

BLACKROCK MUNIHOLDINGS FUND, INC.

Form N-Q

September 26, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM N-Q

QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED

MANAGEMENT INVESTMENT COMPANY

Investment Company Act file number: 811-08081

Name of Fund: BlackRock MuniHoldings Fund, Inc. (MHD)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: John M. Perlowski, Chief Executive Officer, BlackRock MuniHoldings 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: 04/30/2017

Date of reporting period: 07/31/2016

Item 1 Schedule of Investments

Schedule of Investments July 31, 2016 (Unaudited)

BlackRock MuniHoldings Fund, Inc. (MHD)

(Percentages shown are based on Net Assets)

| | Par (000) | Value |
|--|--------------|--------------|
| Municipal Bonds | | |
| Alabama 3.7% | | |
| County of Jefferson Alabama, RB, Limited Obligation School, Series A, 5.00%, 1/01/24 | \$ 4,550 | \$ 4,576,527 |
| County of Jefferson Alabama Sewer, Refunding RB: | | |
| Senior Lien, Series A (AGM), 5.00%, 10/01/44 | 570 | 651,464 |
| Senior Lien, Series A (AGM), 5.25%, 10/01/48 | 1,090 | 1,254,819 |
| Sub-Lien, Series D, 6.00%, 10/01/42 | 1,000 | 1,212,850 |
| Sub-Lien, Series D, 7.00%, 10/01/51 | 1,545 | 1,997,561 |
| | | 9,693,221 |
| Alaska 0.6% | | |
| Northern Tobacco Securitization Corp., Refunding RB, Tobacco Settlement, Asset-Backed, Series A, 5.00%, 6/01/46 | 1,660 | 1,630,834 |
| Arizona 2.1% | | |
| Salt Verde Financial Corp., RB, Senior: | | |
| 5.00%, 12/01/32 | 2,000 | 2,504,720 |
| 5.00%, 12/01/37 | 2,360 | 3,030,216 |
| | | 5,534,936 |
| California 11.5% | | |
| California Health Facilities Financing Authority, RB: | | |
| St. Joseph Health System, Series A, 5.75%, 7/01/39 | 1,530 | 1,739,717 |
| Sutter Health, Series B, 6.00%, 8/15/42 | 2,200 | 2,632,036 |
| California Health Facilities Financing Authority, Refunding RB, St. Joseph Health System, Series A, 5.00%, 7/01/33 | 875 | 1,050,779 |
| California Municipal Finance Authority, RB, Senior, Caritas Affordable Housing, Inc. Projects, S/F Housing, Series A: | | |
| 5.25%, 8/15/39 | 105 | 123,828 |
| 5.25%, 8/15/49 | 265 | 310,429 |
| California Pollution Control Financing Authority, RB, Poseidon Resources (Channel Side) LP Desalination Project, AMT, 5.00%, 11/21/45 (a) | 1,025 | 1,153,801 |
| | Par | |
| | (000) | Value |
| Municipal Bonds | | |
| California (continued) | | |
| California Statewide Communities Development Authority, RB, Series A: | | |
| John Muir Health, 5.13%, 7/01/39 | \$ 1,510 | \$ 1,682,442 |
| Loma Linda University Medical Center, 5.00%, 12/01/41 (a) | 380 | 436,981 |
| Loma Linda University Medical Center, 5.00%, 12/01/46 (a) | 460 | 526,889 |
| California Statewide Communities Development Authority, Refunding RB, John Muir Health, Series A, 4.00%, 8/15/51 | 1,650 | 1,790,200 |
| City of Los Angeles California Department of Airports, Refunding ARB, Los Angeles International Airport, Series A, 5.25%, 5/15/39 | 555 | 621,744 |
| City of Stockton California Public Financing Authority, RB, Delta Water Supply Project, Series A, 6.25%, 10/01/38 | 255 | 322,106 |
| Montebello Unified School District, GO, CAB (NPFGC), 0.00%, 8/01/22 (b) | 2,405 | 2,144,274 |
| San Diego Unified School District California, GO, CAB, Election of 2008, Series A, 0.00%, 7/01/29 (b) | 3,475 | 2,476,111 |
| State of California, GO, Various Purposes, 6.50%, 4/01/33 | 8,370 | 9,661,993 |
| State of California Public Works Board, LRB, Various Capital Projects: | | |
| Series I, 5.00%, 11/01/38 | 550 | 662,552 |
| Sub-Series I-1, 6.38%, 11/01/34 | 820 | 966,165 |
| Tobacco Securitization Authority of Southern California, Refunding RB, Tobacco Settlement, Asset-Backed, Senior Series A-1, 4.75%, 6/01/25 | 1,400 | 1,422,414 |
| | | 29,724,461 |
| Colorado 2.3% | | |
| Colorado Educational & Cultural Facilities Authority, RB, Charter School, Colorado Springs, 5.50%, 7/01/40 | 1,455 | 1,586,357 |

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County of Adams Colorado, COP, Refunding, 4.00%, 12/01/40

545

608,847

BLACKROCK MUNIHOLDINGS FUND, INC.

JULY 31, 2016

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Schedule of Investments (continued)

BlackRock MuniHoldings Fund, Inc. (MHD)

