

Summary Prospectus

BlackRock Large Cap Series Funds, Inc. | Investor, Institutional and Class R Shares

- **BlackRock Advantage Large Cap Value Fund**

Investor A: MDLVX • Investor C: MCLVX • Institutional: MALVX • Class R: MRLVX

Before you invest, you may want to review the Fund's prospectus, which contains more information about the Fund and its risks. You can find the Fund's prospectus (including amendments and supplements), reports to shareholders and other information about the Fund, including the Fund's statement of additional information, online at <http://www.blackrock.com/prospectus>. You can also get this information at no cost by calling (800) 441-7762 or by sending an e-mail request to prospectus.request@blackrock.com, or from your financial professional. The Fund's prospectus and statement of additional information, both dated March 1, 2021, as amended and supplemented from time to time, are incorporated by reference into (legally made a part of) this Summary Prospectus.

This Summary Prospectus contains information you should know before investing, including information about risks. Please read it before you invest and keep it for future reference.

The Securities and Exchange Commission has not approved or disapproved these securities or passed upon the adequacy of this Summary Prospectus. Any representation to the contrary is a criminal offense.

Not FDIC Insured • May Lose Value • No Bank Guarantee

Summary Prospectus

Key Facts About BlackRock Advantage Large Cap Value Fund

Investment Objective

The investment objective of BlackRock Advantage Large Cap Value Fund (the “Fund”), a series of BlackRock Large Cap Series Funds, Inc. (the “Corporation”), is to seek long-term capital growth. In other words, the Fund tries to choose investments that will increase in value.

Fees and Expenses of the Fund

This table describes the fees and expenses that you may pay if you buy, hold and sell shares of the Fund. **You may pay other fees, such as brokerage commissions and other fees to your financial professional or your selected securities dealer, broker, investment adviser, service provider or industry professional (including BlackRock Advisors, LLC (“BlackRock”) and its affiliates) (each, a “Financial Intermediary”), which are not reflected in the table and example below.** You may qualify for sales charge discounts if you and your family invest, or agree to invest in the future, at least \$25,000 in the fund complex advised by BlackRock or its affiliates. More information about these and other discounts is available from your Financial Intermediary and in the “Details About the Share Classes” and the “Intermediary-Defined Sales Charge Waiver Policies” sections on pages 23 and A-1, respectively, of the Fund’s prospectus and in the “Purchase of Shares” section on page II-86 of Part II of the Fund’s Statement of Additional Information.

Shareholder Fees (fees paid directly from your investment)	Investor A Shares	Investor C Shares	Institutional Shares	Class R Shares
Maximum Sales Charge (Load) Imposed on Purchases (as a percentage of offering price)	5.25%	None	None	None
Maximum Deferred Sales Charge (Load) (as a percentage of offering price or redemption proceeds, whichever is lower)	None ¹	1.00% ²	None	None
Annual Fund Operating Expenses (expenses that you pay each year as a percentage of the value of your investment)	Investor A Shares	Investor C Shares	Institutional Shares	Class R Shares
Management Fee ³	0.49%	0.49%	0.49%	0.49%
Distribution and/or Service (12b-1) Fees	0.25%	1.00%	None	0.50%
Other Expenses ^{4,5}	0.22%	0.23%	0.21%	0.25%
Total Annual Fund Operating Expenses ⁵	0.96%	1.72%	0.70%	1.24%
Fee Waivers and/or Expense Reimbursements ^{3,6}	(0.17)%	(0.18)%	(0.16)%	(0.20)%
Total Annual Fund Operating Expenses After Fee Waivers and/or Expense Reimbursements ^{3,6}	0.79%	1.54%	0.54%	1.04%

¹ A contingent deferred sales charge (“CDSC”) of 1.00% is assessed on certain redemptions of Investor A Shares made within 18 months after purchase where no initial sales charge was paid at the time of purchase as part of an investment of \$1,000,000 or more.

² There is no CDSC on Investor C Shares after one year.

