

BLACKROCK MUNIASSETS 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: 811-07642

Name of Fund: BlackRock MuniAssets Fund, Inc. (MUA)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: John M. Perlowski, Chief Executive Officer, BlackRock MuniAssets 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 MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

| | Par (000) | Value |
|---|----------------------|--------------|
| Municipal Bonds | | |
| Alabama 2.1% | | |
| County of Jefferson Alabama, RB, Limited Obligation School, Series A: | | |
| 5.25%, 1/01/17 | \$ 895 | \$ 906,196 |
| 5.25%, 1/01/19 | 2,000 | 2,011,660 |
| 5.50%, 1/01/21 | 1,215 | 1,222,084 |
| County of Jefferson Alabama Sewer, Refunding RB, Sub-Lien, Series D, 6.00%, 10/01/42 | 3,745 | 4,542,123 |
| State of Alabama Docks Department, Refunding RB, 6.00%, 10/01/40 | 2,165 | 2,580,529 |
| | | 11,262,592 |
| Alaska 0.5% | | |
| Northern Tobacco Securitization Corp., Refunding RB, Tobacco Settlement, Asset-Backed, Series A: | | |
| 4.63%, 6/01/23 | 1,080 | 1,097,291 |
| 5.00%, 6/01/32 | 1,500 | 1,472,550 |
| | | 2,569,841 |
| Arizona 1.5% | | |
| City of Phoenix Arizona IDA, RB: | | |
| Great Hearts Academies Veritas Project, 6.30%, 7/01/42 | 500 | 558,520 |
| Great Hearts Academies Veritas Project, 6.40%, 7/01/47 | 425 | 475,805 |
| Legacy Traditional Schools Project, Series A, 6.50%, 7/01/34 (a) | 570 | 678,710 |
| Legacy Traditional Schools Project, Series A, 6.75%, 7/01/44 (a) | 1,000 | 1,208,510 |
| City of Phoenix Arizona IDA, Refunding RB (a): | | |
| Basis Schools, Inc. Projects, 5.00%, 7/01/35 | 305 | 333,676 |
| Basis Schools, Inc. Projects, 5.00%, 7/01/45 | 855 | 925,939 |
| Basis Schools, Inc. Projects, Series A, 5.00%, 7/01/35 | 260 | 284,445 |
| Basis Schools, Inc. Projects, Series A, 5.00%, 7/01/46 | 290 | 313,835 |
| Legacy Traditional School Projects, 5.00%, 7/01/35 | 320 | 345,050 |
| Legacy Traditional School Projects, 5.00%, 7/01/45 | 255 | 272,980 |
| Salt Verde Financial Corp., RB, Senior, 5.00%, 12/01/37 | 1,650 | 2,118,584 |
| | Par (000) | Value |
| Municipal Bonds | | |
| Arizona (continued) | | |
| University Medical Center Corp., RB, 6.50%, 7/01/19 (b) | \$ 500 | \$ 582,310 |
| | | 8,098,364 |
| California 7.8% | | |
| California Municipal Finance Authority, RB, Urban Discovery Academy Project (a): | | |
| 5.50%, 8/01/34 | 315 | 338,386 |
| 6.00%, 8/01/44 | 665 | 720,281 |
| 6.13%, 8/01/49 | 580 | 629,149 |
| California School Finance Authority, RB: | | |
| Alliance for College Ready Public School 2023 Union LLC Project, Series A, 6.40%, 7/01/48 | 1,570 | 1,906,859 |
| Value Schools, 6.65%, 7/01/33 | 435 | 508,180 |
| Value Schools, 6.90%, 7/01/43 | 975 | 1,150,783 |
| California Statewide Communities Development Authority, RB, Loma Linda University Medical Center, Series A (a): | | |
| 5.00%, 12/01/41 | 690 | 793,466 |
| 5.00%, 12/01/46 | 920 | 1,053,777 |
| 5.25%, 12/01/56 | 2,760 | 3,208,914 |
| California Statewide Communities Development Authority, Refunding RB, American Baptist Homes of the West, 6.25%, 10/01/39 | 2,175 | 2,501,881 |
| California Statewide Financing Authority, RB, Asset-Backed, Tobacco Settlement, Series B, 6.00%, 5/01/43 | 1,650 | 1,663,150 |
| City of San Jose California Hotel Tax, RB, Convention Center Expansion & Renovation Project: | | |
| 6.50%, 5/01/36 | 900 | 1,096,839 |
| 6.50%, 5/01/42 | 2,220 | 2,699,853 |
| City of Stockton California Public Financing Authority, RB, Delta Water Supply Project, Series A, 6.25%, 10/01/40 | 375 | 473,685 |
| County of California Tobacco Securitization Agency, RB, Asset-Backed, Los Angeles County Securitization Corp.: | | |

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| | | |
|----------------|-------|-----------|
| 5.60%, 6/01/36 | 1,285 | 1,306,254 |
| 5.70%, 6/01/46 | 3,600 | 3,659,616 |

BLACKROCK MUNIASSETS FUND, INC.

