary of BlackRock, Inc., authorized by the CNBV as a Mutual Fund Manager (Operadora de Fondos), and as such, authorized to manage Mexican mutual funds, ETFs and provide Investment Advisory Services. For more information on the Investment Services offered by BlackRock Mexico, please review our Investment Services Guide available in www.blackrock.com/mx. This material represents an assessment at a specific time and its information should not be relied upon by the you as research or investment advice regarding the funds, any security or investment strategy in particular. Reliance upon information in this material is at your sole discretion. BlackRock México is not authorized to receive deposits, carry out intermediation activities, or act as a broker dealer, or bank in Mexico. For more information on BlackRock México, please visit: www.blackrock.com/mx. BlackRock receives revenue in the form of advisory fees for our advisory services and management fees for our mutual funds, exchange traded funds and collective investment trusts. Any modification, change, distribution or inadequate use of information of this document is not responsibility of BlackRock or any of its affiliates. Pursuant to the Mexican Data Privacy Law (Ley Federal de Protección de Datos Personales en Posesión de Particulares), to register your personal data you must confirm that you have read and understood the Privacy Notice of BlackRock México Operadora. For the full disclosure, please visit www.blackrock.com/mx and accept that your personal information will be managed according with the terms and conditions set forth therein.

In Peru, this private offer does not constitute a public offer, and is not registered with the Securities Market Public Registry of the Peruvian Securities Market Commission, for use only with institutional investors as such term is defined by the *Superintendencia de Banca, Seguros y AFP*.

In Uruguay, the Securities are not and will not be registered with the Central Bank of Uruguay. The Securities are not and will not be offered publicly in or from Uruguay and are not and will not be traded on any Uruguayan stock exchange. This offer has not been and will not be announced to the public and offering materials will not be made available to the general public except in circumstances which do not constitute a public offering of securities in Uruguay, in compliance with the requirements of the Uruguayan Securities Market Law (Law Nº 18.627 and Decree 322/011).

For investors in Central America, these securities have not been registered before the Securities Superintendence of the Republic of Panama, nor did the offer, sale or their trading procedures. The registration exemption has made according to numeral 3 of Article 129 of the Consolidated Text containing of the Decree-Law No. 1 of July 8, 1999 (institutional investors). Consequently, the tax treatment set forth in Articles 334 to 336 of the Unified Text containing Decree-Law No. 1 of July 8, 1999, does not apply to them. These securities are not under the supervision of the Securities Superintendence of the Republic of Panama. The information contained herein does not describe any product that is supervised or regulated by the National Banking and Insurance Commission (CNBS) in Honduras. Therefore, any investment described herein is done at the investor's own risk. This is an individual and private offer which is made in Costa Rica upon reliance on an exemption from registration before the General Superintendence of Securities ("SUGEVAL"), pursuant to articles 7 and 8 of the Regulations on the Public Offering of Securities ("Reglamento sobre Oferta Pública de Valores"). This information is confidential, and is not to be reproduced or distributed to third parties as this is NOT a public offering of securities in Costa Rica. The product being offered is not intended for the Costa Rican public or market and neither is registered or will be registered before the SUGEVAL, nor can be traded in the secondary market. If any recipient of this documentation receives this document in El Salvador, such recipient acknowledges that the same has been delivered upon their request and instructions, and on a private placement basis.

In Singapore, this document is provided by BlackRock (Singapore) Limited (company registration number: 200010143N) for use only with institutional as defined in Section 4A of the Securities and Futures Act, Chapter 289 of Singapore. This advertisement or publication has not been reviewed by the Monetary Authority of Singapore.

In Hong Kong, this material is issued by BlackRock Asset Management North Asia Limited and has not been reviewed by the Securities and Futures Commission of Hong Kong. This material is for distribution to "Professional Investors" (as defined in the Securities and Futures Ordinance (Cap. 571 of the laws of Hong Kong) and any rules made under that ordinance.) and should not be relied upon by any other persons or redistributed to retail clients in Hong Kong.

In South Korea, this information is issued by BlackRock Investment (Korea) Limited. This material is for distribution to the Qualified Professional Investors (as defined in the Financial Investment Services and Capital Market Act and its sub-regulations) and for information or educational purposes only, and does not constitute investment advice or an offer or solicitation to purchase or sells in any securities or any investment strategies.

In Taiwan, independently operated by BlackRock Investment Management (Taiwan) Limited. Address: 28F, No. 100, Songren Rd., Xinyi Dist., Taipei City 110, Taiwan. Tel: (02)23261600.

In Australia & New Zealand, issued by BlackRock Investment Management (Australia) Limited ABN 13 006 165 975, AFSL 230 523 (BIMAL) for the exclusive use of the recipient, who warrants by receipt of this material that they are a wholesale client as defined under the Australian Corporations Act 2001 (Cth) and the New Zealand Financial Advisers Act 2008 respectively.

