

BLACKROCK MUNIHOLDINGS INVESTMENT QUALITY FUND
Form N-Q
July 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: 811-08349

Name of Fund: BlackRock MuniHoldings Investment Quality Fund (MFL)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: John M. Perlowski, Chief Executive Officer, BlackRock

MuniHoldings Investment Quality Fund, 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: 08/31/2016

Date of reporting period: 05/31/2016

Item 1 Schedule of Investments

Schedule of Investments May 31, 2016 (Unaudited)

BlackRock MuniHoldings Investment Quality Fund (MFL)

(Percentages shown are based on Net Assets)

	Par	
	(000)	Value
Municipal Bonds		
Alabama 3.4%		
City of Birmingham Alabama Special Care Facilities Financing Authority, RB, Children s Hospital (AGC) (a):		
6.00%, 6/01/19	\$ 10,995	\$ 12,602,909
6.13%, 6/01/19	4,980	5,726,601
City of Selma Alabama IDB, RB, Gulf Opportunity Zone, International Paper Co. Project, Series A, 5.38%, 12/01/35	1,745	1,948,066
		20,277,576
California 24.7%		
California Educational Facilities Authority, RB, University of Southern California, Series A, 5.25%, 10/01/38		
	8,920	9,825,826
California Health Facilities Financing Authority, RB, Sutter Health, Series B, 6.00%, 8/15/42	5,370	6,460,701
California State University, Refunding RB, Series A, Systemwide (AGM) :		
5.00%, 11/01/32	4,930	5,116,847
4.00%, 11/01/35	8,670	9,741,005
City & County of San Francisco California Airports Commission, Refunding ARB, AMT, Series A:		
2nd, 5.50%, 5/01/28	3,330	4,029,866
2nd, 5.25%, 5/01/33	2,600	3,047,902
5.00%, 5/01/44	3,430	3,912,738
City of Los Angeles California Department of Water & Power, RB, Power System, Sub-Series A-1, 5.25%, 7/01/38		
	5,000	5,432,700
City of Manteca California Financing Authority, RB, Manteca Sewer (AGC):		
5.63%, 12/01/33	2,450	2,815,859
5.75%, 12/01/36	3,285	3,770,096
City of San Jose California, Refunding ARB, Series A-1, AMT, 5.75%, 3/01/34	4,450	5,239,341
County of Sacramento California, ARB, Senior Series A (AGC), 5.50%, 7/01/41	5,600	6,113,408
Kern Community College District, GO, Safety, Repair & Improvement, Series C, 5.50%, 11/01/33	4,365	5,502,301
	Par	
	(000)	Value
Municipal Bonds		
California (continued)		
Los Angeles Community College District		
California, GO:		
Election of 2001, Series A (NPFGC),		
5.00%, 8/01/17 (a)	\$ 9,500	\$ 9,984,975
Election of 2008, Series C, 5.25%, 8/01/39	3,375	3,931,571
Los Angeles Municipal Improvement Corp., Refunding LRB, Real Property, Series B (AGC), 5.50%, 4/01/19 (a)		
	2,980	3,333,458
Redondo Beach Unified School District, GO, Election of 2008, Series E, 5.50%, 8/01/21 (a)		
	4,110	5,000,760
San Diego Public Facilities Financing Authority Water, Refunding RB, Series B (AGC), 5.38%, 8/01/19 (a)		
	4,690	5,306,876
State of California, GO, Various Purposes (AGC), 5.50%, 11/01/39		
	15,000	17,239,800
State of California Public Works Board, LRB, Various Capital Projects, Series I:		
5.50%, 11/01/30	4,500	5,647,545
5.50%, 11/01/31	2,615	3,273,588
5.50%, 11/01/33	2,000	2,505,280
State of California Public Works Board, RB, Department of Corrections & Rehabilitation, Series F, 5.25%, 9/01/33		
	2,240	2,749,331
Township of Washington California Health Care District, GO, Election of 2004, Series B, 5.50%, 8/01/40		
	1,685	2,063,232
University of California, Refunding RB, Regents of the University of California Medical Center Pooled Revenue, Series J, 5.25%, 5/15/38		
	12,250	14,757,207
		146,802,213
Colorado 2.1%		
City & County of Denver Colorado Airport System, ARB, Series A, AMT:		
5.50%, 11/15/28	2,700	3,230,577

