

BlackRock Mortgage-Backed Securities Fund

Institutional Shares | BGNIX

Annual Shareholder Report — September 30, 2025



This annual shareholder report contains important information about BlackRock Mortgage-Backed Securities Fund (the "Fund") (formerly known as BlackRock GNMA Portfolio) for the period of October 1, 2024 to September 30, 2025. You can find additional information about the Fund at blackrock.com/fundreports. You can also request this information by contacting us at (800) 441-7762.

This report describes changes to the Fund that occurred during the reporting period.

What were the Fund costs for the last year?

(based on a hypothetical \$10,000 investment)

Class name	Costs of a \$10,000 investment	Costs paid as a percentage of a \$10,000 investment
Institutional Shares	\$49	0.48%

How did the Fund perform last year?

- For the reporting period ended September 30, 2025, the Fund's Institutional Shares returned 3.54%.
- For the same period, the Fund's benchmark, the Bloomberg U.S. Aggregate Bond Index, returned 2.88% and the Bloomberg U.S. MBS Index, returned 3.39%.

What contributed to performance?

The Fund's allocations to fixed rate and floating rate agency collateralized mortgage obligations and agency mortgage derivatives, such as interest-only and principal-only instruments, led to positive performance over the period. Allocations to AAA rated CMBS also contributed positively throughout 2025, as did an overweight to 30yr MBS during the third quarter.

What detracted from performance?

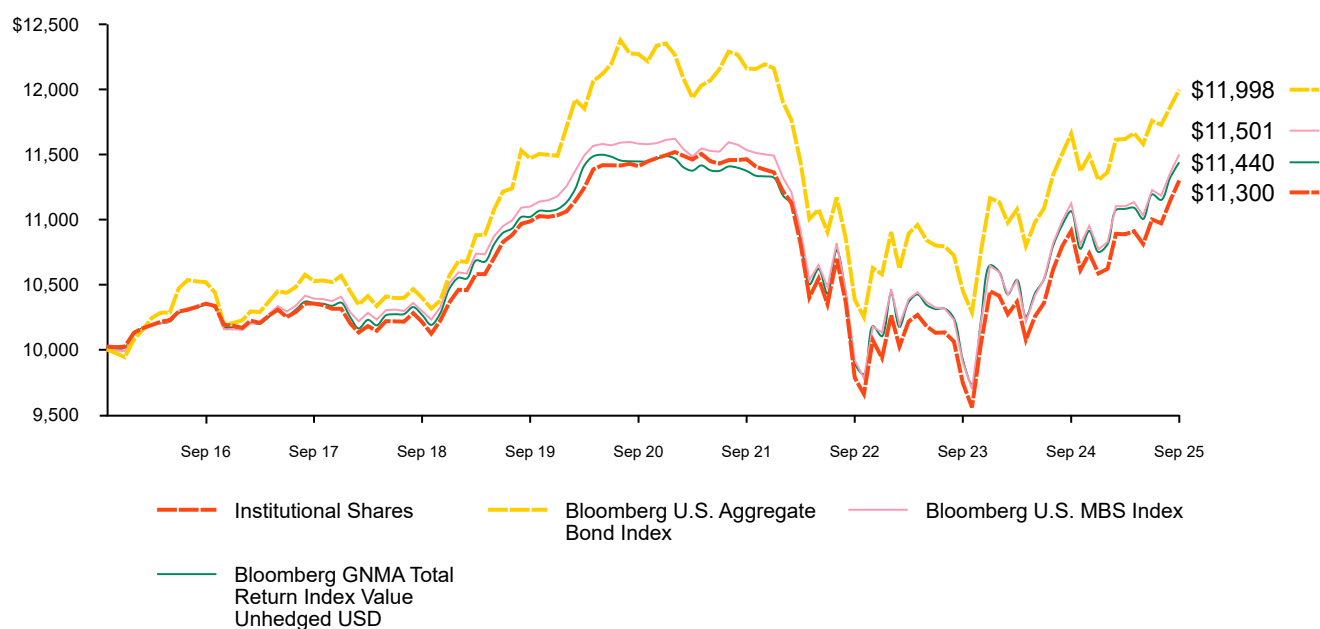
The Fund's security selection and relative value basis trades within the agency mortgage-backed securities sector detracted from the Fund's performance during the first quarter of 2025. An overweight in 30yr MBS spread duration at the start of the second quarter also detracted slightly from performance.

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.