JULY 31, 2016

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

| | Par (000) | Value |
|---|--------------|--------------|
| Municipal Bonds | | |
| California (continued) | | |
| County of Riverside California Transportation Commission, RB, Senior Lien, Series A, 5.75%, 6/01/48 | \$ 2,885 | \$ 3,435,083 |
| Golden State Tobacco Securitization Corp., Refunding RB, Asset-Backed, Series A-1: | | |
| Bonds, 5.13%, 6/01/47 | 3,850 | 3,849,730 |
| Senior, 5.75%, 6/01/47 | 3,980 | 4,059,600 |
| Tobacco Securitization Authority of Southern California, Refunding RB, Tobacco Settlement, Asset-Backed, Senior Series A-1: | | |
| 4.75%, 6/01/25 | 1,375 | 1,397,014 |
| 5.00%, 6/01/37 | 4,580 | 4,580,229 |
| | | 41,032,729 |
| Colorado 2.1% | | |
| Castle Oaks Metropolitan District No. 3, GO, 6.25%, 12/01/44 | 500 | 539,650 |
| Colorado Health Facilities Authority, Refunding RB, Series A (a): | | |
| 6.13%, 12/01/45 | 335 | 354,618 |
| 6.25%, 12/01/50 | 1,115 | 1,177,841 |
| Copperleaf Metropolitan District No. 2, GO, Refunding, 5.75%, 12/01/45 | 720 | 771,602 |
| Foothills Metropolitan District, Special Assessment Bonds, 6.00%, 12/01/38 | 5,985 | 6,575,600 |
| Regional Transportation District, RB, Denver Transit Partners Eagle P3 Project, 6.00%, 1/15/34 | 1,500 | 1,741,050 |
| | | 11,160,361 |
| Connecticut 0.9% | | |
| Mohegan Tribal Finance Authority, RB, 7.00%, 2/01/45 (a) | 1,430 | 1,448,347 |
| Mohegan Tribe of Indians of Connecticut, RB, Series A, 6.75%, 2/01/45 (a) | 1,420 | 1,469,956 |
| Mohegan Tribe of Indians of Connecticut, Refunding RB, Public Improvement, Priority Distribution, Series C, 6.25%, 2/01/30 (a) | 1,835 | 1,895,628 |
| | | 4,813,931 |
| Municipal Bonds | | |
| Delaware 0.7% | | |
| County of Sussex Delaware, RB, NRG Energy, Inc., Indian River Power LLC Project, 6.00%, 10/01/40 | \$ 1,000 | \$ 1,126,170 |
| State of Delaware EDA, RB, Exempt Facilities, Indian River Power LLC Project, 5.38%, 10/01/45 | 2,280 | 2,500,157 |
| | | 3,626,327 |
| Florida 8.1% | | |
| Boggy Creek Improvement District, Refunding RB, Special Assessment Bonds, 5.13%, 5/01/43 | 1,535 | 1,634,376 |
| Capital Trust Agency, Inc., RB, Silver Creek St. Augustine Project, Series A: | | |
| 1st Mortgage, 8.25%, 1/01/44 (c)(d) | 515 | 455,554 |
| 1st Mortgage, 8.25%, 1/01/49 (c)(d) | 1,105 | 978,356 |
| 5.75%, 1/01/50 | 655 | 655,151 |
| County of Collier Florida IDA, Refunding RB, Arlington of Naples Project, Series A, 8.13%, 5/15/44 (a) | 2,510 | 3,031,653 |
| County of Palm Beach Florida Health Facilities Authority, RB, Acts Retirement Life Community, 5.50%, 11/15/20 (b) | 3,500 | 4,179,140 |
| Florida Development Finance Corp., RB, Renaissance Charter School, Series A: | | |
| 5.75%, 6/15/29 | 690 | 725,149 |
| 6.00%, 6/15/34 | 835 | 881,535 |
| 6.13%, 6/15/44 | 3,220 | 3,382,707 |
| Greenway Improvement District, RB, Special Assessment Bonds, 5.13%, 5/01/43 | 1,940 | 2,065,596 |
| Harbor Bay Community Development District Florida, Special Assessment Bonds, Series A, 7.00%, 5/01/33 | 410 | 411,562 |

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

| | Par (000) | Value |
|---|----------------------|--------------|
| Municipal Bonds | | |
| Florida (continued) | | |
| Jacksonville Economic Development Commission, Refunding RB, Florida Proton Therapy Institute, Series A, 6.00%, 9/01/17 (a) | \$ 535 | \$ 562,510 |
| Lakewood Ranch Stewardship District, Refunding, Special Assessment Bonds, Lakewood Center & New Sector Projects, 8.00%, 5/01/40 | 1,485 | 1,840,702 |
| Lakewood Ranch Stewardship District, Special Assessment Bonds, Village of Lakewood Ranch Sector Projects: | | |
| 4.00%, 5/01/21 | 200 | 206,730 |
| 4.25%, 5/01/26 | 160 | 166,744 |
| 5.00%, 5/01/36 | 460 | 484,283 |
| 5.13%, 5/01/46 | 915 | 967,914 |
| Mid-Bay Bridge Authority, RB, Springing Lien, Series A, 7.25%, 10/01/21 (b) | 4,550 | 5,955,722 |
| Midtown Miami Community Development District, Refunding, Special Assessment Bonds: | | |
| Series A, 5.00%, 5/01/37 | 845 | 913,234 |
| Series B, 5.00%, 5/01/37 | 495 | 534,971 |
| Palm Beach County Health Facilities Authority, Refunding RB, Series A, 7.25%, 6/01/34 | 500 | 614,295 |
| Santa Rosa Bay Bridge Authority, RB, 6.25%, 7/01/28 (c)(d) | 4,264 | 2,142,499 |
| Tampa Palms Open Space and Transportation Community Development District, RB, Capital Improvement, Richmond Place Project, 7.50%, 5/01/18 | 575 | 576,023 |
| Tolomato Community Development District, Refunding, Special Assessment Bonds: | | |
| Convertible CAB, Series A2, 0.00%, 5/01/39 (e) | 250 | 202,285 |
| Convertible CAB, Series A3, 0.00%, 5/01/40 (e) | 585 | 354,106 |
| Convertible CAB, Series A4, 0.00%, 5/01/40 (e) | 305 | 136,979 |
| Series 2, 0.00%, 5/01/40 (e) | 805 | 427,173 |
| Series A1, 6.65%, 5/01/40 | 910 | 919,801 |
| Tolomato Community Development District: | | |
| Series 1, 0.00%, 5/01/40 (e) | 1,305 | 817,126 |
| Series 1, 6.65%, 5/01/40 (c)(d) | 50 | 51,189 |
| | Par (000) | Value |
| Municipal Bonds | | |
| Florida (continued) | | |
| Tolomato Community Development District (continued): | | |
| Series 3, 6.61%, 5/01/40 (c)(d) | \$ 875 | \$ 9 |
| Series 3, 6.65%, 5/01/40 (c)(d) | 710 | 7 |
| Village Community Development District No. 9, Special Assessment Bonds: | | |
| 6.75%, 5/01/31 | 1,600 | 1,950,384 |
| 7.00%, 5/01/41 | 2,615 | 3,200,812 |
| 5.50%, 5/01/42 | 1,220 | 1,416,432 |
| | | 42,842,709 |
| Georgia 1.6% | | |
| County of Clayton Georgia, Tax Allocation Bonds, Ellenwood Project, 7.50%, 7/01/33 | 2,575 | 2,674,009 |
| County of Clayton Georgia Development Authority, Refunding RB, Delta Air Lines, Inc. Project, Series A, 8.75%, 6/01/29 | 3,365 | 4,142,180 |
| County of Gainesville & Hall Georgia Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2 (b): | | |
| 6.38%, 11/15/19 | 700 | 827,694 |
| 6.63%, 11/15/19 | 880 | 1,047,675 |
| | | 8,691,558 |
| Guam 0.4% | | |
| Territory of Guam, GO, Series A: | | |
| 6.00%, 11/15/19 | 505 | 559,273 |
| 7.00%, 11/15/19 (b) | 1,115 | 1,341,434 |
| | | 1,900,707 |
| Illinois 5.0% | | |
| City of Chicago Illinois, GO, Series A, 5.50%, 1/01/39 | 3,600 | 3,727,332 |
| Illinois Finance Authority, Refunding RB: | | |
| Friendship Village of Schaumburg, 7.25%, 2/15/45 | 4,000 | 4,325,280 |
| Lutheran Home & Services Obligated Group, 5.63%, 5/15/42 | 2,395 | 2,600,156 |
| Presence Health Network, Series C, 5.00%, 2/15/36 (f) | 225 | 256,558 |