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5.50%, 11/15/30	1,040	1,238,734
5.50%, 11/15/31	1,250	1,485,837

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Schedule of Investments (continued)

BlackRock MuniHoldings Investment Quality Fund (MFL)

	Par	
	(000)	Value
Municipal Bonds		
Colorado (continued)		
Colorado Health Facilities Authority, RB, Hospital, NCMC, Inc. Project, Series B (AGM), 6.00%, 5/15/19 (a)	\$ 5,925	\$ 6,792,183
		12,747,331
District of Columbia 0.6%		
District of Columbia Water & Sewer Authority, Refunding RB, Series A, 6.00%, 10/01/18 (a)	3,380	3,783,775
Florida 7.8%		
City of Jacksonville Florida, Refunding RB, Series A, 5.25%, 10/01/33	1,250	1,523,875
County of Hillsborough Florida Aviation Authority, Refunding ARB, Tampa International Airport, Series A, AMT:		
5.50%, 10/01/29	5,360	6,383,653
5.25%, 10/01/30	3,255	3,809,652
County of Lee Florida, Refunding ARB, Series A, AMT, 5.38%, 10/01/32	7,100	8,168,976
County of Lee Florida HFA, RB, S/F Housing, Multi-County Program, Series A-2, AMT (Ginnie Mae), 6.00%, 9/01/40	820	838,598
County of Manatee Florida HFA, RB, S/F Housing, Series A, AMT (Ginnie Mae, Fannie Mae & Freddie Mac), 5.90%, 9/01/40	325	330,064
County of Miami-Dade Florida, RB, Seaport:		
Series A, 5.38%, 10/01/33	3,145	3,665,906
Series B, AMT, 6.25%, 10/01/38	1,405	1,764,540
Series B, AMT, 6.00%, 10/01/42	1,885	2,283,696
County of Miami-Dade Florida, Refunding RB, Water & Sewer System, Series B, 5.25%, 10/01/29	2,870	3,494,455
County of Miami-Dade Florida Aviation, Refunding ARB, Miami International Airport, AMT, Series A (AGM):		
5.00%, 10/01/31	5,465	6,306,063
5.50%, 10/01/41	3,500	3,824,415
	Par	
Municipal Bonds		
Florida (continued)		
Reedy Creek Improvement District, GO, Series A, 5.25%, 6/01/32	\$ 3,225	\$ 3,873,805
		46,267,698
Hawaii 1.9%		
State of Hawaii, Department of Transportation, COP, AMT:		
5.25%, 8/01/25	1,350	1,617,638
5.25%, 8/01/26	2,500	2,982,075
State of Hawaii, Department of Transportation, RB, Series A, AMT, 5.00%, 7/01/45	5,985	6,873,952
		11,473,665
Illinois 22.8%		
City of Chicago Illinois, GARB, O Hare International Airport, 3rd Lien:		
Series A, 5.75%, 1/01/39	7,395	8,621,239
Series C, 6.50%, 1/01/41	16,800	20,357,400
City of Chicago Illinois Midway International Airport, Refunding ARB, 2nd Lien, Series A, AMT:		
5.50%, 1/01/30	6,500	7,663,825
5.50%, 1/01/32	6,275	7,340,432
City of Chicago Illinois Midway International Airport, Refunding GARB, 2nd Lien, Series A, 5.00%, 1/01/41	8,020	9,007,984
City of Chicago Illinois Transit Authority, RB:		
Federal Transit Administration, Section 5309, Series A (AGC), 6.00%, 12/01/18 (a)	6,315	7,110,753
Sales Tax Receipts, 5.25%, 12/01/36	1,960	2,164,291
Sales Tax Receipts, 5.25%, 12/01/40	10,960	12,021,147
City of Chicago Illinois Transit Authority, Refunding RB, Federal Transit Administration, Section 5309 (AGM), 5.00%, 6/01/28	7,735	8,354,960
County of Cook Illinois Community College District No. 508, GO, City College of Chicago, 5.50%, 12/01/38	5,395	6,162,493
Illinois Finance Authority, RB, Carle Foundation, Series A, 6.00%, 8/15/41	4,000	4,758,800