³ As described in the “Management of the Fund” section of the Fund’s prospectus beginning on page 38, BlackRock has contractually agreed to waive the management fee with respect to any portion of the Fund’s assets estimated to be attributable to investments in other equity and fixed-income mutual funds and exchange-traded funds managed by BlackRock or its affiliates that have a contractual management fee, through June 30, 2023. In addition, BlackRock has contractually agreed to waive its management fees by the amount of investment advisory fees the Fund pays to BlackRock indirectly through its investment in money market funds managed by BlackRock or its affiliates, through June 30, 2023. The contractual agreements may be terminated upon 90 days’ notice by a majority of the non-interested directors of the Corporation or by a vote of a majority of the outstanding voting securities of the Fund.

⁴ Other Expenses have been restated to reflect current fees.

⁵ The Total Annual Fund Operating Expenses do not correlate to the ratios of expenses to average net assets given in the Fund’s most recent annual report, which do not include the restatement of Other Expenses to reflect current fees.

⁶ As described in the “Management of the Fund” section of the Fund’s prospectus beginning on page 38, BlackRock has contractually agreed to waive and/or reimburse fees or expenses in order to limit Total Annual Fund Operating Expenses After Fee Waivers and/or Expense Reimbursements (excluding Dividend Expense, Interest Expense, Acquired Fund Fees and Expenses and certain other Fund expenses) to 0.79% (for Investor A Shares), 1.54% (for Investor C Shares), 0.54% (for Institutional Shares) and 1.04% (for Class R Shares) of average daily net assets through June 30, 2023. The contractual agreement may be terminated upon 90 days’ notice by a majority of the non-interested directors of the Corporation or by a vote of a majority of the outstanding voting securities of the Fund.

Example:

This Example is intended to help you compare the cost of investing in the Fund with the cost of investing in other mutual funds. The Example assumes that you invest \$10,000 in the Fund for the time periods indicated and then redeem all of your shares at the end of those periods. The Example also assumes that your investment has a 5% return each year and that the Fund’s operating expenses remain the same. Although your actual costs may be higher or lower, based on these assumptions your costs would be:

	1 Year	3 Years	5 Years	10 Years
Investor A Shares	\$601	\$782	\$996	\$1,611
Investor C Shares	\$257	\$506	\$899	\$1,797
Institutional Shares	\$ 55	\$191	\$357	\$ 840
Class R Shares	\$106	\$353	\$642	\$1,464

You would pay the following expenses if you did not redeem your shares:

	1 Year	3 Years	5 Years	10 Years
Investor C Shares	\$157	\$506	\$899	\$1,797

Portfolio Turnover:

The Fund pays transaction costs, such as commissions, when it buys and sells securities (or “turns over” its portfolio). A higher portfolio turnover rate may indicate higher transaction costs and may result in higher taxes when shares are held in a taxable account. These costs, which are not reflected in annual fund operating expenses or in the Example, affect the Fund’s performance.

On November 13, 2019, the Board of Directors of the Corporation approved a change of the fiscal year end of the Fund from September 30 to May 31. During the fiscal year ended September 30, 2019, the Fund’s portfolio turnover rate was 161% of the average value of its portfolio. For the period October 1, 2019 to May 31, 2020 the Fund’s portfolio turnover rate was 70% of the average value of its portfolio.

Principal Investment Strategies of the Fund

Under normal circumstances, the Fund seeks to invest at least 80% of its net assets plus the amount of any borrowings for investment purposes in large cap equity securities of U.S. issuers and derivatives that have similar economic characteristics to such securities. For purposes of the Fund’s 80% policy, large cap equity securities are equity securities that at the time of purchase have a market capitalization within the range of companies included in the Russell 1000® Value Index (the “Russell 1000 Value Index”). The Fund primarily intends to invest in equity securities, which include common stock, preferred stock and convertible securities, or other financial instruments that are components of, or have characteristics similar to, the securities included in the Russell 1000 Value Index. The Russell 1000 Value Index is a capitalization-weighted index from a broad range of industries chosen for market size, liquidity and industry group representation. The Fund primarily seeks to buy common stock and may also invest in preferred stock and convertible securities. From time to time, the Fund may invest in shares of companies through “new issues” or initial public offerings (“IPOs”). The Fund may use derivatives, including options, futures, swaps (including, but not limited to, total return swaps, some of which may be referred to as contracts for difference) and forward contracts, both to seek to increase the return of the Fund and to hedge (or protect) the value of its assets against adverse movements in currency exchange rates, interest rates and movements in the securities markets. In order to manage cash flows into or out of the Fund effectively, the Fund may buy and sell financial futures contracts or options on such contracts. Derivatives are financial instruments whose value is derived from another security, a currency or an index, including but not limited to the Russell 1000 Value Index. The use of options, futures, swaps and forward contracts can be effective in protecting or enhancing the value of the Fund’s assets.