BLACKROCK MUNIASSETS FUND, INC.

JULY 31, 2016

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

| | Par (000) | Value |
|---|----------------------|--------------|
| Municipal Bonds | | |
| Illinois (continued) | | |
| Illinois Finance Authority, Refunding RB (continued): | | |
| Presence Health Network, Series C, 4.00%, 2/15/41 (f) | \$ 1,525 | \$ 1,528,889 |
| Primary Health Care Centers Program, 6.60%, 7/01/24 | 990 | 997,603 |
| Rogers Park Montessori School Project, Series 2014, 6.00%, 2/01/34 | 365 | 396,883 |
| Rogers Park Montessori School Project, Series 2014, 6.13%, 2/01/45 | 860 | 932,799 |
| Roosevelt University Project, 6.50%, 4/01/44 | 4,170 | 4,611,895 |
| Metropolitan Pier & Exposition Authority, RB, McCormick Place Expansion Project, Series A, 5.50%, 6/15/53 | 2,370 | 2,783,209 |
| Railsplitter Tobacco Settlement Authority, RB: | | |
| 5.50%, 6/01/23 | 180 | 212,031 |
| 6.00%, 6/01/28 | 710 | 851,404 |
| Village of Lincolnshire Illinois, Special Tax Bonds, Sedgebrook Project, 6.25%, 3/01/34 | 1,730 | 1,732,975 |
| Village of Wheeling Illinois, Tax Allocation Bonds, North Milwaukee/Lake-Cook TIF Project, 6.00%, 1/01/25 | 1,260 | 1,261,134 |
| | | 26,218,148 |
| Indiana 1.6% | | |
| City of Valparaiso Indiana, RB, Exempt Facilities, Pratt Paper LLC Project, AMT: | | |
| 6.75%, 1/01/34 | 825 | 1,021,408 |
| 7.00%, 1/01/44 | 2,000 | 2,503,160 |
| City of Vincennes Indiana, Refunding RB, Southwest Indiana Regional Youth Village Project, 6.25%, 1/01/29 (a) | 2,510 | 2,532,741 |
| Indiana Finance Authority, RB, Private Activity Bond, Ohio River Bridges East End Crossing Project, Series A, AMT: | | |
| 5.00%, 7/01/44 | 470 | 528,350 |
| | Par (000) | Value |
| Municipal Bonds | | |
| Indiana (continued) | | |
| Indiana Finance Authority, RB, Private Activity Bond, Ohio River Bridges East End Crossing Project, Series A, AMT (continued): | | |
| 5.00%, 7/01/48 | \$ 1,555 | \$ 1,737,759 |
| | | 8,323,418 |
| Iowa 2.7% | | |
| Iowa Finance Authority, Refunding RB: | | |
| Midwestern Disaster Area, Iowa Fertilizer Co. Project, 5.50%, 12/01/22 | 2,090 | 2,173,391 |
| Midwestern Disaster Area, Iowa Fertilizer Co. Project, 5.25%, 12/01/25 | 2,190 | 2,362,485 |
| Sunrise Retirement Community Project, 5.50%, 9/01/37 | 1,355 | 1,411,178 |
| Sunrise Retirement Community Project, 5.75%, 9/01/43 | 2,115 | 2,217,345 |
| Iowa Tobacco Settlement Authority, Refunding RB: | | |
| Asset-Backed, CAB, Series B, 5.60%, 6/01/34 | 1,200 | 1,209,660 |
| Series C, 5.38%, 6/01/38 | 4,900 | 4,900,196 |
| | | 14,274,255 |
| Kentucky 1.1% | | |
| Kentucky Economic Development Finance Authority, Refunding RB, Baptist Life Communities Project, Series S: | | |
| 6.25%, 11/15/46 | 635 | 651,897 |
| 6.38%, 11/15/51 | 620 | 637,931 |
| Kentucky Public Transportation Infrastructure Authority, RB, Downtown Crossing, First Tier, Series A, 5.75%, 7/01/49 | 4,000 | 4,768,280 |
| | | 6,058,108 |
| Louisiana 2.8% | | |
| Juban Crossing Economic Development District, Refunding RB, General Infrastructure Project, Series C, 7.00%, 9/15/44 (a) | | |
| | 1,055 | 1,139,147 |