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Railsplitter Tobacco Settlement Authority, RB:

5.50%, 6/01/23	4,365	5,115,387
6.00%, 6/01/28	1,245	1,483,019

Schedule of Investments (continued)

BlackRock MuniHoldings Investment Quality Fund (MFL)

	Par	
	(000)	Value
Municipal Bonds		
Illinois (continued)		
State of Illinois, GO:		
5.25%, 2/01/31	\$ 2,700	\$ 2,967,543
5.25%, 2/01/32	5,525	6,060,925
5.50%, 7/01/33	7,820	8,659,008
5.50%, 7/01/38	1,295	1,429,706
5.00%, 2/01/39	5,000	5,313,500
State of Illinois Finance Authority, RB, University of Chicago, Series B, 5.50%, 7/01/18 (a)	10,000	10,964,700
		135,557,112
Indiana 3.5%		
Indiana Finance Authority, RB, Private Activity Bond, Ohio River Bridges, Series A, AMT, 5.00%, 7/01/40	1,240	1,358,209
Indiana Municipal Power Agency, Refunding RB, Series A:		
5.25%, 1/01/32	1,500	1,792,020
5.25%, 1/01/33	1,500	1,786,605
Indianapolis Local Public Improvement Bond Bank, Refunding RB, Waterworks Project, Series A (AGC), 5.50%, 1/01/38	14,105	15,773,481
		20,710,315
Louisiana 0.9%		
City of New Orleans Louisiana Aviation Board, Refunding GARB, Restructuring (AGC):		
Series A-1, 6.00%, 1/01/23	500	559,505
Series A-2, 6.00%, 1/01/23	720	802,562
Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, Series A, 5.50%, 5/15/29	3,735	4,111,712
		5,473,779
Massachusetts 0.2%		
Massachusetts Educational Financing Authority, RB, Education Loan, Issue I, AMT, 5.00%, 1/01/27	1,000	1,167,630
Michigan 3.5%		
City of Detroit Michigan Water Supply System, RB, 2nd Lien, Series B (AGM), 6.25%, 7/01/36	6,320	7,109,052
Hudsonville Public Schools, GO, School Building & Site (Q-SBLF), 5.25%, 5/01/41	6,015	6,960,678
	Par	
	(000)	Value
Municipal Bonds		
Michigan (continued)		
Royal Oak Hospital Finance Authority Michigan, Refunding RB, William Beaumont Hospital, Series V, 8.25%, 9/01/18 (a)	\$ 5,780	\$ 6,733,874
		20,803,604
Minnesota 1.6%		
City of Minneapolis Minnesota, Refunding RB, Fairview Health Services, Series B (AGC), 6.50%, 11/15/38	8,375	9,395,410
Mississippi 2.8%		
Mississippi Development Bank, RB, Jackson Water & Sewer System Project (AGM):		
6.88%, 12/01/40	6,405	8,603,132
Special Obligation, 6.75%, 12/01/31	3,775	5,037,737
Special Obligation, 6.75%, 12/01/33	2,350	3,136,075
		16,776,944
Nevada 5.3%		
County of Clark Nevada, ARB, Las Vegas-McCarran International Airport, Series A (AGM), 5.25%, 7/01/39	11,175	12,540,026
County of Clark Nevada, GO, Limited Tax, 5.00%, 6/01/38	11,245	12,083,540
County of Clark Nevada Water Reclamation District, GO, Series A, 5.25%, 7/01/34	5,850	6,577,389
		31,200,955