| | Par | |
|--|------------|--------------|
| | (000) | Value |
| Municipal Bonds | | |
| Colorado (continued) | | |
| Regional Transportation District, COP, Refunding, Series A, 5.38%, 6/01/31 | \$ 710 | \$ 814,895 |
| Regional Transportation District, RB, Denver Transit Partners Eagle P3 Project, 6.00%, 1/15/34 | 1,425 | 1,653,998 |
| University of Colorado, RB, Series A, 5.38%, 6/01/19 (c) | 1,250 | 1,414,975 |
| | | 6,079,072 |
| Connecticut 1.1% | | |
| Connecticut State Health & Educational Facility Authority, Refunding RB, Wesleyan University, Series G, 5.00%, 7/01/20 (c) | 2,515 | 2,926,303 |
| Delaware 1.8% | | |
| County of Sussex Delaware, RB, NRG Energy, Inc., Indian River Power LLC Project, 6.00%, 10/01/40 | 790 | 889,674 |
| Delaware Transportation Authority, RB, 5.00%, 6/01/55 | 840 | 990,268 |
| State of Delaware EDA, RB, Exempt Facilities, Indian River Power LLC Project, 5.38%, 10/01/45 | 2,430 | 2,664,641 |
| | | 4,544,583 |
| District of Columbia 4.2% | | |
| District of Columbia, Tax Allocation Bonds, City Market at O Street Project, 5.13%, 6/01/41 | 1,520 | 1,746,586 |
| Metropolitan Washington Airports Authority, Refunding RB, Dulles Toll Road: | | |
| 1st Senior Lien, Series A, 5.00%, 10/01/39 | 505 | 562,247 |
| 1st Senior Lien, Series A, 5.25%, 10/01/44 | 1,470 | 1,642,549 |
| CAB, 2nd Senior Lien, Series B (AGC), 0.00%, 10/01/35 (b) | 13,485 | 7,000,333 |
| | | 10,951,715 |
| Florida 5.0% | | |
| City of Clearwater Florida Water & Sewer Revenue, RB, Series A, 5.25%, 12/01/39 | 2,375 | 2,677,813 |
| County of Broward Florida Water & Sewer Utility, Refunding RB, Series A, 5.25%, 10/01/18 (c) | 750 | 824,370 |
| | Par | |
| | (000) | Value |
| Municipal Bonds | | |
| Florida (continued) | | |
| County of Collier Florida Health Facilities Authority, Refunding RB, Series A, 5.00%, 5/01/45 | \$ 960 | \$ 1,130,294 |
| County of Miami-Dade Florida, RB, CAB, Series A (NPFGC), 0.00%, 10/01/37 (b) | 910 | 304,604 |
| County of Miami-Dade Florida Aviation, Refunding ARB, Miami International Airport, Series A-1, 5.38%, 10/01/41 | 2,620 | 3,012,712 |
| Mid-Bay Bridge Authority, RB, Springing Lien, Series A, 7.25%, 10/01/21 (c) | 2,095 | 2,742,250 |
| Palm Coast Park Community Development District, Special Assessment Bonds, 5.70%, 5/01/37 | 590 | 566,382 |
| Village Community Development District No. 10, Special Assessment Bonds, 5.13%, 5/01/43 | 1,475 | 1,663,594 |
| | | 12,922,019 |
| Georgia 1.5% | | |
| County of Gainesville Georgia & Hall Hospital Authority, Refunding RB, Northeast Georgia Health System, Inc. Project, Series A, 5.50%, 8/15/54 | 370 | 458,748 |
| DeKalb Private Hospital Authority, Refunding RB, Children's Healthcare, 5.25%, 11/15/39 | 585 | 659,880 |
| Metropolitan Atlanta Rapid Transit Authority, RB, Sales Tax, 3rd Indenture, Series A, 5.00%, 7/01/39 | 2,410 | 2,690,283 |
| | | 3,808,911 |
| Hawaii 0.4% | | |
| State of Hawaii Harbor System, RB, Series A, 5.25%, 7/01/30 | 945 | 1,078,132 |
| Illinois 16.1% | | |
| City of Chicago Illinois, GARB, 3rd Lien: | | |
| O'Hare International Airport, Series C, 6.50%, 1/01/41 | 4,055 | 4,934,854 |
| O'Hare International Airport, Series A, 5.75%, 1/01/39 | 2,000 | 2,344,560 |
| City of Chicago Illinois, GO, Project, 5.00%, 1/01/34 | 1,265 | 1,287,783 |

Schedule of Investments (continued)

BlackRock MuniHoldings Fund, Inc. (MHD)

| | Par | |
|---|--------------|--------------|
| | (000) | Value |
| Municipal Bonds | | |
| Illinois (continued) | | |
| City of Chicago Illinois, GO, Refunding, Series A: Project, 5.25%, 1/01/32 | \$ 2,195 | \$ 2,286,575 |
| 5.00%, 1/01/35 | 2,000 | 2,042,180 |
| City of Chicago Illinois, Special Assessment Bonds, Lake Shore East, 6.75%, 12/01/32 | 897 | 901,306 |
| City of Chicago Illinois Transit Authority, RB, Sales Tax Receipts, 5.25%, 12/01/40 | 730 | 810,826 |
| City of Chicago Illinois Waterworks, Refunding RB, 2nd Lien Project, 5.00%, 11/01/42 | 1,000 | 1,115,670 |
| County of Cook Illinois Community College District No. 508, GO, City College of Chicago, 5.50%, 12/01/38 | 560 | 652,786 |
| Illinois Finance Authority, Refunding RB: Central Dupage Health, Series B, 5.50%, 11/01/39 | 1,115 | 1,275,304 |
| Presence Health Network, Series C, 5.00%, 2/15/36 (d) | 155 | 176,740 |
| Presence Health Network, Series C, 4.00%, 2/15/41 (d) | 1,035 | 1,037,639 |
| Illinois State Toll Highway Authority, RB: Senior, Series C, 5.00%, 1/01/36 | 1,870 | 2,229,302 |
| Senior, Series C, 5.00%, 1/01/37 | 2,000 | 2,382,600 |
| Series A, 5.00%, 1/01/38 | 1,610 | 1,866,038 |
| Metropolitan Pier & Exposition Authority, Refunding RB, McCormick Place Expansion Project: CAB, Series B (AGM), 0.00%, 6/15/47 (b) | 13,220 | 3,879,806 |
| Series B (AGM), 5.00%, 6/15/50 | 3,070 | 3,332,946 |
| Series B-2, 5.00%, 6/15/50 | 1,740 | 1,840,276 |
| Railsplitter Tobacco Settlement Authority, RB: 5.50%, 6/01/23 | 315 | 371,054 |
| 6.00%, 6/01/28 | 800 | 959,328 |
| State of Illinois, GO: 5.00%, 2/01/39 | 1,100 | 1,187,736 |
| Series A, 5.00%, 4/01/38 | 2,625 | 2,813,764 |
| State of Illinois, RB, Build Illinois, Series B, 5.25%, 6/15/34 | 440 | 487,863 |
| | Par | |
| | (000) | Value |
| Municipal Bonds | | |
| Illinois (continued) | | |
| University of Illinois, RB, Auxiliary Facilities System, Series A: 5.00%, 4/01/39 | \$ 580 | \$ 669,256 |
| 5.00%, 4/01/44 | 705 | 810,341 |
| | | 41,696,533 |
| Indiana 4.2% | | |
| City of Valparaiso Indiana, RB, Exempt Facilities, Pratt Paper LLC Project, AMT: 6.75%, 1/01/34 | 560 | 693,319 |
| 7.00%, 1/01/44 | 1,355 | 1,695,891 |
| Indiana Finance Authority, RB, Series A: CWA Authority Project, 1st Lien, 5.25%, 10/01/38 | 2,275 | 2,709,252 |
| Private Activity Bond, Ohio River Bridges East End Crossing Project, AMT, 5.00%, 7/01/44 | 310 | 348,486 |
| Private Activity Bond, Ohio River Bridges East End Crossing Project, AMT, 5.00%, 7/01/48 | 1,030 | 1,151,056 |
| Private Activity Bond, Ohio River Bridges East End Crossing Project, AMT, 5.25%, 1/01/51 | 290 | 327,604 |
| Sisters of St. Francis Health Services, 5.25%, 11/01/39 | 585 | 658,014 |
| Indiana Finance Authority, Refunding RB, Parkview Health System, Series A, 5.75%, 5/01/31 | 1,300 | 1,471,587 |
| Indiana Municipal Power Agency, RB, Series B, 6.00%, 1/01/19 (c) | 775 | 874,076 |
| Indianapolis Local Public Improvement Bond Bank, RB, Series A, 5.00%, 1/15/40 | 880 | 1,042,774 |
| | | 10,972,059 |
| Iowa 2.0% | | |
| Iowa Finance Authority, Refunding RB, Midwestern Disaster Area, Iowa Fertilizer Co. Project: 5.00%, 12/01/19 | 615 | 638,825 |
| 5.50%, 12/01/22 | 1,630 | 1,695,037 |
| 5.25%, 12/01/25 | 320 | 345,203 |
| Iowa Student Loan Liquidity Corp., Refunding RB, Student Loan, Senior Series A-1, AMT, 5.15%, 12/01/22 | 800 | 852,160 |