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

| | Par (000) | Value |
|---|----------------------|--------------|
| Municipal Bonds | | |
| Louisiana (continued) | | |
| Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp. Project, 6.75%, 11/01/32 | \$ 5,000 | \$ 5,351,300 |
| Louisiana Public Facilities Authority, RB, Belle Chasse Educational Foundation Project, 6.75%, 5/01/41 | 1,855 | 2,140,596 |
| Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, Series A, 5.25%, 5/15/35 | 5,570 | 6,406,892 |
| | | 15,037,935 |
| Maine 0.6% | | |
| Maine Health & Higher Educational Facilities Authority, RB, Maine General Medical Center, 6.75%, 7/01/41 | 2,955 | 3,378,511 |
| Maryland 2.0% | | |
| County of Frederick Maryland, RB, Jefferson Technology Park Project, Series B, 7.13%, 7/01/43 | 2,840 | 3,267,960 |
| Maryland EDC, RB, Transportation Facilities Project, Series A, 5.75%, 6/01/35 | 3,615 | 4,050,824 |
| Maryland EDC, Refunding RB, CNX Marine Terminals, Inc., 5.75%, 9/01/25 | 3,085 | 3,065,441 |
| | | 10,384,225 |
| Massachusetts 1.6% | | |
| Massachusetts Development Finance Agency, RB: | | |
| Boston Medical Center, Series D, 4.00%, 7/01/45 | 1,000 | 1,064,850 |
| Boston Medical Center, Series D, 5.00%, 7/01/44 | 1,905 | 2,215,839 |
| Foxborough Regional Charter School, Series A, 7.00%, 7/01/42 | 1,025 | 1,174,384 |
| North Hill Communities Issue, Series A, 6.50%, 11/15/43 (a) | 2,020 | 2,233,251 |
| | Par (000) | Value |
| Municipal Bonds | | |
| Massachusetts (continued) | | |
| Massachusetts Development Finance Agency, Refunding RB, Tufts Medical Center, Series I, 6.75%, 1/01/36 | \$ 1,490 | \$ 1,784,588 |
| | | 8,472,912 |
| Michigan 0.9% | | |
| City of Detroit Michigan Sewage Disposal System, Refunding RB, Senior Lien, Series A, 5.25%, 7/01/39 | 2,785 | 3,192,557 |
| Michigan Finance Authority, RB, Detroit Water & Sewage Disposal System, Senior Lien, Series 2014 C-2, AMT, 5.00%, 7/01/44 | 415 | 457,351 |
| Michigan Finance Authority, Refunding RB, Detroit Water & Sewage Department Project, Senior Lien, Series C-1, 5.00%, 7/01/44 | 920 | 1,036,683 |
| | | 4,686,591 |
| Minnesota 0.3% | | |
| City of Rochester Minnesota, RB, Health Care And Facility Homestead Rochester Incorporate, 5.00%, 12/01/49 | 1,335 | 1,435,979 |
| Missouri 1.0% | | |
| Kirkwood IDA Missouri, RB, Aberdeen Heights, Series A, 8.25%, 5/15/39 | 2,315 | 2,628,729 |
| Lees Summit Industrial Development Authority, RB, John Knox Obligated Group, 5.25%, 8/15/39 | 2,235 | 2,560,393 |
| | | 5,189,122 |
| New Jersey 4.6% | | |
| Casino Reinvestment Development Authority, Refunding RB: | | |
| 5.25%, 11/01/39 | 1,065 | 1,136,142 |
| 5.25%, 11/01/44 | 770 | 818,133 |
| County of Essex New Jersey Improvement Authority, RB, AMT, 5.25%, 7/01/45 (a) | 1,150 | 1,202,946 |
| New Jersey EDA, RB: | | |
| Goethals Bridge Replacement Project, Private Activity Bond, AMT, 5.38%, 1/01/43 | 2,155 | 2,507,256 |
| Kapkowski Road Landfill Project, Series B, AMT, 6.50%, 4/01/31 | 2,250 | 2,775,150 |