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New Jersey 7.2%		
New Jersey EDA, RB:		
Goethals Bridge Replacement Project, Private Activity Bond, AMT, 5.38%, 1/01/43	7,000	8,068,690
Goethals Bridge Replacement Project, Private Activity Bond, AMT (AGM), 5.00%, 1/01/31	2,425	2,801,505
School Facilities Construction (AGC), 6.00%, 12/15/18 (a)	4,280	4,830,622
School Facilities Construction (AGC), 6.00%, 12/15/34	70	78,513
New Jersey Health Care Facilities Financing Authority, RB, Virtua Health, Series A (AGC), 5.50%, 7/01/38	6,500	7,297,225

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Schedule of Investments (continued)

BlackRock MuniHoldings Investment Quality Fund (MFL)

	Par	
	(000)	Value
Municipal Bonds		
New Jersey (continued)		
New Jersey Higher Education Student Assistance Authority, Refunding RB, Series 1, AMT, 5.75%, 12/01/28	\$ 4,065	\$ 4,587,231
New Jersey Transportation Trust Fund Authority, RB, Transportation System:		
Series A, 5.50%, 6/15/41	5,410	5,926,709
Series AA, 5.50%, 6/15/39	8,175	9,095,505
		42,686,000
New York 6.6%		
City of New York New York Municipal Water Finance Authority, Refunding RB:		
2nd General Resolution, Fiscal 2009, Series EE, 5.25%, 6/15/40	7,500	8,422,950
Water & Sewer System, 2nd General Resolution, Series EE, 5.38%, 6/15/43	3,475	4,073,047
Water & Sewer System, Series FF-2, 5.50%, 6/15/40	4,000	4,525,880
Metropolitan Transportation Authority, RB:		
Series A, 5.25%, 11/15/38	4,000	4,750,640
Series A-1, 5.25%, 11/15/39	4,490	5,440,623
Port Authority of New York & New Jersey, Refunding ARB, Consolidated, 166th Series, 5.25%, 7/15/36	10,000	11,681,500
		38,894,640
Ohio 1.5%		
State of Ohio Turnpike Commission, RB, Junior Lien, Infrastructure Projects, Series A-1:		
5.25%, 2/15/31	5,145	6,217,990
5.25%, 2/15/32	2,250	2,711,385
		8,929,375
Pennsylvania 1.4%		
Pennsylvania Turnpike Commission, RB, Sub-Series A, 6.00%, 12/01/20 (a)	4,945	5,079,652
Township of Bristol Pennsylvania School District, GO, 5.25%, 6/01/37	3,000	3,495,360
		8,575,012
	Par	
	(000)	Value
Municipal Bonds		
South Carolina 6.5%		
County of Charleston South Carolina, RB, Special Source, 5.25%, 12/01/38	\$ 6,735	\$ 8,221,011
County of Charleston South Carolina Airport District, ARB, Series A, AMT:		
5.25%, 7/01/25	4,490	5,359,354
5.50%, 7/01/38	3,000	3,479,460
6.00%, 7/01/38	5,270	6,294,277
5.50%, 7/01/41	4,170	4,833,572
South Carolina Ports Authority, RB, AMT, 5.25%, 7/01/50	3,445	3,953,895
State of South Carolina Public Service Authority, Refunding RB, Series E, 5.25%, 12/01/55	5,500	6,506,390
		38,647,959
Texas 13.7%		
City of Beaumont Texas, GO, Certificates of Obligation, 5.25%, 3/01/37	4,190	5,033,992
City of Houston Texas Combined Utility System Revenue, Refunding RB, Combined 1st Lien, Series A (AGC):		
6.00%, 5/15/19 (a)	20,970	24,052,380
6.00%, 11/15/35	670	774,319
6.00%, 11/15/36	495	572,071
5.38%, 11/15/38	265	295,634
County of Tarrant Texas Cultural Education Facilities Finance Corp., Refunding RB, Christus Health, Series A (AGC), 6.50%, 7/01/37	1,450	1,627,509
Dallas Area Rapid Transit, Refunding RB, Senior Lien, 5.25%, 12/01/38	3,895	4,294,043
Dallas-Fort Worth International Airport, ARB, Joint Improvement, AMT:		
Series A, 5.00%, 11/01/38	5,580	6,228,619
Series H, 5.00%, 11/01/37	4,575	5,168,286