The Fund may seek to provide exposure to the investment returns of real assets that trade in the commodity markets through investment in commodity-linked derivative instruments and investment vehicles such as exchange-traded funds that invest exclusively in commodities and are designed to provide this exposure without direct investment in physical commodities.

Principal Risks of Investing in the Fund

Risk is inherent in all investing. The value of your investment in the Fund, as well as the amount of return you receive on your investment, may fluctuate significantly from day to day and over time. You may lose part or all of your investment in the Fund or your investment may not perform as well as other similar investments. The following is a summary description of the principal risks of investing in the Fund. The order of the below risk factors does not indicate the significance of any particular risk factor.

- **Commodities Related Investments Risk** — Exposure to the commodities markets may subject the Fund to greater volatility than investments in traditional securities. The value of commodity-linked derivative investments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, embargoes, tariffs and international economic, political and regulatory developments.
- **Convertible Securities Risk** — The market value of a convertible security performs like that of a regular debt security; that is, if market interest rates rise, the value of a convertible security usually falls. In addition, convertible securities are subject to the risk that the issuer will not be able to pay interest or dividends when due, and their market value may change based on changes in the issuer's credit rating or the market's perception of the issuer's creditworthiness. Since it derives a portion of its value from the common stock into which it may be converted, a convertible security is also subject to the same types of market and issuer risks that apply to the underlying common stock.
- **Derivatives Risk** — The Fund's use of derivatives may increase its costs, reduce the Fund's returns and/or increase volatility. Derivatives involve significant risks, including:
 - Volatility Risk* — Volatility is defined as the characteristic of a security, an index or a market to fluctuate significantly in price within a short time period. A risk of the Fund's use of derivatives is that the fluctuations in their values may not correlate with the overall securities markets.
 - Counterparty Risk* — Derivatives are also subject to counterparty risk, which is the risk that the other party in the transaction will not fulfill its contractual obligation.
 - Market and Illiquidity Risk* — The possible lack of a liquid secondary market for derivatives and the resulting inability of the Fund to sell or otherwise close a derivatives position could expose the Fund to losses and could make derivatives more difficult for the Fund to value accurately.
 - Valuation Risk* — Valuation may be more difficult in times of market turmoil since many investors and market makers may be reluctant to purchase complex instruments or quote prices for them.
 - Hedging Risk* — Hedges are sometimes subject to imperfect matching between the derivative and the underlying security, and there can be no assurance that the Fund's hedging transactions will be effective. The use of hedging may result in certain adverse tax consequences.
 - Tax Risk* — Certain aspects of the tax treatment of derivative instruments, including swap agreements and commodity-linked derivative instruments, are currently unclear and may be affected by changes in legislation, regulations or other legally binding authority. Such treatment may be less favorable than that given to a direct investment in an underlying asset and may adversely affect the timing, character and amount of income the Fund realizes from its investments.
 - Regulatory Risk* — Derivative contracts, including, without limitation, swaps, currency forwards and non-deliverable forwards, are subject to regulation under the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") in the United States and under comparable regimes in Europe, Asia and other non-U.S. jurisdictions. Under the Dodd-Frank Act, certain derivatives are subject to margin requirements and swap dealers are required to collect margin from the Fund with respect to such derivatives. Specifically, regulations are now in effect that require swap dealers to post and collect variation margin (comprised of specified liquid instruments and subject to a required haircut) in connection with trading of over-the-counter ("OTC") swaps with the Fund. Shares of investment companies (other than certain money market funds) may not be posted as collateral under these regulations. Requirements for posting of initial margin in connection with OTC swaps will be phased-in through at least 2021. In addition, regulations adopted by global prudential regulators that are now in effect require certain bank-regulated counterparties and certain of their affiliates to include in certain financial contracts, including many derivatives contracts, terms that delay or restrict the rights of counterparties, such as the Fund, to terminate such contracts, foreclose upon collateral, exercise other default rights or restrict transfers of credit support in the event that the counterparty and/or its affiliates are subject to certain types of resolution or insolvency proceedings. The implementation of these requirements with respect to derivatives, as well as regulations under the Dodd-Frank Act regarding clearing, mandatory trading and margining of other derivatives, may increase the costs and risks to the Fund of trading in these instruments and, as a result, may affect returns to investors in the Fund.