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

| | Par (000) | Value |
|---|--------------|--------------|
| Municipal Bonds | | |
| New Jersey (continued) | | |
| New Jersey EDA, RB (continued): | | |
| Team Academy Charter School Project, 6.00%, 10/01/43 | \$ 1,530 | \$ 1,781,119 |
| New Jersey EDA, Refunding RB, Greater Brunswick Charter School, Inc. Project, Series A, 6.00%, 8/01/49 (a) | 500 | 533,815 |
| New Jersey Health Care Facilities Financing Authority, Refunding RB: | | |
| St. Barnabas Health Care System, Series A, 5.63%, 7/01/37 | 2,650 | 3,110,358 |
| St. Joseph's Healthcare System, 6.63%, 7/01/38 | 4,090 | 4,474,992 |
| New Jersey Transportation Trust Fund Authority, RB, Transportation Program, Series AA, 5.25%, 6/15/41 | 1,140 | 1,293,854 |
| Tobacco Settlement Financing Corp., Refunding RB, Series 1A: | | |
| 5.00%, 6/01/29 | 3,735 | 3,774,180 |
| 5.00%, 6/01/41 | 1,070 | 1,051,254 |
| | | 24,459,199 |
| New Mexico 0.6% | | |
| New Mexico Hospital Equipment Loan Council, Refunding RB, Gerald Champion Regional Medical Center Project, 5.50%, 7/01/42 | 2,970 | 3,342,616 |
| New York 9.2% | | |
| City of New York New York Industrial Development Agency, ARB, American Airlines, Inc., JFK International Airport Project, AMT, 8.00%, 8/01/28 (g) | | |
| | 1,765 | 1,783,109 |
| City of New York New York Industrial Development Agency, RB, Special Needs Facilities Pooled Program, Series C-1: | | |
| 6.50%, 7/01/24 | 610 | 611,452 |
| 6.63%, 7/01/29 | 1,100 | 1,102,728 |
| Counties of New York Tobacco Trust IV, Refunding RB, Settlement Pass-Through Turbo, Series A: | | |
| 6.25%, 6/01/41 (a) | 5,300 | 5,610,421 |
| 5.00%, 6/01/42 | 3,155 | 3,154,874 |
| 5.00%, 6/01/45 | 1,185 | 1,184,917 |
| | Par (000) | Value |
| Municipal Bonds | | |
| New York (continued) | | |
| County of Dutchess New York IDA, Refunding RB, Bard College Civic Facility, Series A-1, 5.00%, 8/01/46 | \$ 3,315 | \$ 3,254,335 |
| County of Nassau New York Tobacco Settlement Corp., Refunding RB, Asset-Backed, Series A-3, 5.13%, 6/01/46 | 1,170 | 1,153,901 |
| County of Westchester New York Healthcare Corp., RB, Senior Lien, Series A, 5.00%, 11/01/44 | 1,354 | 1,576,791 |
| Erie Tobacco Asset Securitization Corp., Refunding RB, Asset-Backed, Series A, 5.00%, 6/01/45 | 2,890 | 2,890,144 |
| Metropolitan Transportation Authority, RB, Series C: | | |
| 6.50%, 11/15/18 (b) | 1,490 | 1,687,723 |
| 6.50%, 11/15/28 | 510 | 577,754 |
| 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 | 1,270 | 1,444,396 |
| 3 World Trade Center Project, Class 1, 5.00%, 11/15/44 (a) | 4,705 | 5,394,941 |
| 3 World Trade Center Project, Class 2, 5.15%, 11/15/34 (a) | 455 | 511,757 |
| 3 World Trade Center Project, Class 2, 5.38%, 11/15/40 (a) | 1,080 | 1,258,438 |
| 3 World Trade Center Project, Class 3, 7.25%, 11/15/44 (a) | 1,565 | 2,058,178 |
| New York Transportation Development Corp., RB, Laguardia Airport Terminal B Redevelopment Project, Series A (AMT), 5.00%, 7/01/41 | 630 | 722,068 |
| New York Transportation Development Corp., Refunding RB, American Airlines, Inc., AMT: | | |
| 5.00%, 8/01/26 | 1,065 | 1,182,651 |
| 5.00%, 8/01/31 | 1,195 | 1,308,812 |
| Niagara Area Development Corp., Refunding RB, Solid Waste Disposal Facility, Covanta Energy Project, Series A, AMT, 5.25%, 11/01/42 (a) | 1,335 | 1,365,531 |

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

| | Par (000) | Value |
|--|--------------|--------------|
| Municipal Bonds | | |
| New York (continued) | | |
| Port Authority of New York & New Jersey, ARB, Special Project, JFK International Air Terminal LLC Project, Series 8, 6.00%, 12/01/36 | \$ 1,340 | \$ 1,580,785 |
| TSASC, Inc., Refunding RB, Series 1, 5.00%, 6/01/34 | 2,305 | 2,305,023 |
| Westchester Tobacco Asset Securitization, Refunding RB, 5.13%, 6/01/45 | 4,800 | 4,799,568 |
| | | 48,520,297 |
| North Carolina 1.5% | | |
| North Carolina Medical Care Commission, Refunding RB, 1st Mortgage, Series A: | | |
| Deerfield Project, 6.13%, 11/01/18 (b) | 4,565 | 4,995,069 |
| Retirement Facilities Whitestone Project, 7.75%, 3/01/31 | 1,000 | 1,158,240 |
| Retirement Facilities Whitestone Project, 7.75%, 3/01/41 | 1,420 | 1,642,769 |
| | | 7,796,078 |
| Ohio 3.0% | | |
| Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Series A-2: | | |
| Senior Turbo Term, 5.88%, 6/01/47 | 6,390 | 6,341,692 |
| 5.75%, 6/01/34 | 6,745 | 6,677,685 |
| 6.00%, 6/01/42 | 3,040 | 3,039,726 |
| | | 16,059,103 |
| Oklahoma 0.3% | | |
| Oklahoma Development Finance Authority, Refunding RB, Inverness Village Community, 6.00%, 1/01/32 | 1,305 | 1,415,168 |
| Oregon 0.8% | | |
| Hospital Facilities Authority of Multnomah County Oregon, Refunding RB, Mirabella at South Waterfront, 5.50%, 10/01/49 | | |
| | 1,765 | 1,972,935 |
| Polk County Hospital Facility Authority, RB, Dallas Retirement Village Project, Series A: | | |
| 5.13%, 7/01/35 | 620 | 651,682 |
| | Par (000) | Value |
| Municipal Bonds | | |
| Oregon (continued) | | |
| Polk County Hospital Facility Authority, RB, Dallas Retirement Village Project, Series A (continued): | | |
| 5.38%, 7/01/45 | \$ 1,435 | \$ 1,518,273 |
| | | 4,142,890 |
| Pennsylvania 3.8% | | |
| Allentown Neighborhood Improvement Zone Development Authority, Refunding RB, Series A, 5.00%, 5/01/42 | | |
| | 2,140 | 2,335,040 |
| City of Philadelphia Pennsylvania Hospitals & Higher Education Facilities Authority, RB, Temple University Health System, Series A, 5.63%, 7/01/36 | | |
| | 2,000 | 2,252,820 |
| County of Cumberland Pennsylvania Municipal Authority, Refunding RB, Diakon Lutheran: | | |
| 6.38%, 1/01/19 (b) | 5,550 | 6,305,133 |
| 6.38%, 1/01/39 | 615 | 693,431 |
| County of Lancaster Pennsylvania Hospital Authority, Refunding RB, Brethren Village Project, Series A, 6.25%, 7/01/26 | | |
| | 1,160 | 1,192,178 |
| County of Lehigh Pennsylvania General Purpose Authority, Refunding RB, Bible Fellowship Church Homes, 5.13%, 7/01/32 | | |
| | 1,800 | 1,933,758 |
| County of Northampton Pennsylvania IDA, Route 33 Project, Tax Allocation Bond, 7.00%, 7/01/32 | | |
| | 2,110 | 2,351,785 |
| Pennsylvania Economic Development Financing Authority, Refunding RB, National Gypsum Co., AMT, 5.50%, 11/01/44 | | |
| | 2,710 | 3,050,024 |
| | | 20,114,169 |
| Puerto Rico 0.6% | | |
| Children s Trust Fund, Refunding RB, Tobacco Settlement, Asset-Backed Bonds, Series A, 0.00%, 5/15/50 (h) | | |
| | 3,450 | 311,880 |
| Commonwealth of Puerto Rico, GO, Refunding, Series A, 8.00%, 7/01/35 (c)(d) | 1,765 | 1,157,187 |

