

MuniVest Fund II, Inc. seeks to provide shareholders with as high a level of current income exempt from federal income taxes as is consistent with its investment policies and prudent investment management by investing primarily in a portfolio of long-term, investment-grade municipal obligations, the interest on which, in the opinion of bond counsel to the issuer, is exempt from federal income taxes.

KEY FACTS

| | |
|-------------------------|------------------------|
| Size of Fund (Millions) | \$262.2M |
| Managed Assets | \$384.9M |
| Share Class Launch Date | 03/29/1993 |
| Asset Class | Fixed Income |
| Morningstar Category | Muni National Long |
| Lipper Classification | Gen & Ins Leveraged |
| NAV Per Share | 12.57 |
| Share Price | 11.39 |
| Premium/Discount | -9.39% |
| Number of Holdings | 216 |
| Dividend Frequency | Monthly |
| Distribution Rate** | 5.32% |

Managed Assets means the total assets of the Trust (including any assets attributable to leverage) minus the sum of accrued liabilities (other than debt representing financial leverage). Distribution Rate is calculated by annualizing the most recent distribution and dividing by the fund's market price from the as-of-date.

TOP HOLDINGS (%)

| | |
|--|--------------|
| TOB 5.75 292723AY9 ESDPWR 144A | 3.01 |
| TOB 5.25 84136FBT3 SEA 144A | 2.83 |
| TOB 5.5 7352403J0 PTPAPT 144A | 2.10 |
| TOB -99 70342PAR5 PEGUTL 144A | 1.85 |
| NEW JERSEY ECONOMIC DEV AUTH R 5 06/15/2048 | 1.61 |
| Total of Portfolio | 11.40 |

* Based on Net Assets, cash position not shown.

DISTRIBUTION HISTORY

| Ex-Date | Total Distribution |
|----------|-----------------------|
| 09/16/24 | 0.0505 |
| 08/15/24 | 0.0505 |
| 07/15/24 | 0.0505 |
| 06/14/24 | 0.0505 |
| 05/14/24 | 0.0505 |
| 04/12/24 | 0.0505 |

Past distributions are not indicative of future distributions. **Distributions may include a return of capital. Please refer to the "Tax Information" section of the BlackRock website for Section 19 notices that provide estimated amounts and sources of the fund's distributions, which should not be relied upon for tax reporting purposes.

GROWTH OF A HYPOTHETICAL \$10,000



The chart illustrates the growth of a hypothetical \$10,000 investment in the fund's common shares based on market price beginning on the date noted with all distributions reinvested. Ending value as of the date at the top of this document.

Performance does not reflect sales charges or fees that may be incurred. **Past performance is no guarantee of future results.**

HISTORICAL PREMIUM/DISCOUNT



Premium-discount graph illustrates the amount by which the market price trades above or below net asset value.

PERFORMANCE

| | 1 Year | 3 Year | 5 Year | 10 Year | Incept. |
|-----------------|--------|--------|--------|---------|---------|
| Net Asset Value | 17.54% | -2.10% | 0.78% | 2.91% | 6.11% |
| Market Price | 29.21% | -4.75% | -0.41% | 2.11% | 5.59% |

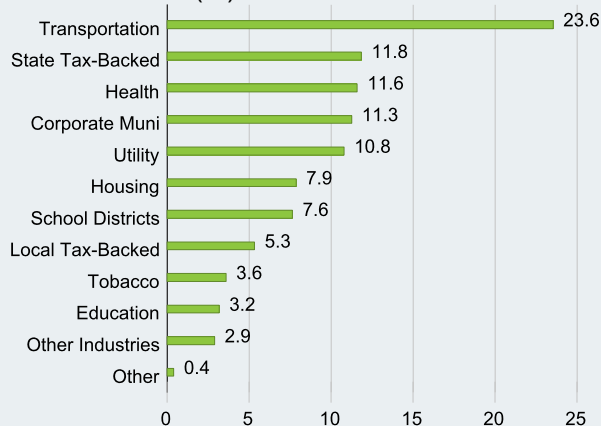
Returns for less than one year are not annualized. **Performance data quoted represents past performance of common shares and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investor's shares may be worth more or less than the original cost. The fund's market price and net asset value will fluctuate with market conditions. All return data assumes reinvestment of all distributions. Current performance may be lower or higher than the performance data quoted. For more information, please refer to www.blackrock.com.** Returns are shown net of advisory fees paid by the fund and net of the fund's operating fees and expenses. Investors who purchase shares of the fund through an investment adviser or other financial professional may separately pay a fee to that service provider. **Past performance is not indicative of future results.** If a Fund estimates that it has distributed more than its income and net realized capital gains in the current fiscal year; a portion of its distribution may be a return of capital. A return of capital may occur, for example, when some or all of a shareholder's investment is paid back to the shareholder. A return of capital distribution does not necessarily reflect a Fund's investment performance and should not be confused with 'yield' or 'income'. When distributions exceed total return performance, the difference will reduce the Fund's net asset value per share. Although the character of income will not be determined until the end of the fund's fiscal year, please refer to the 'Closed-End Fund Resources' section of the BlackRock website for Section 19 notices that provide estimated amounts and sources of the fund's distributions, which should not be relied upon for tax reporting purposes. A Form 1099-DIV for the calendar year will be sent to shareholders to illustrate how the Fund's distributions should be reported for federal income tax purposes.