BIMAL is not licensed by a New Zealand regulator to provide 'Financial Advice Service' 'Investment manager under an FMC offer' or 'Keeping, investing, administering, or managing money, securities, or investment portfolios on behalf of other persons'. BIMAL's registration on the New Zealand register of financial service providers does not mean that BIMAL is subject to active regulation or oversight by a New Zealand regulator.

This material provides general advice only and does not take into account your individual objectives, financial situation, needs or circumstances. Before making any investment decision, you should therefore assess whether the material is appropriate for you and obtain financial advice tailored to you having regard to your individual objectives, financial situation, needs and circumstances. Refer to BIMAL's Financial Services Guide on its website for more information. This material is not a financial product recommendation or an offer or solicitation with respect to the purchase or sale of any financial product in any jurisdiction.

Information provided is for illustrative and informational purposes and is subject to change. It has not been approved by any regulator.

This material is not intended for distribution to, or use by, any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation. BIMAL is a part of the global BlackRock Group which comprises of financial product issuers and investment managers around the world. BIMAL is the issuer of financial products and acts as an investment manager in Australia. BIMAL does not offer financial products to persons in New Zealand who are retail investors (as that term is defined in the Financial Markets Conduct Act 2013 (FMCA)). This material does not constitute or relate to such an offer. To the extent that this material does constitute or relate to such an offer of financial products, the offer is only made to, and capable of acceptance by, persons in New Zealand who are wholesale investors (as that term is defined in the FMCA).

BIMAL, its officers, employees and agents believe that the information in this material and the sources on which it is based (which may be sourced from third parties) are correct as at the date of publication. While every care has been taken in the preparation of this material, no warranty of accuracy or reliability is given and no responsibility for the information is accepted by BIMAL, its officers, employees or agents. Except where contrary to law, BIMAL excludes all liability for this information.

For Other Countries in APAC: This material is provided for your informational purposes only and must not be distributed to any other persons or redistributed. This material is issued for Institutional Investors only (or professional/sophisticated/qualified investors as such term may apply in local jurisdictions) and does not constitute investment advice or an offer or solicitation to purchase or sell in any securities, BlackRock funds or any investment strategy nor shall any securities be offered or sold to any person in any jurisdiction in which an offer, solicitation, purchase or sale would be unlawful under the securities laws of such jurisdiction.

This material is not intended for distribution to, or use by, any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation. BIMAL is a part of the global BlackRock Group which comprises of financial product issuers and investment managers around the world. BIMAL is the issuer of financial products and acts as an investment manager in Australia. BIMAL does not offer financial products to persons in New Zealand who are retail investors (as that term is defined in the Financial Markets Conduct Act 2013 (FMCA)). This material does not constitute or relate to such an offer. To the extent that this material does constitute or relate to such an offer of financial products, the offer is only made to, and capable of acceptance by, persons in New Zealand who are wholesale investors (as that term is defined in the FMCA).

In China, this material may not be distributed to individuals resident in the People's Republic of China ("PRC", for such purposes, not applicable to Hong Kong, Macau and Taiwan) or entities registered in the PRC unless such parties have received all the required PRC government approvals to participate in any investment or receive any investment advisory or investment management services.

The information provided here is not intended to constitute financial, tax, legal or accounting advice. You should consult your own advisers on such matters. BlackRock does not guarantee the suitability or potential value of any particular investment. Investment involves risk including possible loss of principal. International investing involves risks, including risks related to foreign currency, limited liquidity, less government regulation, and the possibility of substantial volatility due to adverse political, economic or other developments. These risks are often heightened for investments in emerging/developing markets or smaller capital markets.

Any research in this document has been procured and may have been acted on by BlackRock for its own purpose. The results of such research are being made available only incidentally. The views expressed do not constitute investment or any other advice and are subject to change. They do not necessarily reflect the views of any company in the BlackRock Group or any part thereof and no assurances are made as to their accuracy.

This document is for information purposes only and does not constitute an offer or invitation to anyone to invest in any BlackRock funds and has not been prepared in connection with any such offer.

FOR PROFESSIONAL, INSTITUTIONAL INVESTORS, QUALIFIED INVESTORS, WHOLESALE INVESTORS AND PERMITTED, PROFESSIONAL AND QUALIFIED CLIENT USE ONLY. THIS MATERIAL IS NOT TO BE REPRODUCED OR DISTRIBUTED TO PERSONS OTHER THAN THE RECIPIENT.

© 2025 BlackRock, Inc. or its affiliates All Rights Reserved. **BLACKROCK** is a trademark of BlackRock, Inc., or its affiliates. All other trademarks are those of their respective owners.
252185T-1125