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Lower Colorado River Authority, Refunding RB, 5.50%, 5/15/33	3,735	4,523,197
North Texas Tollway Authority, Refunding RB, 1st Tier: (AGM), 6.00%, 1/01/43	5,555	6,566,177
Series K-1 (AGC), 5.75%, 1/01/19 (a)	12,150	13,628,047

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Schedule of Investments (continued)

BlackRock MuniHoldings Investment Quality Fund (MFL)

	Par	
	(000)	Value
Municipal Bonds		
Texas (continued)		
Red River Education Financing Corp., RB, Texas Christian University Project, 5.25%, 3/15/38	\$ 7,170	\$ 8,611,959
		81,376,233
Virginia 1.2%		
City of Lexington Virginia IDA, RB, Washington & Lee University, 5.00%, 1/01/43	1,750	2,024,015
Virginia Public School Authority, RB, Fluvanna County School Financing, 6.50%, 12/01/18 (a)	4,300	4,902,000
		6,926,015
Washington 1.5%		
City of Seattle Washington Municipal Light & Power, Refunding RB, Series A, 5.25%, 2/01/36	4,200	4,883,130
State of Washington, GO, Various Purposes, Series B, 5.25%, 2/01/36	3,290	3,849,366
		8,732,496
Total Municipal Bonds 120.7%		717,205,737
Municipal Bonds Transferred to Tender Option Bond Trusts (b)		
Alabama 7.8%		
City of Birmingham Alabama Special Care Facilities Financing Authority, Refunding RB, Ascension Health, Senior Credit: Series B, 5.00%, 11/15/46	27,028	32,192,641
Series C, 5.00%, 11/15/46	11,920	14,264,664
		46,457,305
California 5.2%		
Los Angeles Unified School District California, GO, Series I, 5.00%, 1/01/34	2,400	2,696,616
State of California, GO, Refunding, Various Purposes, 4.00%, 9/01/34	13,790	15,583,734
Municipal Bonds Transferred to Tender Option Bond Trusts (b)		
California (continued)		
University of California, Refunding RB, 5.00%, 5/15/38	\$ 10,000	\$ 12,333,700
		30,614,050
Florida 2.0%		
County of Hillsborough Florida Aviation Authority, ARB, Tampa International Airport, Series A, AMT (AGC), 5.50%, 10/01/38	10,657	11,603,474
Indiana 1.8%		
Indiana Health & Educational Facilities Financing Authority, Refunding RB, St. Francis, Series E (AGM), 5.25%, 5/01/18 (a)	9,850	10,680,749
Kentucky 0.1%		
Kentucky State Property & Building Commission, Refunding RB, Project No. 93 (AGC), 5.25%, 2/01/27	404	446,377
Nevada 2.4%		
County of Clark Nevada Water Reclamation District, GO: Limited Tax, 6.00%, 7/01/18 (a)	8,000	8,857,680
Series B, 5.50%, 7/01/29	5,008	5,659,201
		14,516,881
New Jersey 3.3%		
New Jersey Housing & Mortgage Finance Agency, RB, S/F Housing, Series CC, 5.25%, 10/01/29	7,398	7,863,099
New Jersey Transportation Trust Fund Authority, RB, Transportation System: Series A (AMBAC), 5.00%, 12/15/32	8,000	8,364,640
Series B, 5.25%, 6/15/36 (c)	2,961	3,193,835

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		19,421,574
New York 10.8%		
City of New York New York Municipal Water Finance Authority, Refunding RB, Water & Sewer System, Series FF-2, 5.50%, 6/15/40	4,995	5,651,693
City of New York New York Transitional Finance Authority, BARB, Fiscal 2009, Series S-3, 5.25%, 1/15/39	5,619	6,199,196

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Schedule of Investments (continued)

BlackRock MuniHoldings Investment Quality Fund (MFL)