PERFORMANCE

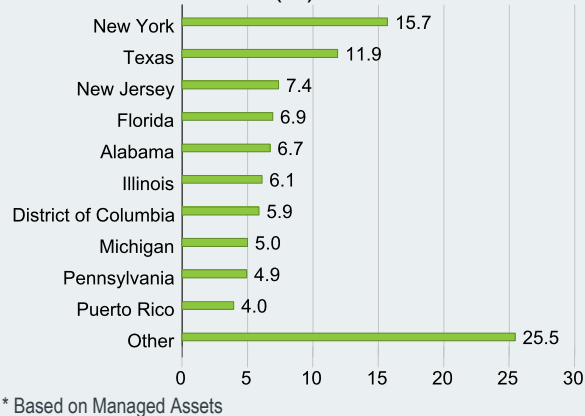
| 1 Year | 3 Year | 5 Year | 10 Year | Incept. |
|--------|--------|--------|---------|---------|
|--------|--------|--------|---------|---------|

The figures shown relate to past performance. Past performance is not a reliable indicator of current or future performance and should not be the sole factor of consideration when selecting a product or strategy. Share Class and Benchmark performance displayed in USD, hedged share class benchmark performance is displayed in USD. Performance is shown on a Net Asset Value (NAV) basis, with gross income reinvested where applicable. The return of your investment may increase or decrease as a result of currency fluctuations if your investment is made in a currency other than that used in the past performance calculation. **Source:** BlackRock

TOP SECTORS (%)



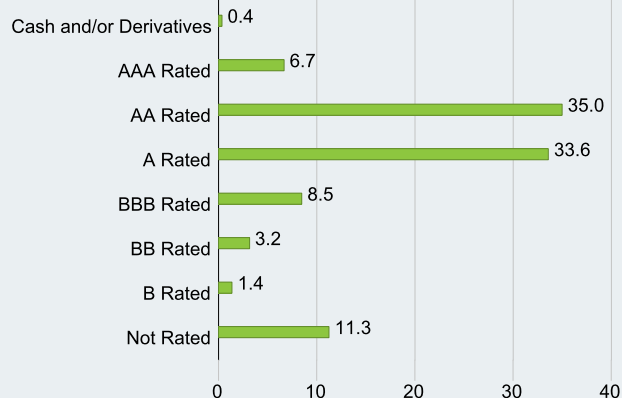
STATE BREAKDOWN (%)



PORTFOLIO CHARACTERISTICS

| | |
|------------------------|-----------|
| Tax Equivalent Yield** | - |
| Total Leverage | \$123.4M |
| Percent Leveraged | 32.0% |
| Effective Duration | 12.23 yrs |
| Yield To Maturity | 6.50% |
| Wal To Worst | 11.34 yrs |
| Yield to Worst | 5.92% |
| Percent AMT Bonds | 10.92% |
| Percent Insured | 8.65% |

CREDIT RATINGS BREAKDOWN (%)



ANNUAL EXPENSES

| | |
|---------------------|-------|
| Gross Expense Ratio | 3.14% |
|---------------------|-------|



1-800-882-0052



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www.blackrock.com/us

You should consider the investment objectives, risks, charges and expenses of the fund carefully before investing. The prospectus and, if available, the summary prospectus contain this and other information about the fund and are available, along with information on other BlackRock funds, by calling 800-882-0052 or from your financial professional. The prospectus should be read carefully before investing. Investing involves risks including possible loss of principal.