BLACKROCK MUNIHOLDINGS FUND, INC.

JULY 31, 2016

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Schedule of Investments (continued)

BlackRock MuniHoldings Fund, Inc. (MHD)

| | Par | |
|---|------------|--------------|
| | (000) | Value |
| Municipal Bonds | | |
| Iowa (continued) | | |
| Iowa Tobacco Settlement Authority, Refunding RB, Asset-Backed, Series C, 5.63%, 6/01/46 | \$ 1,730 | \$ 1,734,498 |
| | | 5,265,723 |
| Kansas 0.7% | | |
| Kansas Development Finance Authority, Refunding RB, Adventist Health, Series C, 5.75%, 11/15/38 | 1,520 | 1,750,706 |
| Kentucky 0.6% | | |
| Kentucky Economic Development Finance Authority, RB, Catholic Health Initiatives, Series A, 5.25%, 1/01/45 | 705 | 809,438 |
| Kentucky Public Transportation Infrastructure Authority, RB, Downtown Crossing Project, Convertible CAB, 1st Tier, Series C, 0.00%, 7/01/43 (e) | 865 | 771,191 |
| | | 1,580,629 |
| Louisiana 3.3% | | |
| East Baton Rouge Sewerage Commission, RB, Series A, 5.25%, 2/01/19 (c) | 570 | 634,957 |
| Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp. Project, 6.75%, 11/01/32 | 3,500 | 3,745,910 |
| New Orleans Aviation Board, RB, Passenger Facility Charge, Series A, 5.25%, 1/01/41 | 430 | 474,643 |
| Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, Series A: 5.50%, 5/15/30 | 700 | 800,989 |
| 5.25%, 5/15/31 | 600 | 680,508 |
| 5.25%, 5/15/32 | 765 | 881,586 |
| 5.25%, 5/15/33 | 830 | 949,736 |
| 5.25%, 5/15/35 | 350 | 402,587 |
| | | 8,570,916 |
| Maine 0.1% | | |
| Maine Health & Higher Educational Facilities Authority, RB, Series A, 5.00%, 7/01/39 | 210 | 232,113 |
| | Par | |
| Municipal Bonds | | |
| Maryland 1.0% | | |
| Maryland EDC, RB, Transportation Facilities Project, Series A, 5.75%, 6/01/35 | \$ 300 | \$ 336,168 |
| Maryland EDC, Refunding RB, CNX Marine Terminals, Inc., 5.75%, 9/01/25 | 530 | 526,640 |
| Maryland Health & Higher Educational Facilities Authority, Refunding RB, Charlestown Community Project, 6.25%, 1/01/41 | 1,520 | 1,802,705 |
| | | 2,665,513 |
| Massachusetts 2.1% | | |
| Commonwealth of Massachusetts, GO, Series E, 3.00%, 4/01/44 | 2,085 | 2,077,932 |
| Massachusetts Development Finance Agency, Refunding RB: Boston University, Series P, 5.45%, 5/15/59 | 1,165 | 1,502,268 |
| Covanta Energy Project, Series C, AMT, 5.25%, 11/01/42 (a) | 1,575 | 1,604,200 |
| Massachusetts Health & Educational Facilities Authority, Refunding RB, Partners Healthcare System, Series J1, 5.00%, 7/01/39 | 255 | 284,108 |
| | | 5,468,508 |
| Michigan 3.0% | | |
| City of Detroit Michigan Sewage Disposal System, Refunding RB, Senior Lien, Series A, 5.25%, 7/01/39 | 3,085 | 3,536,459 |
| Kalamazoo Hospital Finance Authority, Refunding RB, Bronson Methodist Hospital, 5.50%, 5/15/36 | 955 | 1,084,765 |
| Michigan Finance Authority, Refunding RB, Detroit Water & Sewage Department Project, Senior Lien, Series C-1, 5.00%, 7/01/44 | 630 | 709,903 |