On October 28, 2020, the Securities and Exchange Commission adopted new regulations governing the use of derivatives by registered investment companies (“Rule 18f-4”). The Fund will be required to implement and comply with Rule 18f-4 by August 19, 2022. Once implemented, Rule 18f-4 will impose limits on the amount of derivatives a fund can enter into, eliminate the asset segregation framework currently used by funds to comply with Section 18 of the Investment Company Act of 1940, as amended, treat derivatives as senior securities so that a failure to comply with the limits would result in a statutory violation and require funds whose use of derivatives is more than a limited specified exposure amount to establish and maintain a comprehensive derivatives risk management program and appoint a derivatives risk manager.

- **Equity Securities Risk** — Stock markets are volatile. The price of equity securities fluctuates based on changes in a company’s financial condition and overall market and economic conditions.
- **High Portfolio Turnover Risk** — The Fund may engage in active and frequent trading of its portfolio securities. High portfolio turnover (more than 100%) may result in increased transaction costs to the Fund, including brokerage commissions, dealer mark-ups and other transaction costs on the sale of the securities and on reinvestment in other securities. The sale of Fund portfolio securities may result in the realization and/or distribution to shareholders of higher capital gains or losses as compared to a fund with less active trading policies. These effects of higher than normal portfolio turnover may adversely affect Fund performance.
- **Investment Style Risk** — Under certain market conditions, value investments have performed better during periods of economic recovery. Therefore, this investment style may over time go in and out of favor. At times when the investment style used by the Fund is out of favor, the Fund may underperform other equity funds that use different investment styles.
- **Leverage Risk** — Some transactions may give rise to a form of economic leverage. These transactions may include, among others, derivatives, and may expose the Fund to greater risk and increase its costs. The use of leverage may cause the Fund to liquidate portfolio positions when it may not be advantageous to do so to satisfy its obligations or to meet any required asset segregation requirements. Increases and decreases in the value of the Fund’s portfolio will be magnified when the Fund uses leverage.
- **Market Risk and Selection Risk** — Market risk is the risk that one or more markets in which the Fund invests will go down in value, including the possibility that the markets will go down sharply and unpredictably. The value of a security or other asset may decline due to changes in general market conditions, economic trends or events that are not specifically related to the issuer of the security or other asset, or factors that affect a particular issuer or issuers, exchange, country, group of countries, region, market, industry, group of industries, sector or asset class. Local, regional or global events such as war, acts of terrorism, the spread of infectious illness or other public health issues like pandemics or epidemics, recessions, or other events could have a significant impact on the Fund and its investments. Selection risk is the risk that the securities selected by Fund management will underperform the markets, the relevant indices or the securities selected by other funds with similar investment objectives and investment strategies. The Fund seeks to pursue its investment objective by using proprietary models that incorporate quantitative analysis and is subject to “Model Risk” as described below. This means you may lose money.

A recent outbreak of an infectious coronavirus has developed into a global pandemic that has resulted in numerous disruptions in the market and has had significant economic impact leaving general concern and uncertainty. The impact of this coronavirus, and other epidemics and pandemics that may arise in the future, could affect the economies of many nations, individual companies and the market in general ways that cannot necessarily be foreseen at the present time.

- **Model Risk** — The Fund seeks to pursue its investment objective by using proprietary models that incorporate quantitative analysis. Investments selected using these models may perform differently than as forecasted due to the factors incorporated into the models and the weighting of each factor, changes from historical trends, and issues in the construction and implementation of the models (including, but not limited to, software issues and other technological issues). There is no guarantee that BlackRock’s use of these models will result in effective investment decisions for the Fund.

The information and data used in the models may be supplied by third parties. Inaccurate or incomplete data may limit the effectiveness of the models. In addition, some of the data that BlackRock uses may be historical data, which may not accurately predict future market movement. There is a risk that the models will not be successful in selecting investments or in determining the weighting of investment positions that will enable the Fund to achieve its investment objective.

- **“New Issues” Risk** — “New issues” are IPOs of equity securities. Securities issued in IPOs have no trading history, and information about the companies may be available for very limited periods. In addition, the prices of securities sold in IPOs may be highly volatile or may decline shortly after the IPO.

