

BLACKROCK MUNIVEST FUND, INC.
Form N-CSR
November 03, 2017

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM N-CSR

CERTIFIED SHAREHOLDER REPORT OF REGISTERED MANAGEMENT

INVESTMENT COMPANIES

Investment Company Act file number 811-05611

Name of Fund: BlackRock MuniVest Fund, Inc. (MVF)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: John M. Perlowski, Chief Executive Officer, BlackRock MuniVest Fund, Inc.,
55 East 52nd Street, New York, NY 10055

Registrant's telephone number, including area code: (800) 882-0052, Option 4

Date of fiscal year end: 08/31/2017

Date of reporting period: 08/31/2017

Item 1 Report to Stockholders

ANNUAL REPORT

BlackRock Municipal Bond Trust (BBK)

BlackRock Municipal Income Investment Quality Trust (BAF)

BlackRock Municipal Income Quality Trust (BYM)

BlackRock Municipal Income Trust II (BLE)

BlackRock MuniHoldings Investment Quality Fund (MFL)

BlackRock MuniVest Fund, Inc. (MVF)

Not FDIC Insured May Lose Value No Bank Guarantee

The Markets in Review

Dear Shareholder,

In the 12 months ended August 31, 2017, risk assets, such as stocks and high-yield bonds, continued to deliver strong performance. These markets showed great resilience during a period with big surprises, including the aftermath of the U.K.'s vote to leave the European Union and the outcome of the U.S. presidential election, which brought only brief spikes in equity market volatility. These expressions of isolationism and discontent were countered by the closely watched and less surprising elections in France, the Netherlands and Australia.

Interest rates rose, which worked against high-quality assets with more interest rate sensitivity. As a result, longer-term U.S. Treasuries posted negative returns, as rising energy prices, modest wage increases, and steady job growth led to expectations of higher inflation and anticipation of interest rate increases by the U.S. Federal Reserve (the Fed).

Market prices began to reflect reflationary expectations toward the end of 2016, as investors sensed that a global recovery was afoot. And those expectations have been largely realized in 2017, as many countries throughout the world experienced sustained and synchronized growth for the first time since the financial crisis. Growth rates and inflation are still relatively low, but they are finally rising together.

The Fed responded to these positive developments by increasing interest rates three times and setting expectations for additional interest rate increases. The Fed also appears to be approaching the implementation of its plan to reduce the vast balance sheet reserves that provided liquidity to the global economy in the aftermath of the financial crisis in 2008. Also, growing skepticism about the near-term likelihood of significant U.S. tax reform and infrastructure spending has tempered reflationary expectations in the United States.

By contrast, the European Central Bank and the Bank of Japan reiterated their commitments to economic stimulus and balance sheet expansion despite nascent signs of sustained economic growth in both countries. The Eurozone also benefited from the relatively stable political environment, which is creating momentum for economic reform and pro-growth policies.

Financial markets and to an extent the Fed have adopted a wait-and-see approach to the economic data and potential fiscal stimulus. Escalating tensions with North Korea and our nation's divided politics are significant concerns. Nevertheless, benign credit conditions, modest inflation, and the positive outlook for growth in the world's largest economies have kept markets relatively tranquil.

However, the capacity for rapid global growth is restrained by structural factors, including an aging population in developed countries, low productivity growth, and excess savings. Cyclical factors, such as the Fed moving toward the normalization of monetary policy and the length of the current expansion, also limit economic growth. Tempered economic growth and high valuations across most assets have laid the groundwork for muted returns going forward. At current valuation levels, potential equity gains will likely be closely tied to the pace of earnings growth, which has remained solid thus far in 2017.

In this environment, investors need to think globally, extend their scope across a broad array of asset classes, and be nimble as market conditions change. We encourage you to talk with your financial advisor and visit blackrock.com for further insight about investing in today's markets.