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BLACKROCK MUNIASSETS FUND, INC.

JULY 31, 2016

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

| | Par (000) | Value |
|---|----------------------|--------------|
| Municipal Bonds | | |
| Puerto Rico (continued) | | |
| Commonwealth of Puerto Rico Aqueduct & Sewer Authority, RB, Senior Lien, Series A, 6.00%, 7/01/44 | \$ 1,060 | \$ 764,589 |
| Commonwealth of Puerto Rico Aqueduct & Sewer Authority, Refunding RB, Senior Lien, Series A: | | |
| 6.13%, 7/01/24 | 365 | 268,300 |
| 6.00%, 7/01/38 | 1,150 | 830,990 |
| | | 3,332,946 |
| Rhode Island 2.1% | | |
| Central Falls Detention Facility Corp., Refunding RB, 7.25%, 7/15/35 (c)(d) | 4,190 | 1,040,293 |
| Tobacco Settlement Financing Corp., Refunding RB: | | |
| Series A, 5.00%, 6/01/40 | 980 | 1,090,887 |
| Series B, 4.50%, 6/01/45 | 5,055 | 5,404,503 |
| Series B, 5.00%, 6/01/50 | 3,330 | 3,568,028 |
| | | 11,103,711 |
| Texas 10.6% | | |
| Brazos River Authority, Refunding RB, Texas Utility Co., Series A, AMT, 7.70%, 4/01/33 (c)(d) | 5,080 | 86,157 |
| Central Texas Regional Mobility Authority, Refunding RB: | | |
| CAB, 0.00%, 1/01/28 (h) | 1,000 | 686,530 |
| CAB, 0.00%, 1/01/29 (h) | 2,000 | 1,320,500 |
| CAB, 0.00%, 1/01/30 (h) | 1,170 | 746,109 |
| CAB, 0.00%, 1/01/33 (h) | 3,690 | 2,086,437 |
| CAB, 0.00%, 1/01/34 (h) | 4,000 | 2,158,560 |
| Senior Lien, 6.25%, 1/01/21 (b) | 2,210 | 2,721,438 |
| City of Houston Texas Airport System, Refunding ARB, AMT: | | |
| Special Facilities, Continental Airlines, Inc., Series A, 6.63%, 7/15/38 | 2,890 | 3,372,428 |
| United Airlines, Inc. Terminal E Project, 5.00%, 7/01/29 | 910 | 1,029,237 |
| Clifton Higher Education Finance Corp., ERB, Idea Public Schools: | | |
| 5.50%, 8/15/31 | 955 | 1,068,826 |
| 5.75%, 8/15/41 | 720 | 814,918 |
| County of Bexar Texas Health Facilities Development Corp., RB, Army Retirement Residence Project, 6.20%, 7/01/45 | 5,040 | 5,771,002 |
| | Par (000) | Value |
| Municipal Bonds | | |
| Texas (continued) | | |
| County of Harris Texas Cultural Education Facilities Finance Corp., RB, 1st Mortgage, Brazos Presbyterian Homes, Inc. Project, Series B, 7.00%, 1/01/48 | \$ 475 | \$ 567,843 |
| County of Matagorda Texas Navigation District No. 1, Refunding RB, Central Power & Light Co., Project, Series A, 6.30%, 11/01/29 | 2,090 | 2,377,250 |
| County of Tarrant Texas Cultural Education Facilities Finance Corp., RB, Series A: | | |
| CC Young Memorial Home, 8.00%, 2/15/38 | 1,745 | 1,965,498 |
| Senior Living Center Project, 8.25%, 11/15/44 | 4,200 | 4,472,958 |
| County of Tarrant Texas Cultural Education Facilities Finance Corp., Refunding RB, Trinity Terrace Project, 5.00%, 10/01/49 | 865 | 977,035 |
| County of Travis Texas Health Facilities Development Corp., Refunding RB, 7.13%, 1/01/46 | 3,080 | 3,515,358 |
| Mesquite Health Facility Development Corp., Refunding RB, 5.13%, 2/15/42 | 810 | 903,992 |
| Mission Economic Development Corp., RB, Senior Lien, Series B (AMT), 5.75%, 10/01/31 (a) | 1,325 | 1,415,219 |
| New Hope Cultural Education Facilities Corp., RB, Stephenville LLC Tarleton State University Project: | | |
| 5.88%, 4/01/36 | 1,210 | 1,421,278 |
| 6.00%, 4/01/45 | 1,845 | 2,176,141 |
| Newark Higher Education Finance Corp., RB, Series A (a): | | |
| 5.50%, 8/15/35 | 290 | 305,182 |
| 5.75%, 8/15/45 | 580 | 609,603 |
| North Texas Education Finance Corp., ERB, Uplift Education, Series A, 5.25%, 12/01/47 | 1,600 | 1,778,752 |
| Red River Health Facilities Development Corp., First MRB, Project: | | |
| Eden Home, Inc., 7.25%, 12/15/42 (c)(d) | 2,895 | 2,566,736 |
| Wichita Falls Retirement Foundation, 5.13%, 1/01/41 | 900 | 953,163 |