Fund performance

Cumulative performance: October 1, 2015 through September 30, 2025

Initial Investment of \$10,000



See "Average annual total returns" for additional information on fund performance.

Average annual total returns

	1 Year	5 Years	10 Years
Institutional Shares.....	3.54%	(0.19)%	1.23%
Bloomberg U.S. Aggregate Bond Index.....	2.88	(0.45)	1.84
Bloomberg U.S. MBS Index.....	3.39	(0.14)	1.41
Bloomberg GNMA Total Return Index Value Unhedged USD.....	3.39	(0.01)	1.35

Key Fund statistics

Net Assets.....	\$222,438,284
Number of Portfolio Holdings.....	562
Net Investment Advisory Fees...	\$467,669
Portfolio Turnover Rate.....	2,132%

Effective January 28, 2025, the Fund has changed the benchmark against which it measures its performance from the Bloomberg GNMA Total Return Index Value Unhedged USD to the Bloomberg U.S. MBS Index. Fund management believes the Bloomberg U.S. MBS Index more accurately reflects the investment strategy of the Fund.

The Fund's returns shown prior to January 28, 2025 are the returns of the Fund when it followed different investment strategies and investment process under the name BlackRock GNMA Portfolio.

On September 17, 2018, the Fund acquired all of the assets, subject to the liabilities, of BlackRock GNMA Portfolio (the "Predecessor Fund"), a series of BlackRock Funds II, through a tax-free reorganization (the "Reorganization"). The Predecessor Fund is the performance and accounting survivor of the Reorganization.

Past performance is not an indication of future results. Performance results may include adjustments made for financial reporting purposes in accordance with U.S. generally accepted accounting principles. Performance results do not reflect the deduction of taxes that a shareholder would pay on fund distributions or on the redemption or sale of fund shares. Visit [blackrock.com](https://www.blackrock.com) for more recent performance information.

What did the Fund invest in?

(as of September 30, 2025)

Portfolio composition

Investment Type	Percent of Total Investments ^(a)
U.S. Government Sponsored Agency Securities.....	96.3%
Non-Agency Mortgage-Backed Securities.....	3.7

Credit quality allocation

Credit Rating ^(b)	Percent of Total Investments ^(a)
AAA/Aaa ^(c)	100.0%

(a) Excludes short-term securities, short investments and options, if any.

(b) For purposes of this report, credit quality ratings shown above reflect the highest rating assigned by either S&P Global Ratings, Moody's Investors Service, Inc. or Fitch Ratings Inc. 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, if any, are not rated by either rating agency. Unrated investments do not necessarily indicate low credit quality. Credit quality ratings are subject to change.

(c) 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, individual investments and/or issuers. Using this approach, the investment adviser has deemed unrated U.S. Government Sponsored Agency Securities and U.S. Treasury Obligations to be of similar credit quality as investments rated AAA/Aaa.

Material fund changes

This is a summary of certain changes and planned changes to the Fund since September 30, 2024. For more complete information, you may review the Fund's next prospectus, which we expect to be available approximately 120 days after September 30, 2025 at [blackrock.com/fundreports](https://www.blackrock.com/fundreports) or upon request by contacting us at (800) 441-7762.

On January 28, 2025, the Fund's name changed from BlackRock GNMA Portfolio to BlackRock Mortgage-Backed Securities Fund.

On June 5, 2025, the Fund's Board approved the reorganization of the Fund into a newly created ETF to be named iShares Mortgage-Backed Securities Active ETF. The reorganization is expected to close on or about January 23, 2026.

The net expense ratio increased from the prior fiscal year end primarily due to an increase in expenses related to the planned reorganization of the Fund into an exchange-traded fund.

Additional information

If you wish to view additional information about the Fund, including but not limited to financial statements, the Fund's prospectus, and proxy voting policies and procedures, please visit [blackrock.com/fundreports](https://www.blackrock.com/fundreports). For proxy voting records, visit [blackrock.com/proxyrecords](https://www.blackrock.com/proxyrecords).

Householding

The Fund will mail only one copy of shareholder documents, including prospectuses, annual and semi-annual reports and proxy statements, to shareholders with multiple accounts at the same address. This practice is commonly called "householding" and is intended to reduce expenses and eliminate duplicate mailings of shareholder documents. Mailings of your shareholder documents may be househanded indefinitely unless you instruct us otherwise. If you do not want the mailing of these documents to be combined with those for other members of your household, please call the Fund at (800) 441-7762.

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BGNIX-09/25-AR