Sincerely,

Rob Kapito

President, BlackRock Advisors, LLC

Rob Kapito

President, BlackRock Advisors, LLC

Total Returns as of August 31, 2017

	6-month	12-month
U.S. large cap equities (S&P 500® Index)	5.65%	16.23%
U.S. small cap equities (Russell 2000® Index)	2.04	14.91
International equities (MSCI Europe, Australasia, Far East Index)	12.14	17.64
Emerging market equities (MSCI Emerging Markets Index)	18.02	24.53
3-month Treasury bills (BofA Merrill Lynch 3-Month U.S. Treasury Bill Index)	0.40	0.62
U.S. Treasury securities (BofA Merrill Lynch 10-Year U.S. Treasury Index)	3.10	(3.26)
U.S. investment grade bonds (Bloomberg Barclays U.S. Aggregate Bond Index)	2.74	0.49
Tax-exempt municipal bonds (S&P Municipal Bond Index)	3.51	0.92
U.S. high yield bonds (Bloomberg Barclays U.S. Corporate High Yield 2% Issuer Capped Index)	3.03	8.62

Past performance is no guarantee of future results. Index performance is shown for illustrative purposes only. You cannot invest directly in an index.

Table of Contents

	Page
<u>The Markets in Review</u>	2
Annual Report:	
<u>Municipal Market Overview</u>	4
<u>The Benefits and Risks of Leveraging</u>	5
<u>Derivative Financial Instruments</u>	5
<u>Trust Summaries</u>	6
Financial Statements:	
<u>Schedules of Investments</u>	18
<u>Statements of Assets and Liabilities</u>	57
<u>Statements of Operations</u>	59
<u>Statements of Changes in Net Assets</u>	61
<u>Statements of Cash Flows</u>	64
<u>Financial Highlights</u>	66
<u>Notes to Financial Statements</u>	72
<u>Report of Independent Registered Public Accounting Firm</u>	83
<u>Disclosure of Investment Advisory Agreements</u>	84
<u>Automatic Dividend Reinvestment Plans</u>	89
<u>Officers and Trustees</u>	90
<u>Additional Information</u>	93

Municipal Market Overview

For the Reporting Period Ended August 31, 2017

Municipal Market Conditions

Municipal bonds experienced modestly positive performance for the period as a result of rising interest rates spurring from generally stronger economic data, signs of inflation pressures, Fed monetary policy normalization, and market expectations for pro-growth fiscal policy. However, ongoing reassurance from the Fed that rates would be increased gradually and would likely remain low overall resulted in continued demand for fixed income investments. More specifically, investors favored the income, attractive relative yield, and stability of municipal bonds amid bouts of interest rate volatility (bond prices rise as rates fall) resulting from geopolitical tensions, the contentious U.S. election, and continued global central bank divergence i.e., policy easing outside the United States while the Fed slowly engages in policy tightening. During the 12 months ended August 31, 2017, municipal bond funds experienced net outflows of approximately \$2 billion (based on data from the Investment Company Institute). The asset class came under pressure post the November U.S. election as a result of uncertainty surrounding potential tax-reform, though expectation that tax reform was likely to be delayed or watered down quickly eased investor concerns.

For the same 12-month period, total new issuance remained robust from a historical perspective at \$400 billion (though slightly below the \$405 billion issued in the prior 12-month period). A noteworthy portion of new supply during this period was attributable to refinancing activity (roughly 55%) as issuers continued to take advantage of low interest rates and a flat yield curve to reduce their borrowing costs.

S&P Municipal Bond Index	
Total Returns as of August 31, 2017	
6 months:	3.51%
12 months:	0.92%

A Closer Look at Yields

From August 31, 2016 to August 31, 2017, yields on AAA-rated 30-year municipal bonds increased by 58 basis points (bps) from 2.12% to 2.70%, while 10-year rates rose by 44 bps from 1.42% to 1.86% and 5-year rates increased 26 bps from 0.86% to 1.12% (as measured by Thomson Municipal Market Data). The municipal yield curve steepened over the 12-month period with the spread between 2- and 30-year maturities steepening by 34 bps.