Schedule of Investments (continued)

BlackRock MuniHoldings Fund, Inc. (MHD)

| | Par | |
|--|--------------|--------------|
| | (000) | Value |
| Municipal Bonds | | |
| Michigan (continued) | | |
| Michigan State Hospital Finance Authority, Refunding RB, Henry Ford Health System, 5.75%, 11/15/39 | \$ 2,105 | \$ 2,403,152 |
| | | 7,734,279 |
| Minnesota 0.9% | | |
| City of Minneapolis Minnesota, Refunding RB, Fairview Health Services, Series A, 6.75%, 11/15/18 (c) | 2,135 | 2,432,021 |
| Mississippi 0.3% | | |
| University of Southern Mississippi, RB, Campus Facilities Improvements Project, 5.38%, 9/01/19 (c) | 675 | 771,100 |
| Missouri 0.2% | | |
| Bi-State Development Agency of the Missouri-Illinois Metropolitan District, Refunding RB, Combined Lien, Series A, 5.00%, 10/01/44 | 175 | 205,558 |
| State of Missouri Health & Educational Facilities Authority, Refunding RB, St. Louis College of Pharmacy Project, 5.50%, 5/01/43 | 175 | 200,069 |
| | | 405,627 |
| Nebraska 0.3% | | |
| Central Plains Energy Project Nebraska, RB, Gas Project No. 3, 5.25%, 9/01/37 | 575 | 659,588 |
| New Hampshire 1.3% | | |
| New Hampshire Health & Education Facilities Authority, Refunding RB, Dartmouth-Hitchcock, 6.00%, 8/01/38 | 3,035 | 3,483,209 |
| New Jersey 6.5% | | |
| Casino Reinvestment Development Authority, Refunding RB: | | |
| 5.25%, 11/01/39 | 735 | 784,098 |
| 5.25%, 11/01/44 | 1,095 | 1,163,448 |
| County of Essex New Jersey Improvement Authority, RB, AMT, 5.25%, 7/01/45 (a) | 775 | 810,681 |
| New Jersey EDA, RB, Continental Airlines, Inc. Project, AMT: | | |
| 5.13%, 9/15/23 | 1,410 | 1,589,944 |
| 5.25%, 9/15/29 | 1,365 | 1,528,431 |
| | Par | |
| | (000) | Value |
| Municipal Bonds | | |
| New Jersey (continued) | | |
| New Jersey EDA, Refunding, Special Assessment Bonds, Kapkowski Road Landfill Project, 5.75%, 4/01/31 | \$ 1,550 | \$ 1,856,234 |
| New Jersey State Turnpike Authority, RB: | | |
| Series A, 5.00%, 1/01/43 | 1,925 | 2,250,672 |
| Series E, 5.00%, 1/01/45 | 1,875 | 2,227,406 |
| New Jersey Transportation Trust Fund Authority, RB: | | |
| Transportation Program, Series AA, 5.00%, 6/15/44 | 895 | 992,555 |
| Transportation System, Series A, 5.50%, 6/15/41 | 1,575 | 1,756,157 |
| Transportation System, Series B, 5.25%, 6/15/36 | 1,705 | 1,885,969 |
| | | 16,845,595 |
| New York 8.0% | | |
| City of New York New York Transitional Finance Authority, RB, Fiscal 2012, Sub-Series E-1, 5.00%, 2/01/42 | 1,560 | 1,843,873 |
| Counties of New York Tobacco Trust IV, Refunding RB, Settlement Pass-Through Turbo, Series A, 6.25%, 6/01/41 (a) | 1,300 | 1,376,141 |
| County of Dutchess New York Industrial Development Agency, Refunding RB, Bard College Civic Facility, Series A-1, 5.00%, 8/01/46 | 1,800 | 1,767,060 |
| County of Westchester New York Healthcare Corp., RB, Senior Lien, Series A, 5.00%, 11/01/44 | 241 | 280,956 |
| Erie Tobacco Asset Securitization Corp., Refunding RB, Asset-Backed, Series A, 5.00%, 6/01/45 | 1,405 | 1,405,070 |
| Long Island Power Authority, Refunding RB, Electric System, Series A, 5.75%, 4/01/39 | 1,450 | 1,617,069 |
| Metropolitan Transportation Authority, RB, Series B, 5.25%, 11/15/38 | 1,715 | 2,116,773 |
| Metropolitan Transportation Authority, Refunding RB, Dedicated Tax Fund, Series B, 5.00%, 11/15/34 | 1,740 | 1,976,605 |

Schedule of Investments (continued)

BlackRock MuniHoldings Fund, Inc. (MHD)