All information and data, including portfolio holdings and performance characteristics, is as of the date at the top of this document, unless otherwise noted, and is subject to change. Note that closed-end funds often trade at a discount to NAV but may trade at a premium. There may be less information available on the financial condition of issuers of municipal securities than for public corporations. The market for municipal bonds may be less liquid than for taxable bonds. A portion of the income may be taxable. Some investors may be subject to Alternative Minimum Tax (AMT). Capital gains distributions, if any, are taxable. The Fund may utilize leveraging to seek to enhance the yield and net asset value of its common stock, as described in the Fund's prospectus. These objectives will not necessarily be achieved in all interest rate environments. The use of leverage involves risk, including the potential for higher volatility and greater declines of the Fund's net asset value, fluctuations of dividends and other distributions paid by the Fund and the market price of the Fund's common stock, among others. BlackRock receives credit quality ratings on underlying securities of the fund from the three major reporting agencies - S&P, Moody's and Fitch. The credit quality breakdown is provided by BlackRock by taking the median rating of the three agencies when all three agencies rate a security. BlackRock will use the lower of the two ratings if only two agencies rate a security, and BlackRock will use one rating if that is all that is provided. Securities that are unrated by all three agencies are reflected as such in the breakdown. Below investment-grade is represented by a rating of BB and Below. BlackRock converts all ratings to the equivalent S&P major rating category for purposes of the category shown. Ratings and portfolio credit quality may change over time. Unrated securities do not necessarily indicate low quality. The fund itself has not been rated by an independent rating agency. Negative weightings may result from specific circumstances (including timing differences between trade and settle dates of securities purchased by the funds) and/or the use of certain financial instruments, including derivatives, which may be used to gain or reduce market exposure and/or risk management. Certain transactions the funds may utilize may give rise to a form of leverage through either (a) additional market exposure or (b) borrowing capital in an attempt to increase investment return. The use of such transactions includes certain leverage related risks, including potential for higher volatility, greater decline of the fund's net asset value and fluctuations of dividends and distributions paid by the fund. General market and credit risks. Debt instruments are subject to credit and interest rate risks. Credit risk refers to the likelihood that an obligor will default in the payment of principal or interest on an instrument. Financial strength and solvency of an obligor are the primary factors influencing credit risk. In addition, lack or inadequacy of collateral or credit enhancement for a debt instrument may affect its credit risk. Credit risk may change over the life of an instrument and debt instrument that are rated by rating agencies are often reviewed and may be subject to downgrade. Interest rate risk refers to the risks associated with market changes in interest rates. Interest rate changes may affect the value of a debt instrument indirectly (especially in the case of fixed rate obligations or directly (especially in the case of instrument whose rates are adjustable). In general, rising interest rates will negatively impact the process of a fixed rate debt instrument and falling interest rates will have a positive effect on price. Adjustable rate instruments also react to interest rate changes in a similar manner although generally to a lesser degree (depending, however, on the characteristics of the reset terms, including the index chosen, frequency of reset and reset caps or floors, among other factors).

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MVT-FS-0924

BLACKROCK®

ANNUAL EXPENSES

Management Fee

0.50%



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MVT-FS-0924

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GLOSSARY

Effective Duration: Measures the sensitivity of the price of a bond with embedded options to changes in interest rates, taking into account the likelihood of the bond being called, put and/or sunk prior to its final maturity date. BlackRock uses a proprietary duration model which employs certain assumptions and may differ from other fund complexes. Effective Duration is measured at the portfolio level and adjusted for leverage, hedging transactions and non-bond holdings, including derivatives.

Distribution Rate: Distribution Rate is calculated by dividing the last distribution per share (annualized) by market price.

Tax Equivalent Yield: Tax equivalent yield is used by investors to compare yields on taxable and tax-exempt securities after accounting for taxes. TEY represents the yield a taxable bond would have to earn in order to match, after taxes, the yield available on a tax-exempt municipal bond. TEY assumes a Federal tax rate of 40.8% and does not take into account any other taxes. Each individual's tax burden will vary.

Total Leverage: The amount of borrowed funds used to purchase assets in order to enhance returns.

Percent Leveraged: Percent Leveraged represents the amount of preferred stock or tender option bonds issued in relation to total Managed Assets.

Yield to Maturity: The discount rate that equates the present value of a bond's cash flows with its market price (including accrued interest). The Fund average YTM is the weighted average of the fund's individual bond holding YTM's based on NAV. The measure does not include fees and expenses. For callable bonds, YTM is yield-to-worst

WAL to Worst: The weighted average time to receipt of principal, adjusting for embedding optionality.

Yield to Worst: The average rate of return of the portfolio at current market prices, adjusting for optionality.

Percent Insured: The insurance coverage of a municipal bond depends upon the claim-paying ability and financial resources of the insurance provider.

Percent AMT Bonds: Amount of assets in the portfolio that are Alternative Minimum Tax bonds, relative to the total managed assets. These are bonds subject to the federal alternative minimum tax, a separate tax computation that creates a tax liability after allowed deductions.