During the same time period, on a relative basis, tax-exempt municipal bonds broadly outperformed U.S. Treasuries with the greatest outperformance experienced in the front and intermediate portions of the yield curve. The relative positive performance of municipal bonds was driven largely by a supply/demand imbalance within the municipal market as investors sought income and incremental yield in an environment where opportunities became increasingly scarce. The asset class is known for its lower relative volatility and preservation of principal with an emphasis on income as tax rates rise.

Financial Conditions of Municipal Issuers

The majority of municipal credits remain strong, despite well-publicized distress among a few issuers. Four of the five states with the largest amount of debt outstanding California, New York, Texas and Florida have exhibited markedly improved credit fundamentals during the slow national recovery. However, several states with the largest unfunded pension liabilities have seen their bond prices decline noticeably and remain vulnerable to additional price deterioration. On the local level, Chicago's credit quality downgrade is an outlier relative to other cities due to its larger pension liability and inadequate funding remedies. BlackRock maintains the view that municipal bond defaults will remain minimal and in the periphery while the overall market is fundamentally sound. We continue to advocate careful credit research and believe that a thoughtful approach to structure and security selection remains imperative amid uncertainty in a modestly improving economic environment.

The opinions expressed are those of BlackRock as of August 31, 2017, and are subject to change at any time due to changes in market or economic conditions. The comments should not be construed as a recommendation of any individual holdings or market sectors. Investing involves risk including loss of principal. Bond values fluctuate in price so the value of your investment can go down depending on market conditions. Fixed income risks include interest-rate and credit risk. Typically, when interest rates rise, there is a corresponding decline in bond values. Credit risk refers to the possibility that the bond issuer will not be able to make principal and interest payments. There may be less information on the financial condition of municipal issuers than for public corporations. The market for municipal bonds may be less liquid than for taxable bonds. Some investors may be subject to Alternative Minimum Tax (AMT). Capital gains distributions, if any, are taxable.

Edgar Filing: BLACKROCK MUNIVEST FUND, INC. - Form N-CSR

The Standard & Poor's Municipal Bond Index, a broad, market value-weighted index, seeks to measure the performance of the U.S. municipal bond market. All bonds in the index are exempt from U.S. federal income taxes or subject to AMT. Past performance is no guarantee of future results. Index performance is shown for illustrative purposes only. It is not possible to invest directly in an index.

The Benefits and Risks of Leveraging

The Trusts may utilize leverage to seek to enhance the distribution rate on, and net asset value (NAV) of, their common shares (Common Shares). However, these objectives cannot be achieved in all interest rate environments.

In general, the concept of leveraging is based on the premise that the financing cost of leverage, which is based on short-term interest rates, is normally lower than the income earned by a Trust on its longer-term portfolio investments purchased with the proceeds from leverage. To the extent that the total assets of the Trusts (including the assets obtained from leverage) are invested in higher-yielding portfolio investments, the Trusts' shareholders benefit from the incremental net income. The interest earned on securities purchased with the proceeds from leverage is paid to shareholders in the form of dividends, and the value of these portfolio holdings is reflected in the per share NAV.

To illustrate these concepts, assume a Trust's Common Shares capitalization is \$100 million and it utilizes leverage for an additional \$30 million, creating a total value of \$130 million available for investment in longer-term income securities. If prevailing short-term interest rates are 3% and longer-term interest rates are 6%, the yield curve has a strongly positive slope. In this case, a Trust's financing costs on the \$30 million of proceeds obtained from leverage are based on the lower short-term interest rates. At the same time, the securities purchased by a Trust with the proceeds from leverage earn income based on longer-term interest rates. In this case, a Trust's financing cost of leverage is significantly lower than the income earned on a Trust's longer-term investments acquired from such leverage proceeds, and therefore the holders of Common Shares (Common Shareholders) are the beneficiaries of the incremental net income.