| | Par | |
|--|------------|------------|
| | (000) | Value |
| Municipal Bonds | | |
| New York (continued) | | |
| New York Liberty Development Corp., Refunding RB: | | |
| 2nd Priority, Bank of America Tower at One Bryant Park Project, Class 3, 6.38%, 7/15/49 | \$ 850 | \$ 966,722 |
| 3 World Trade Center Project, Class 1, 5.00%, 11/15/44 (a) | 2,275 | 2,608,606 |
| 3 World Trade Center Project, Class 2, 5.15%, 11/15/34 (a) | 245 | 275,562 |
| 3 World Trade Center Project, Class 2, 5.38%, 11/15/40 (a) | 605 | 704,958 |
| Port Authority of New York & New Jersey, ARB, Special Project, JFK International Air Terminal LLC Project, Series 8: | | |
| 6.00%, 12/01/36 | 900 | 1,061,721 |
| 6.00%, 12/01/42 | 875 | 1,029,306 |
| Westchester Tobacco Asset Securitization, Refunding RB, 5.13%, 6/01/45 | 1,700 | 1,699,847 |
| | | 20,730,269 |
| North Carolina 0.6% | | |
| North Carolina Medical Care Commission, RB, Health Care Facilities, Duke University Health System, Series A, 5.00%, 6/01/19 (c) | 970 | 1,088,098 |
| North Carolina Medical Care Commission, Refunding RB, 1st Mortgage, Retirement Facilities Whitestone Project, Series A, 7.75%, 3/01/41 | 415 | 480,105 |
| | | 1,568,203 |
| Ohio 0.5% | | |
| County of Franklin Ohio, RB, Health Care Facilities Improvement, OPRS Communities Obligation Group, Series A, 6.13%, 7/01/40 | 470 | 535,462 |
| | Par | |
| Municipal Bonds | | |
| Ohio (continued) | | |
| State of Ohio, RB, Portsmouth Bypass Project, AMT, 5.00%, 6/30/53 | \$ 580 | \$ 655,603 |
| | | 1,191,065 |
| Oklahoma 0.4% | | |
| County of Epworth Oklahoma Finance Authority, Refunding RB, Epworth Villa Project, Series A, 5.13%, 4/01/42 | 975 | 972,582 |
| Pennsylvania 3.1% | | |
| City of Philadelphia Pennsylvania Hospitals & Higher Education Facilities Authority, RB, Temple University Health System, Series A, 5.63%, 7/01/42 | 460 | 516,304 |
| Pennsylvania Economic Development Financing Authority, RB: | | |
| American Water Co. Project, 6.20%, 4/01/39 | 2,520 | 2,848,029 |
| Pennsylvania Bridge Finco LP, AMT, 5.00%, 6/30/42 | 2,015 | 2,367,947 |
| Pennsylvania Economic Development Financing Authority, Refunding RB, National Gypsum Co., AMT, 5.50%, 11/01/44 | 1,105 | 1,243,644 |
| Pennsylvania Turnpike Commission, RB, Series A, 5.00%, 12/01/44 | 795 | 945,056 |
| | | 7,920,980 |
| Rhode Island 1.9% | | |
| Tobacco Settlement Financing Corp., Refunding RB, Series B: | | |
| 4.50%, 6/01/45 | 1,900 | 2,031,366 |
| 5.00%, 6/01/50 | 2,605 | 2,791,205 |
| | | 4,822,571 |
| South Carolina 3.8% | | |
| State of South Carolina Ports Authority, RB: | | |
| 5.25%, 7/01/40 | 2,285 | 2,593,841 |
| AMT, 5.25%, 7/01/55 | 925 | 1,080,289 |
| State of South Carolina Public Service Authority, RB, Santee Cooper, Series A, 5.50%, 12/01/54 | 2,790 | 3,359,606 |

Schedule of Investments (continued)

BlackRock MuniHoldings Fund, Inc. (MHD)

| | Par | |
|---|------------|--------------|
| | (000) | Value |
| Municipal Bonds | | |
| South Carolina (continued) | | |
| State of South Carolina Public Service Authority, Refunding RB, Series E, 5.25%, 12/01/55 | \$ 2,260 | \$ 2,732,815 |
| | | 9,766,551 |
| Tennessee 0.9% | | |
| City of Chattanooga Tennessee Health Educational & Housing Facility Board, RB, Catholic Health Initiatives, Series A, 5.25%, 1/01/45 | 980 | 1,125,177 |
| County of Hardeman Tennessee Correctional Facilities Corp., RB, 7.75%, 8/01/17 | 525 | 525,116 |
| Metropolitan Government Nashville & Davidson County Health & Educational Facilities Board, RB, Vanderbilt University Medical Center, Series A, 5.00%, 7/01/46 | 495 | 594,465 |
| | | 2,244,758 |
| Texas 5.9% | | |
| Central Texas Regional Mobility Authority, Refunding RB: | | |
| Senior Lien, 6.25%, 1/01/21 (c) | 1,480 | 1,822,502 |
| Sub-Lien, 5.00%, 1/01/33 | 250 | 284,955 |
| Central Texas Turnpike System, Refunding RB, Series C, 5.00%, 8/15/42 | 425 | 495,252 |
| City of Austin Texas Airport System, ARB, Revenue, AMT, 5.00%, 11/15/39 | 440 | 510,484 |
| City of Austin Texas Electric Utility Revenue, Refunding RB, Series A, 5.00%, 11/15/37 | 1,500 | 1,755,180 |
| City of Dallas Texas Waterworks & Sewer System, Refunding RB, 5.00%, 10/01/35 | 1,050 | 1,218,273 |
| City of Houston Texas Airport System, Refunding ARB, Senior Lien, Series A, 5.50%, 7/01/39 | 1,070 | 1,164,984 |
| County of Harris Texas Cultural Education Facilities Finance Corp., RB, 1st Mortgage, Brazos Presbyterian Homes, Inc. Project, Series B, 7.00%, 1/01/48 | 325 | 388,525 |
| County of Harris Texas Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, Series B, 7.25%, 12/01/18 (c) | 1,910 | 2,200,893 |
| | Par | |
| | (000) | Value |
| Municipal Bonds | | |
| Texas (continued) | | |
| La Vernia Higher Education Finance Corp., RB, Kipp, Inc., Series A, 6.38%, 8/15/19 (c) | \$ 450 | \$ 525,271 |
| North Texas Tollway Authority, RB, CAB, Special Project System, Series B, 0.00%, 9/01/37 (b) | 1,400 | 640,836 |
| Texas Private Activity Bond Surface Transportation Corp., RB, Senior Lien: | | |
| LBJ Infrastructure Group LLC, 7.00%, 6/30/40 | 2,000 | 2,369,980 |
| NTE Mobility Partners LLC, North Tarrant Express Managed Lanes Project, 6.88%, 12/31/39 | 1,700 | 2,016,574 |
| | | 15,393,709 |
| Vermont 0.0% | | |
| Vermont Educational & Health Buildings Financing Agency, RB, Developmental & Mental Health, Series A, 6.00%, 6/15/17 | 10 | 10,083 |
| Virginia 2.3% | | |
| County of Fairfax Virginia EDA, Refunding RB, Goodwin House, Inc., 5.13%, 10/01/42 | 1,000 | 1,034,820 |
| County of Hanover Virginia EDA, Refunding RB, Covenant Woods, Series A: | | |
| 5.00%, 7/01/42 | 625 | 669,556 |
| Residential Care Facility, 5.00%, 7/01/47 | 970 | 1,034,166 |
| Virginia Small Business Financing Authority, RB, Senior Lien, Elizabeth River Crossings OpCo LLC Project, AMT: | | |
| 5.25%, 1/01/32 | 550 | 631,136 |
| 6.00%, 1/01/37 | 2,230 | 2,663,891 |
| | | 6,033,569 |
| Washington 2.4% | | |
| Grant County Public Utility District No 2, Refunding RB, Series A: | | |
| 5.00%, 1/01/41 | 1,355 | 1,640,309 |
| 5.00%, 1/01/43 | 1,555 | 1,879,513 |
| Port of Seattle Washington, RB, Series C, AMT, 5.00%, 4/01/40 | 540 | 634,408 |