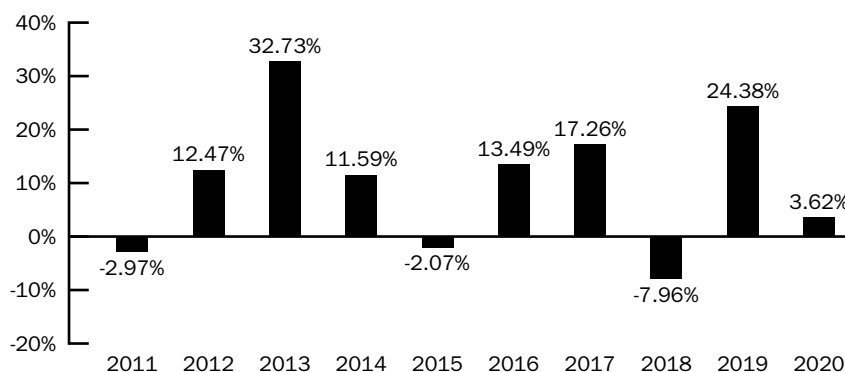
■ **Preferred Securities Risk** — Preferred securities may pay fixed or adjustable rates of return. Preferred securities are subject to issuer-specific and market risks applicable generally to equity securities. In addition, a company's preferred securities generally pay dividends only after the company makes required payments to holders of its bonds and other debt. For this reason, the value of preferred securities will usually react more strongly than bonds and other debt to actual or perceived changes in the company's financial condition or prospects. Preferred securities of smaller companies may be more vulnerable to adverse developments than preferred securities of larger companies.

Performance Information

Effective June 12, 2017, the Fund changed its name, investment process and investment strategies. Performance for the periods prior to June 12, 2017 shown below is based on the investment process and investment strategies utilized by the Fund at that time under the name "BlackRock Large Cap Value Fund."

The information shows you how the Fund's performance has varied year by year and provides some indication of the risks of investing in the Fund. The table compares the Fund's performance to that of the Russell 1000® Value Index. To the extent that dividends and distributions have been paid by the Fund, the performance information for the Fund in the chart and table assumes reinvestment of the dividends and distributions. As with all such investments, past performance (before and after taxes) is not an indication of future results. Sales charges are not reflected in the bar chart. If they were, returns would be less than those shown. However, the table includes all applicable fees and sales charges. If BlackRock and its affiliates had not waived or reimbursed certain Fund expenses during these periods, the Fund's returns would have been lower. Updated information on the Fund's performance, including its current net asset value, can be obtained by visiting <http://www.blackrock.com> or can be obtained by phone at (800) 882-0052.

Investor A Shares
ANNUAL TOTAL RETURNS¹
BlackRock Advantage Large Cap Value Fund
As of 12/31



During the ten-year period shown in the bar chart, the highest return for a quarter was 15.23% (quarter ended December 31, 2020) and the lowest return for a quarter was -25.71% (quarter ended March 31, 2020).

For the periods ended 12/31/20
Average Annual Total Returns

	1 Year	5 Years¹	10 Years¹
BlackRock Advantage Large Cap Value Fund — Investor A Shares			
Return Before Taxes	(1.82)%	8.39%	9.00%
Return After Taxes on Distributions	(2.20)%	7.23%	8.28%
Return After Taxes on Distributions and Sale of Fund Shares	(0.85)%	6.32%	7.16%
BlackRock Advantage Large Cap Value Fund — Investor C Shares			
Return Before Taxes	1.82%	8.73%	8.90%
BlackRock Advantage Large Cap Value Fund — Institutional Shares			
Return Before Taxes	3.89%	9.85%	9.89%
BlackRock Advantage Large Cap Value Fund — Class R Shares			
Return Before Taxes	3.36%	9.27%	9.29%
Russell 1000® Value Index (Reflects no deduction for fees, expenses or taxes)	2.80%	9.74%	10.50%

¹ A portion of the Fund's total return for the fiscal years ended September 30, 2016 and 2017 was attributable to proceeds received from a settlement of litigation.