However, in order to benefit Common Shareholders, the return on assets purchased with leverage proceeds must exceed the ongoing costs associated with the leverage. If interest and other costs of leverage exceed the Trusts' return on assets purchased with leverage proceeds, income to shareholders is lower than if the Trusts had not used leverage. Furthermore, the value of the Trusts' portfolio investments generally varies inversely with the direction of long-term interest rates, although other factors can influence the value of portfolio investments. In contrast, the value of the Trusts' obligations under their respective leverage arrangements generally does not fluctuate in relation to interest rates. As a result, changes in interest rates can influence the Trusts' NAVs positively or negatively. Changes in the future

direction of interest rates are very difficult to predict accurately, and there is no assurance that the Trusts' intended leveraging strategy will be successful.

The use of leverage also generally causes greater changes in each Trust's NAV, market price and dividend rates than comparable portfolios without leverage. In a declining market, leverage is likely to cause a greater decline in the NAV and market price of a Trust's Common Shares than if the Trust were not leveraged. In addition, each Trust may be required to sell portfolio securities at inopportune times or at distressed values in order to comply with regulatory requirements applicable to the use of leverage or as required by the terms of leverage instruments, which may cause the Trusts to incur losses. The use of leverage may limit a Trust's ability to invest in certain types of securities or use certain types of hedging strategies. Each Trust incurs expenses in connection with the use of leverage, all of which are borne by Common Shareholders and may reduce income to the Common Shares. Moreover, to the extent the calculation of the Trusts' investment advisory fees includes assets purchased with the proceeds of leverage, the investment advisory fees payable to the Trusts' investment adviser will be higher than if the Trusts did not use leverage.

To obtain leverage, each Trust has issued Variable Rate Demand Preferred Shares (VRDP Shares) and Variable Rate Muni Term Preferred Shares (VMTP Shares) (collectively, Preferred Shares) and/or leveraged its assets through the use of tender option bond trusts (TOB Trusts) as described in the Notes to Financial Statements.

Under the Investment Company Act of 1940, as amended (the 1940 Act), each Trust is permitted to issue debt up to 33 1/3% of its total managed assets or equity securities (e.g., Preferred Shares) up to 50% of its total managed assets. A Trust may voluntarily elect to limit its leverage to less than the maximum amount permitted under the 1940 Act. In addition, a Trust may also be subject to certain asset coverage, leverage or portfolio composition requirements imposed by the Preferred Shares' governing instruments or by agencies rating the Preferred Shares, which may be more stringent than those imposed by the 1940 Act.

If a Trust segregates or designates on its books and records cash or liquid assets having a value not less than the value of a Trust's obligations under the TOB Trust (including accrued interest), then the TOB Trust is not considered a senior security and is not subject to the foregoing limitations and requirements imposed by the 1940 Act.

Derivative Financial Instruments

The Trusts may invest in various derivative financial instruments. These instruments are used to obtain exposure to a security, commodity, index, market, and/or other asset without owning or taking physical custody of securities, commodities and/or other referenced assets or to manage market, equity, credit, interest rate, foreign currency exchange rate, commodity and/or other risks. Derivative financial instruments may give rise to a form of economic leverage and involve risks, including the imperfect correlation between the value of a derivative financial instrument and the underlying asset, possible default of the counterparty to the transaction or

illiquidity of the instrument. The Trusts' successful use of a derivative financial instrument depends on the investment adviser's ability to predict pertinent market movements accurately, which cannot be assured. The use of these instruments may result in losses greater than if they had not been used, may limit the amount of appreciation a Trust can realize on an investment and/or may result in lower distributions paid to shareholders. The Trusts' investments in these instruments, if any, are discussed in detail in the Notes to Financial Statements.