Schedule of Investments (continued)

BlackRock MuniHoldings Fund, Inc. (MHD)

| | Par (000) | Value |
|---|--------------|--------------|
| Municipal Bonds | | |
| Washington (continued) | | |
| Washington Health Care Facilities Authority, RB, Catholic Health Initiatives, Series A, 5.75%, 1/01/45 | \$ 1,625 | \$ 1,965,454 |
| | | 6,119,684 |
| Wisconsin 3.5% | | |
| State of Wisconsin, Refunding RB, Series A, 6.00%, 5/01/36 | 4,980 | 5,657,977 |
| State of Wisconsin Health & Educational Facilities Authority, RB, Ascension Health Senior Credit Group, Series E, 5.00%, 11/15/33 | 1,710 | 1,935,121 |
| Wisconsin Health & Educational Facilities Authority, Refunding RB, Medical College of Wisconsin, Inc., 4.00%, 12/01/46 | 1,305 | 1,425,452 |
| | | 9,018,550 |
| Wyoming 0.1% | | |
| Wyoming Municipal Power Agency, Inc., RB, Series A, 5.00%, 1/01/42 | 210 | 227,575 |
| Total Municipal Bonds 110.2% | | 285,448,455 |

Municipal Bonds Transferred to**Tender Option Bond Trusts (f)**

| | | |
|--|------------|-----------|
| California 7.4% | | |
| Bay Area Toll Authority, Refunding RB, San Francisco Bay Area, Series F-1, 5.63%, 4/01/19 (c) | 2,271 | 2,571,417 |
| California Educational Facilities Authority, RB, University of Southern California, Series B, 5.25%, 10/01/39 (g) | 1,845 | 2,023,227 |
| City & County of San Francisco California Public Utilities Commission, RB, Water Revenue, Series B, 5.00%, 11/01/39 | 6,600 | 7,467,240 |
| City of Los Angeles California Department of Airports, Refunding ARB, Los Angeles International Airport, Senior Series A, 5.00%, 5/15/40 | 4,121 | 4,696,724 |
| Los Angeles Community College District California, GO, Election of 2001, Series A (AGM), 5.00%, 8/01/17 (c) | 1,620 | 1,694,001 |
| Municipal Bonds Transferred to | Par | |

Tender Option Bond Trusts

| | (000) | Value |
|---|--------|------------|
| California (continued) | | |
| San Diego Community College District California, GO, Election of 2002, 5.25%, 8/01/33 | \$ 748 | \$ 850,226 |
| | | 19,302,835 |
| Colorado 3.6% | | |
| Colorado Health Facilities Authority, RB, Catholic Health (AGM) (c): | | |
| Series C-3, 5.10%, 4/29/18 | 2,580 | 2,783,846 |
| Series C-7, 5.00%, 5/01/18 | 1,650 | 1,777,891 |
| Colorado Health Facilities Authority, Refunding RB, Catholic Health Initiatives, Series A, 5.50%, 7/01/34 (g) | 1,490 | 1,670,886 |
| County of Adams Colorado, COP, Refunding, 4.00%, 12/01/45 | 2,700 | 2,980,908 |
| | | 9,213,531 |
| Connecticut 2.6% | | |
| Connecticut State Health & Educational Facility Authority, RB, Yale University: | | |
| Series T-1, 4.70%, 7/01/29 | 3,179 | 3,295,809 |
| Series X-3, 4.85%, 7/01/37 | 3,262 | 3,386,095 |
| | | 6,681,904 |
| Florida 1.7% | | |
| County of Miami-Dade Florida, RB, Water & Sewer System, 5.00%, 10/01/34 | 3,939 | 4,530,716 |
| Georgia 0.9% | | |
| Private Colleges & Universities Authority, Refunding RB, Emory University, Series C, 5.00%, 9/01/38 | 2,259 | 2,458,734 |
| Massachusetts 2.1% | | |

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| | | |
|--|-------|-----------|
| Massachusetts School Building Authority, RB, Senior, Series B, 5.00%, 10/15/41 | 4,502 | 5,325,171 |
| New Hampshire 0.6% | | |
| New Hampshire Health & Education Facilities Authority, RB, Dartmouth College, 5.25%, 6/01/39 (g) | 1,410 | 1,590,317 |

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BLACKROCK MUNIHOLDINGS FUND, INC.

JULY 31, 2016

Schedule of Investments (continued)