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

| | Par (000) | Value |
|---|--------------|--------------|
| Municipal Bonds | | |
| Texas (continued) | | |
| Texas Private Activity Bond Surface Transportation Corp., RB, Senior Lien: | | |
| LBJ Infrastructure Group LLC, 7.00%, 6/30/40 | \$ 3,775 | \$ 4,473,337 |
| NTE Mobility Partners LLC, North Tarrant Express Managed Lanes Project, 6.88%, 12/31/39 | 3,000 | 3,558,660 |
| | | 55,900,147 |
| Utah 0.6% | | |
| State of Utah Charter School Finance Authority, Refunding RB, 6.75%, 10/15/43 | 2,950 | 3,119,477 |
| Vermont 0.2% | | |
| Vermont EDA, Refunding, MRB, Wake Robin Corp. Project, 5.40%, 5/01/33 | 770 | 821,374 |
| Virginia 3.2% | | |
| County of Fairfax Virginia EDA, Refunding RB, Goodwin House, Inc., 5.13%, 10/01/42 | 2,500 | 2,587,050 |
| Lower Magnolia Green Community Development Authority, Special Assessment Bonds (a): | | |
| 5.00%, 3/01/35 | 510 | 521,052 |
| 5.00%, 3/01/45 | 520 | 529,427 |
| Mosaic District Community Development Authority, Special Assessment, Series A: | | |
| 6.63%, 3/01/26 | 1,485 | 1,723,105 |
| 6.88%, 3/01/36 | 1,300 | 1,504,516 |
| Tobacco Settlement Financing Corp., Refunding RB, Senior Series B-1, 5.00%, 6/01/47 | 2,280 | 2,211,509 |
| Virginia College Building Authority, RB, Marymount University Project, Series B, 5.00%, 7/01/45 (a) | 535 | 589,993 |
| Virginia College Building Authority, Refunding RB, Marymount University Project, Series A (a): | | |
| 5.00%, 7/01/35 | 130 | 145,677 |
| 5.00%, 7/01/45 | 375 | 415,957 |
| | Par (000) | Value |
| Municipal Bonds | | |
| Virginia (continued) | | |
| Virginia Small Business Financing Authority, RB, Senior Lien, Elizabeth River Crossings OpCo LLC Project, AMT, 6.00%, 1/01/37 | \$ 5,410 | \$ 6,462,624 |
| | | 16,690,910 |
| Washington 0.8% | | |
| County of King Washington Public Hospital District No. 4, GO, Refunding, Snoqualmie Valley Hospital, 7.00%, 12/01/40 | 1,455 | 1,626,545 |
| Greater Wenatchee Regional Events Center Public Facilities District, Refunding RB, Series A, 5.50%, 9/01/42 | 1,495 | 1,598,813 |
| Washington State Housing Finance Commission, Refunding RB (a): | | |
| 5.75%, 1/01/35 | 315 | 328,425 |
| 6.00%, 1/01/45 | 850 | 885,853 |
| | | 4,439,636 |
| Wisconsin 1.1% | | |
| Public Finance Authority, RB, Series A: | | |
| 4.75%, 12/01/35 | 775 | 822,996 |
| 5.00%, 12/01/45 | 1,875 | 2,016,787 |
| 5.15%, 12/01/50 | 1,170 | 1,260,312 |
| Wisconsin Health & Educational Facilities Authority, Refunding RB, St. Johns Communities, Inc., Series A (b): | | |
| 7.25%, 9/15/19 | 425 | 502,673 |
| 7.63%, 9/15/19 | 855 | 1,031,019 |
| | | 5,633,787 |
| Total Municipal Bonds 88.3% | | 466,349,831 |
| Municipal Bonds Transferred to | | |
| Tender Option Bond Trusts (i) | | |
| Colorado 2.4% | 11,468 | 12,773,787 |

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Colorado Health Facilities Authority, Refunding RB, Sisters of Leavenworth Health System, Series A,
5.00%, 1/01/40

Florida 3.1%

County of Miami-Dade Florida, Refunding RB, Miami International Airport, Series A, AMT (AGC),
5.25%, 10/01/33

15,000

16,302,750

BLACKROCK MUNIASSETS FUND, INC.