Trust Summary as of August 31, 2017

BlackRock Municipal Bond Trust

Trust Overview

BlackRock Municipal Bond Trust s (BBK) (the Trust) investment objective is to provide current income exempt from regular U.S. federal income tax. The Trust seeks to achieve its investment objective by investing primarily in municipal bonds exempt from regular U.S. federal income taxes (except that the interest may be subject to the U.S. federal alternative minimum tax). The Trust invests, under normal market conditions, at least 80% of its managed assets in municipal bonds that are investment grade quality or, if unrated, determined to be of comparable quality by the investment adviser at the time of investment. The Trust may invest directly in such securities or synthetically through the use of derivatives.

No assurance can be given that the Trust s investment objective will be achieved.

Trust Information

Symbol on New York Stock Exchange (NYSE)	BBK
Initial Offering Date	April 30, 2002
Yield on Closing Market Price as of August 31, 2017 (\$15.99) ¹	4.77%
Tax Equivalent Yield ²	8.43%
Current Monthly Distribution per Common Share ³	\$0.0635
Current Annualized Distribution per Common Share ³	\$0.7620
Economic Leverage as of August 31, 2017 ⁴	37%

¹ Yield on closing market price is calculated by dividing the current annualized distribution per share by the closing market price. Past performance does not guarantee future results.

² Tax equivalent yield assumes the maximum marginal U.S. federal tax rate of 43.4%, which includes the 3.8% Medicare tax. Actual tax rates will vary based on income, exemptions and deductions. Lower taxes will result in lower tax equivalent yields.

³ The distribution rate is not constant and is subject to change.

⁴ Represents VMTP Shares and TOB Trusts as a percentage of total managed assets, which is the total assets of the Trust, including any assets attributable to VMTP Shares and TOB Trusts, minus the sum of accrued liabilities. For a discussion of leveraging techniques utilized by the Trust, please see The Benefits and Risks of Leveraging on page 5.

Performance

Returns for the 12 months ended August 31, 2017 were as follows:

	Returns Based On	
	Market Price	NAV
BBK ^{1,2}	(5.18)%	(1.44)%
Lipper General & Insured Municipal Debt Funds (Leveraged) ³	(0.46)%	(0.01)%

¹ All returns reflect reinvestment of dividends and/or distributions at actual reinvestment prices.

Edgar Filing: BLACKROCK MUNIVEST FUND, INC. - Form N-CSR

² The Trust moved from a premium to NAV to a discount during the period, which accounts for the difference between performance based on market price and performance based on NAV.

³ Average return. Returns reflect reinvestment of dividends and/or distributions at NAV on the ex-dividend as calculated by Lipper. Performance results may include adjustments made for financial reporting purposes in accordance with U.S. generally accepted accounting principles.

Past performance is not indicative of future results.

The following discussion relates to the Trust's absolute performance based on NAV:

The municipal bond market generated mixed returns in the past 12 months. Municipal bonds moved lower early in the period due to a pick-up in new tax-exempt issuance and rising yields in the U.S. Treasury market. (Prices and yields move in opposite directions.) The weakness accelerated in November once Donald Trump's election victory caused investors to factor in the possibility of faster economic growth and tighter Fed policy. As optimism for meaningful fiscal reforms subsequently waned and the economy failed to experience a significant acceleration, municipal bonds stabilized and retraced the majority of their post-election losses.

In this environment, the Trust's positions in longer-dated and longer-duration bonds were the largest detractors from performance. (Duration is a measure of interest rate sensitivity.) Exposure to lower-coupon and zero-coupon bonds, which experienced greater price deterioration than the market as a whole, also detracted from returns. Conversely, positions in pre-refunded issues benefited performance as their low duration and higher credit quality enabled them to hold up better than longer-duration bonds.

Positions in the transportation, education and utilities sectors, which were among the weaker sectors for the period, negatively impacted performance. The Trust's exposure to school district bonds, which were adversely affected by their longer durations, was an additional detractor.

The Trust sought to manage interest rate risk using U.S. Treasury futures. Given that Treasury yields rose, as prices fell, this aspect of the Trust's positioning had a positive effect on returns.