BlackRock MuniHoldings Fund, Inc. (MHD)

| Municipal Bonds Transferred to | Par | |
|--|---------------|--------------|
| Tender Option Bond Trusts | (000) | Value |
| New York 9.0% | | |
| City of New York New York Municipal Water Finance Authority, Refunding RB, Water & Sewer System, 2nd General Resolution, Series FF-2, 5.50%, 6/15/40 | \$ 1,110 | \$ 1,257,408 |
| Hudson Yards Infrastructure Corp., RB, Fiscal 2012, Series A, 5.75%, 2/15/47 (g) | 1,110 | 1,312,344 |
| Metropolitan Transportation Authority, Refunding RB, Series C-1, 5.25%, 11/15/56 | 3,240 | 3,999,919 |
| New York Liberty Development Corp., RB, 1 World Trade Center Port Authority Consolidated Bonds, 5.25%, 12/15/43 | 7,440 | 8,956,981 |
| New York Liberty Development Corp., Refunding RB, 4 World Trade Center Project, 5.75%, 11/15/51 (g) | 4,460 | 5,396,174 |
| Port Authority of New York & New Jersey, Refunding ARB, 194th Series, 5.25%, 10/15/55 | 1,860 | 2,311,124 |
| | | 23,233,950 |
| North Carolina 1.3% | | |
| North Carolina Capital Facilities Finance Agency, Refunding RB: | | |
| Duke University Project, Series B, 5.00%, 10/01/55 | 1,830 | 2,227,989 |
| Wake Forest University, 5.00%, 1/01/38 | 1,080 | 1,193,821 |
| | | 3,421,810 |
| Ohio 4.1% | | |
| State of Ohio, Refunding RB, Cleveland Clinic Health System Obligated Group, Series A, 5.50%, 1/01/39 | 9,644 | 10,706,394 |
| Texas 4.8% | | |
| City of San Antonio Texas Public Service Board, RB, Electric & Gas Systems, Junior Lien, 5.00%, 2/01/43 | 1,720 | 2,036,755 |
| County of Harris Texas, Refunding RB, Toll Road, Senior Lien, Series A: 5.00%, 8/15/19 (c) | 2,620 | 2,917,730 |
| 5.00%, 8/15/38 | 2,004 | 2,231,811 |
| County of Harris Texas Metropolitan Transit Authority, Refunding RB, Series A, 5.00%, 11/01/41 | 2,350 | 2,759,793 |
| Municipal Bonds Transferred to | | |
| | Par | |
| Tender Option Bond Trusts | | |
| | (000) | Value |
| Texas (continued) | | |
| University of Texas, Refunding RB, Financing System, Series B, 5.00%, 8/15/43 | \$ 2,041 | \$ 2,439,221 |
| | | 12,385,310 |
| Utah 1.1% | | |
| City of Riverton Utah, RB, IHC Health Services, Inc., 5.00%, 8/15/41 | 2,519 | 2,772,056 |
| Virginia 2.5% | | |
| University of Virginia, Refunding RB, GO, 5.00%, 6/01/40 | 3,749 | 4,046,905 |
| Virginia Small Business Financing Authority, Refunding RB, Sentara Healthcare, 5.00%, 11/01/40 | 2,095 | 2,370,275 |
| | | 6,417,180 |
| Washington 0.8% | | |
| Central Puget Sound Regional Transit Authority, RB, Series A (AGM), 5.00%, 11/01/17 (c) | 1,860 | 1,962,682 |
| Wisconsin 1.7% | | |
| Wisconsin Health & Educational Facilities Authority, Refunding RB, Froedtert & Community Health, Inc., Obligated Group, Series C, 5.25%, 4/01/39 (g) | 3,959 | 4,314,472 |
| Total Municipal Bonds Transferred to | | |
| Tender Option Bond Trusts 44.2% | | 114,317,062 |
| Total Long-Term Investments | | |
| (Cost \$350,911,459) 154.4% | | 399,765,517 |
| Short-Term Securities | | |
| | Shares | |
| BlackRock Liquidity Funds, MuniCash, 0.26% (h)(i) | 3,874,660 | 3,874,660 |
| Total Short-Term Securities | | |
| (Cost \$3,874,660) 1.5% | | 3,874,660 |

Schedule of Investments (continued)

BlackRock MuniHoldings Fund, Inc. (MHD)

| | Value |
|--|----------------|
| Total Investments (Cost \$354,786,119*) 155.9% | \$ 403,640,177 |
| Other Assets Less Liabilities 0.6% | 1,744,988 |
| Liability for TOB Trust Certificates, Including Interest Expense and Fees Payable (24.2)% | (62,780,724) |
| VMTP Shares, at Liquidation Value (32.3)% | (83,700,000) |
| Net Assets Applicable to Common Shares 100.0% | \$ 258,904,441 |

* As of July 31, 2016, gross unrealized appreciation and depreciation based on cost for federal income tax purposes were as follows:

| | |
|-------------------------------|----------------|
| Tax cost | \$ 292,777,732 |
| Gross unrealized appreciation | \$ 48,909,465 |
| Gross unrealized depreciation | (766,181) |
| Net unrealized appreciation | \$ 48,143,284 |

Notes to Schedule of Investments

* As of period end, gross unrealized appreciation and depreciation based on cost for federal income tax purposes were as follows:

- (a) Security exempt from registration pursuant to Rule 144A under the Securities Act of 1933, as amended. These securities may be resold in transactions exempt from registration to qualified institutional investors.
- (b) Zero-coupon bond.
- (c) U.S. Government securities, held in escrow, are used to pay interest on this security, as well as to retire the bond in full at the date indicated, typically at a premium to par.
- (d) When-issued security.
- (e) Step-up bond that pays an initial coupon rate for the first period and then a higher coupon rate for the following periods. Rate as of period end.
- (f) Represent bonds transferred to a TOB Trust in exchange of cash and residual certificates received by the Fund. These bonds serve as collateral in a secured borrowing.
- (g) All or a portion of security is subject to a recourse agreement. The aggregate maximum potential amount the Fund could ultimately be required to pay under the agreements, which expire between October 1, 2016 to February 15, 2031, is \$11,665,103.

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(h) During the period ended July 31, 2016, investments in issuers considered to be affiliates of the Fund for purposes of Section 2(a)(3) of the Investment Company Act of 1940, as amended, were as follows:

| Affiliate | Shares Held at April 30, | Net Activity | Shares Held at July 31, | Value at | Income |
|-------------------------------------|-----------------------------|-----------------|----------------------------|---------------|----------|
| | 2016 | | 2016 | July 31, 2016 | |
| BlackRock Liquidity Funds, MuniCash | 1,575,949 | 2,298,711 | 3,874,660 | \$ 3,874,660 | \$ 1,565 |

(i) Current yield as of period end.