After-tax returns are calculated using the historical highest individual federal marginal income tax rates and do not reflect the impact of state and local taxes. Actual after-tax returns depend on the investor's tax situation and may differ from those shown, and the after-tax returns shown are not relevant to investors who hold their shares through tax-deferred arrangements, such as 401(k) plans or individual retirement accounts. After-tax returns are shown for Investor A Shares only, and the after-tax returns for Investor C, Institutional and Class R Shares will vary.

Investment Manager

The Fund's investment manager is BlackRock Advisors, LLC (previously defined as "BlackRock").

Portfolio Managers

Name	Portfolio Manager of the Fund Since	Title
Raffaele Savi	2017	Managing Director of BlackRock, Inc.
Travis Cooke, CFA	2017	Managing Director of BlackRock, Inc.
Richard Mathieson	2017	Managing Director of BlackRock, Inc.

Purchase and Sale of Fund Shares

You may purchase or redeem shares of the Fund each day the New York Stock Exchange is open. To purchase or sell shares you should contact your Financial Intermediary, or, if you hold your shares through the Fund, you should contact the Fund by phone at (800) 441-7762, by mail (c/o BlackRock Funds, P.O. Box 9819, Providence, Rhode Island 02940-8019), or by the Internet at www.blackrock.com. The Fund's initial and subsequent investment minimums generally are as follows, although the Fund may reduce or waive the minimums in some cases:

	Investor A and Investor C Shares	Institutional Shares	Class R Shares
Minimum Initial Investment	<p>\$1,000 for all accounts except:</p> <ul style="list-style-type: none"> • \$50, if establishing an Automatic Investment Plan. • There is no investment minimum for employer-sponsored retirement plans (not including SEP IRAs, SIMPLE IRAs or SARSEPs). • There is no investment minimum for certain fee-based programs. 	<p>There is no minimum initial investment for:</p> <ul style="list-style-type: none"> • Employer-sponsored retirement plans (not including SEP IRAs, SIMPLE IRAs or SARSEPs), state sponsored 529 college savings plans, collective trust funds, investment companies or other pooled investment vehicles, unaffiliated thrifts and unaffiliated banks and trust companies, each of which may purchase shares of the Fund through a Financial Intermediary that has entered into an agreement with the Fund's distributor to purchase such shares. • Clients of Financial Intermediaries that: (i) charge such clients a fee for advisory, investment consulting, or similar services or (ii) have entered into an agreement with the Fund's distributor to offer Institutional Shares through a no-load program or investment platform. • Clients investing through a self-directed IRA brokerage account program sponsored by a retirement plan record-keeper, provided that such program offers only mutual fund options and that the program maintains an account with the Fund on an omnibus basis. <p>\$2 million for individuals and "Institutional Investors," which include, but are not limited to, endowments, foundations, family offices, local, city, and state governmental institutions, corporations and insurance company separate accounts who may purchase shares of the Fund through a Financial Intermediary that has entered into an agreement with the Fund's distributor to purchase such shares.</p> <p>\$1,000 for:</p> <ul style="list-style-type: none"> • Clients investing through Financial Intermediaries that offer such shares on a platform that charges a transaction based sales commission outside of the Fund. • Tax-qualified accounts for insurance agents that are registered representatives of an insurance company's broker-dealer that has entered into an agreement with the Fund's distributor to offer Institutional Shares, and the family members of such persons. 	<p>\$100 for all accounts.</p>
Minimum Additional Investment	<p>\$50 for all accounts (with the exception of certain employer-sponsored retirement plans which may have a lower minimum).</p>	<p>No subsequent minimum.</p>	<p>No subsequent minimum.</p>

Tax Information

The Fund's dividends and distributions may be subject to U.S. federal income taxes and may be taxed as ordinary income or capital gains, unless you are a tax-exempt investor or are investing through a qualified tax-exempt plan described in section 401(a) of the Internal Revenue Code of 1986, as amended, in which case you may be subject to U.S. federal income tax when distributions are received from such tax-deferred arrangements.

Payments to Broker/Dealers and Other Financial Intermediaries

If you purchase shares of the Fund through a Financial Intermediary, the Fund and BlackRock Investments, LLC, the Fund's distributor, or its affiliates may pay the Financial Intermediary for the sale of Fund shares and related services. These payments may create a conflict of interest by influencing the Financial Intermediary and your individual financial professional to recommend the Fund over another investment.

Ask your individual financial professional or visit your Financial Intermediary's website for more information.

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