The views expressed reflect the opinions of BlackRock as of the date of this report and are subject to change based on changes in market, economic or other conditions. These views are not intended to be a forecast of future events and are no guarantee of future results.

BlackRock Municipal Bond Trust

Market Price and Net Asset Value Per Share Summary

	8/31/17	8/31/16	Change	High	Low
Market Price	\$15.99	\$18.22	(12.24)%	\$18.55	\$14.50
Net Asset Value	\$16.32	\$17.89	(8.78)%	\$17.89	\$15.30

Market Price and Net Asset Value History For the Past Five Years

Overview of the Trust's Total Investments*

Sector Allocation	8/31/17	8/31/16
County/City/Special District/School District	23%	17%
Health	18	24
Transportation	18	15
Education	11	14
State	11	9
Utilities	9	13
Corporate	5	5
Tobacco	5	2
Housing		1

For Trust compliance purposes, the Trust's sector classifications refer to one or more of the sector sub-classifications used by one or more widely recognized market indexes or rating group indexes, and/or as defined by the investment adviser. These definitions may not apply for purposes of this report, which may combine such sector sub-classifications for reporting ease.

Call/Maturity Schedule³

Calendar Year Ended December 31,

2017	4%
2018	6
2019	4
2020	6
2021	11

³ Scheduled maturity dates and/or bonds that are subject to potential calls by issuers over the next five years.

Credit Quality Allocation¹

	8/31/17	8/31/16
AAA/Aaa	3%	4%
AA/Aa	40	47
A	26	27
BBB/Baa	15	11
BB/Ba	6	5
B	3	1
N/R ²	7	5

Edgar Filing: BLACKROCK MUNIVEST FUND, INC. - Form N-CSR

- ¹ For financial reporting purposes, credit quality ratings shown above reflect the highest rating assigned by either Standard & Poor's (S&P) or Moody's Investors Service (Moody's) if ratings differ. These rating agencies are independent, nationally recognized statistical rating organizations and are widely used. Investment grade ratings are credit ratings of BBB/Baa or higher. Below investment grade ratings are credit ratings of BB/Ba or lower. Investments designated N/R are not rated by either rating agency. Unrated investments do not necessarily indicate low credit quality. Credit quality ratings are subject to change.
- ² The investment adviser evaluates the credit quality of unrated investments based upon certain factors including, but not limited to, credit ratings for similar investments and financial analysis of sectors and individual investments. Using this approach, the investment adviser has deemed certain of these unrated securities as investment grade quality. As of August 31, 2017 and August 31, 2016, the market value of unrated securities deemed by the investment adviser to be investment grade represents less than 1% and 3%, respectively, of the Trust's total investments.
- * Excludes short-term securities.

Trust Summary as of August 31, 2017

BlackRock Municipal Income Investment Quality Trust

Trust Overview

BlackRock Municipal Income Investment Quality Trust s (BAF) (the Trust) investment objective is to provide current income exempt from U.S. federal income tax, including the alternative minimum tax. The Trust seeks to achieve its investment objective by investing, under normal circumstances, at least 80% of its managed assets in municipal bonds exempt from U.S. federal income taxes, including the alternative minimum tax. The Trust also invests at least 80% of its managed assets in municipal bonds that are investment grade quality at the time of investment or, if unrated, determined to be of comparable quality by the investment adviser at the time of investment. The Trust may invest directly in such securities or synthetically through the use of derivatives. Due to the repeal of the Florida intangible personal property tax, in September 2008, the Board gave approval to permit the Trust the flexibility to invest in municipal obligations regardless of geographic location since municipal obligations issued by any state or municipality that provides income exempt from regular U.S. federal income tax would now satisfy the foregoing objective and policy.

No assurance can be given that the Trust s investment objective will be achieved.

Trust Information

Symbol on NYSE	BAF
Initial Offering Date	October 31, 2002
Yield on Closing Market Price as of August 31, 2017 (\$15.11) ¹	5.44%
Tax Equivalent Yield	