Derivative Financial Instruments Outstanding as of Period End

Futures Contracts

| Contracts Short | Issue | Expiration | Notional Value | Unrealized Appreciation (Depreciation) |
|--------------------|----------------------------|----------------|-------------------|--|
| (25) | 5-Year U.S. Treasury Note | September 2016 | \$3,050,391 | \$ 2,377 |
| (29) | 10-Year U.S. Treasury Note | September 2016 | \$3,858,359 | (1,903) |
| (17) | Long U.S. Treasury Bond | September 2016 | \$2,965,438 | (60,578) |
| (6) | Ultra U.S. Treasury Bond | September 2016 | \$1,143,187 | (4,113) |
| Total | | | | \$ (64,217) |

Schedule of Investments (continued)

BlackRock MuniHoldings Fund, Inc. (MHD)

Portfolio Abbreviations

| | |
|--------------|---|
| AGC | Assured Guarantee Corp. |
| AGM | Assured Guaranty Municipal Corp. |
| AMT | Alternative Minimum Tax (subject to) |
| ARB | Airport Revenue Bonds |
| CAB | Capital Appreciation Bonds |
| COP | Certificates of Participation |
| EDA | Economic Development Authority |
| EDC | Economic Development Corp. |
| GARB | General Airport Revenue Bonds |
| GO | General Obligation Bonds |
| LRB | Lease Revenue Bonds |
| NPFGC | National Public Finance Guarantee Corp. |
| RB | Revenue Bonds |
| S/F | Single-Family |

Fair Value Hierarchy as of Period End

Various inputs are used in determining the fair value of investments and derivative financial instruments. These inputs to valuation techniques are categorized into a fair value hierarchy consisting of three broad levels for financial reporting purposes as follows:

Level 1 unadjusted price quotations in active markets/exchanges for identical assets or liabilities that the Fund has the ability to access

Level 2 other observable inputs (including, but not limited to, quoted prices for similar assets or liabilities in markets that are active, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the assets or liabilities (such as interest rates, yield curves, volatilities, prepayment speeds, loss severities, credit risks and default rates) or other market-corroborated inputs)

Level 3 unobservable inputs based on the best information available in the circumstances, to the extent observable inputs are not available (including the Fund's own assumptions used in determining the fair value of investments and derivative financial instruments)

The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). Accordingly, the degree of judgment exercised in determining fair value is greatest for instruments categorized in Level 3. The inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, for disclosure purposes, the fair value hierarchy classification is determined based on the lowest level input that is significant to the fair value measurement in its entirety. The significant unobservable inputs used by the Global Valuation Committee in determining the price for Fair Valued Investments are typically categorized as level 3.

Changes in valuation techniques may result in transfers into or out of an assigned level within the hierarchy. In accordance with the Fund's policy, transfers between different levels of the fair value hierarchy are deemed to have occurred as of the beginning of the reporting period. The categorization of a value determined for investments and derivative financial instruments is based on the pricing transparency of the investments and derivative financial instruments and is not necessarily an indication of the risks associated with investing in those securities. For information about the Fund's policy regarding valuation of investments and derivative financial instruments, refer to the Fund's most recent financial statements as contained in its annual report.

Schedule of Investments (concluded)

BlackRock MuniHoldings Fund, Inc. (MHD)

The following tables summarize the Fund's investments and derivative financial instruments categorized in the disclosure hierarchy:

| | Level 1 | Level 2 | Level 3 | Total |
|------------------------------------|--------------|----------------|---------|----------------|
| Assets: | | | | |
| Investments: | | | | |
| Long-Term Investments ¹ | | \$ 399,765,517 | | \$ 399,765,517 |
| Short-Term Securities | \$ 3,874,660 | | | 3,874,660 |
| Total | \$ 3,874,660 | \$ 399,765,517 | | \$ 403,640,177 |

Derivative Financial Instruments²

| | | | | |
|-------------------------|-------------|--|--|-------------|
| Assets: | | | | |
| Interest rate contracts | \$ 2,377 | | | \$ 2,377 |
| Liabilities: | | | | |
| Interest rate contracts | (66,594) | | | (66,594) |
| Total | \$ (64,217) | | | \$ (64,217) |

¹ See above Schedule of Investments for values in each state and political subdivision.

² Derivative financial instruments are futures contracts. Futures contracts are valued at the unrealized appreciation (depreciation) on the instrument.

The Fund may hold assets and/or liabilities in which the fair value approximates the carrying amount for financial reporting purposes. As of period end, such assets and/or liabilities are categorized within the disclosure hierarchy as follows:

| | Level 1 | Level 2 | Level 3 | Total |
|------------------------------------|------------|------------------|---------|------------------|
| Assets: | | | | |
| Cash | \$ 505 | | | \$ 505 |
| Cash pledged for futures contracts | 153,550 | | | 153,550 |
| Liabilities: | | | | |
| TOB Trust Certificates | | \$ (62,719,161) | | (62,719,161) |
| VMTP Shares | | (83,700,000) | | (83,700,000) |
| Total | \$ 154,055 | \$ (146,419,161) | | \$ (146,265,106) |

During the period ended July 31, 2016, there were no transfers between levels.

Item 2 Controls and Procedures

- 2(a) The registrant's principal executive and principal financial officers, or persons performing similar functions, have concluded that the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940, as amended (the "1940 Act")) are effective as of a date within 90 days of the filing of this report based on the evaluation of these controls and procedures required by Rule 30a-3(b) under the 1940 Act and Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended.
- 2(b) There were no changes in the registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the 1940 Act) that occurred during the registrant's last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the registrant's internal control over financial reporting.

Item 3 Exhibits

Certifications Attached hereto

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BlackRock MuniHoldings Fund, Inc.

By: /s/ John M. Perlowski
John M. Perlowski
Chief Executive Officer (principal executive officer) of
BlackRock MuniHoldings Fund, Inc.

Date: September 21, 2016

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By: /s/ John M. Perlowski
John M. Perlowski
Chief Executive Officer (principal executive officer) of
BlackRock MuniHoldings Fund, Inc.

Date: September 21, 2016

By: /s/ Neal J. Andrews
Neal J. Andrews
Chief Financial Officer (principal financial officer) of
BlackRock MuniHoldings Fund, Inc.

Date: September 21, 2016