JULY 31, 2016

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

| Municipal Bonds Transferred to | Par | |
|--|---------------|----------------|
| Tender Option Bond Trusts (i) | (000) | Value |
| Illinois 2.8% | | |
| Illinois Finance Authority, RB, The Carle Foundation, Series A (AGM), 6.00%, 8/15/41 | \$ 7,180 | \$ 8,647,089 |
| State of Illinois Toll Highway Authority, RB, Senior Priority, Series A, 5.00%, 1/01/40 | 5,056 | 6,074,356 |
| | | 14,721,445 |
| New York 13.6% | | |
| City of New York New York Housing Development Corp., RB, M/F Housing, Series D-1, Class B, 4.25%, 11/01/45 | 8,996 | 9,613,740 |
| City of New York New York Municipal Water Finance Authority, Refunding RB, Water & Sewer System, 2nd General Resolution: | | |
| Fiscal 2013, Series CC, 5.00%, 6/15/47 | 14,181 | 16,931,951 |
| Series HH, 5.00%, 6/15/31 (j) | 8,610 | 10,219,209 |
| Hudson Yards Infrastructure Corp., RB, Fiscal 2012, Series A, 5.75%, 2/15/47 | 4,520 | 5,343,960 |
| New York Liberty Development Corp., RB, 1 World Trade Center Port Authority Consolidated Bonds, 5.25%, 12/15/43 | 18,104 | 21,796,525 |
| Municipal Bonds Transferred to | Par | |
| Tender Option Bond Trusts (i) | (000) | Value |
| New York (continued) | | |
| New York Liberty Development Corp., Refunding RB, 4 World Trade Center Project, 5.75%, 11/15/51 | \$ 6,600 | \$ 7,985,370 |
| | | 71,890,755 |
| Washington 1.8% | | |
| City of Bellingham Washington, RB, Water & Sewer, 5.00%, 8/01/40 | 7,966 | 9,271,254 |
| Total Municipal Bonds Transferred to | | |
| Tender Option Bond Trusts 23.7% | | 124,959,991 |
| Total Long-Term Investments | | |
| (Cost \$534,910,362) 112.0% | | 591,309,822 |
| Short-Term Securities | Shares | |
| BlackRock Liquidity Funds, MuniCash, Institutional Class, 0.26% (k)(l) | 850,504 | 850,504 |
| Total Short-Term Securities | | 850,504 |
| (Cost \$850,504) 0.2% | | |
| Total Investments (Cost \$535,760,866*) 112.2% | | 592,160,326 |
| Other Assets Less Liabilities 0.3% | | 1,962,893 |
| Liability for TOB Trust Certificates, Including Interest Expense and Fees Payable (12.5)% | | (66,159,092) |
| Net Assets Applicable to Common | | |
| Shares 100.0% | | \$ 527,964,127 |

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

| | |
|-------------------------------|----------------|
| Tax cost | \$ 469,251,005 |
| Gross unrealized appreciation | \$ 68,071,128 |
| Gross unrealized depreciation | (11,248,330) |
| Net unrealized appreciation | \$ 56,822,798 |

Notes to Schedule of Investments

- (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) 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.
- (c) Issuer filed for bankruptcy and/or is in default of interest payments.
- (d) Non-income producing 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) When-issued security.
- (g) Variable rate security. Rate as of period end.

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

- (h) Zero-coupon bond.
- (i) 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.
- (j) 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 agreement, which expires on June 15, 2019, is \$5,961,229.
- (k) During the period ended July 31, 2016, investments in issuers considered to be an affiliate 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, 2016 | Net Activity | Shares Held at July 31, 2016 | Value at July 31, 2016 | Income |
|--|-------------------------------------|-----------------|------------------------------------|---------------------------|----------|
| BlackRock Liquidity Funds, MuniCash, Institutional Class | 4,296,151 | (3,445,647) | 850,504 | \$ 850,504 | \$ 1,273 |

- (l) Current yield as of period end.

Derivative Financial Instruments Outstanding as of Period End
Futures Contracts

| Contracts | Issue | Expiration | Notional Value | Unrealized Appreciation (Depreciation) |
|--------------|----------------------------|----------------|-------------------|--|
| Short | | | | |
| (30) | 5-Year U.S. Treasury Note | September 2016 | \$ 3,660,469 | \$ 958 |
| (42) | 10-Year U.S. Treasury Note | September 2016 | \$ 5,587,969 | 5,295 |
| (15) | Long U.S. Treasury Bond | September 2016 | \$ 2,616,562 | (700) |
| (4) | Ultra U.S. Treasury Bond | September 2016 | \$ 762,125 | (21,329) |
| Total | | | | \$ (15,776) |

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 |
| EDA | Economic Development Authority |
| EDC | Economic Development Corp. |
| ERB | Education Revenue Bonds |
| GO | General Obligation Bonds |
| IDA | Industrial Development Authority |
| M/F | Multi-Family |
| MRB | Mortgage Revenue Bonds |

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RB Revenue Bonds

BLACKROCK MUNIASSETS FUND, INC.

JULY 31, 2016

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

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.

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 | | \$ 591,309,822 | | \$ 591,309,822 |
| Short-Term Securities | \$ 850,504 | | | 850,504 |
| Total | \$ 850,504 | \$ 591,309,822 | | \$ 592,160,326 |
| Derivative Financial Instruments ² | | | | |
| Assets: | | | | |
| Interest rate contracts | \$ 6,253 | | | \$ 6,253 |
| Liabilities: | | | | |
| Interest rate contracts | (22,029) | | | (22,029) |
| Total | \$ (15,776) | | | \$ (15,776) |

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

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

Schedule of Investments (concluded)

BlackRock MuniAssets Fund, Inc. (MUA)

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 | \$ 504 | | | \$ 504 |
| Cash pledged for futures contracts | 158,950 | | | 158,950 |
| Liabilities: | | | | |
| TOB Trust Certificates | | \$ (66,086,523) | | (66,086,523) |
| Total | \$ 159,454 | \$ (66,086,523) | | \$ (65,927,069) |

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

BLACKROCK MUNIASSETS FUND, INC.

JULY 31, 2016

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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 MuniAssets Fund, Inc.

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

Date: September 21, 2016

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

Date: September 21, 2016