Municipal Bonds Transferred to	Par	Value
Tender Option Bond Trusts (b)	(000)	Value
New York (continued)		
Hudson Yards Infrastructure Corp., RB, Fiscal 2012, Series A, 5.75%, 2/15/47 (c)	\$ 9,249	\$ 10,871,913
New York Liberty Development Corp., RB, 1 World Trade Center Port Authority Consolidated Bonds, 5.25%, 12/15/43	13,950	16,621,778
New York Liberty Development Corp., Refunding RB, 4 World Trade Center Project, 5.75%, 11/15/51 (c)	8,200	9,815,109
New York State Dormitory Authority, ERB, Personal Income Tax, Series B, 5.25%, 3/15/38	13,500	15,057,225
		64,216,914
Texas 7.3%		
City of San Antonio Texas Public Service Board, Refunding RB, Series A, 5.25%, 2/01/31 (c)	12,027	13,333,162
North Texas Tollway Authority, RB, Special Projects System, Series A, 5.50%, 9/01/41	9,640	11,395,830
State of Texas, GO, Texas Transportation Commission, Highway Improvement, 5.00%, 4/01/43	15,550	18,935,079
		43,664,071
Utah 1.2%		
City of Riverton Utah, RB, IHC Health Services, Inc., 5.00%, 8/15/41	6,373	6,976,390
Total Municipal Bonds Transferred to		
Tender Option Bond Trusts 41.9%		248,597,785
Total Long-Term Investments		
(Cost \$868,941,722) 162.6%		965,803,522
Short-Term Securities		
Metropolitan Transportation Authority, RB, Series 2016 A-1E, 2.00%	10,000,000	10,084,795
Total Short-Term Securities		
(Cost \$10,084,795) 1.7%		10,084,795
		Value
Total Investments (Cost \$879,026,517*) 164.3%		\$ 975,888,317
Other Assets Less Liabilities 1.7%		10,335,986
Liability for TOB Trust Certificates, Including Interest Expense and Fees Payable (19.8)%		(117,611,865)
VRDP Shares, at Liquidation Value (46.2)%		(274,600,000)
Net Assets Applicable to Common Shares 100.0%		\$ 594,012,438

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

Tax cost	\$ 762,549,322
Gross unrealized appreciation	\$ 96,873,219
Gross unrealized depreciation	(1,067,798)

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Net unrealized appreciation

\$ 95,805,421

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Schedule of Investments (continued)

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Notes to Schedule of Investments

* Cost for federal income tax purposes.

(a) 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.

(b) Represent bonds transferred to a TOB Trust in exchange of cash and residual certificates received by the Trust. These bonds serve as collateral in a secured borrowing.

(c) All or a portion of security is subject to a recourse agreement. The aggregate maximum potential amount the Trust could ultimately be required to pay under the agreements, which expire between October 1, 2016 to November 15, 2019, is \$19,879,975.

	Shares Held at August 31, 2015	Net Activity	Shares Held at May 31, 2016	Value at May 31, 2016	Income
Affiliate					
BlackRock Liquidity Funds, MuniCash ¹					\$ 1,787
FFI Institutional Tax-Exempt Fund ¹	3,674,880	(3,674,880)			392
Total					\$ 2,179

¹ No longer held by Trust as of report date.

Derivative Financial Instruments Outstanding as of Period End

Futures Contracts

Contracts Short	Issue	Expiration	Notional Value	Unrealized Depreciation
(93)	5-Year U.S. Treasury Note	September 2016	\$ 11,170,898	\$ (6,263)
(113)	10-Year U.S. Treasury Note	September 2016	\$ 14,654,688	(9,886)
(46)	Long U.S. Treasury Bond	September 2016	\$ 7,512,375	(18,154)
Total				\$ (34,303)

Portfolio Abbreviations

AGC	Assured Guarantee Corp.
AGM	Assured Guaranty Municipal Corp.
AMBAC	American Municipal Bond Assurance Corp.
AMT	Alternative Minimum Tax (subject to)
ARB	Airport Revenue Bonds
BARB	Building Aid Revenue Bonds
COP	Certificates of Participation
EDA	Economic Development Authority

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ERB	Education Revenue Bonds
GARB	General Airport Revenue Bonds
GO	General Obligation Bonds
HFA	Housing Finance Agency
IDA	Industrial Development Authority
IDB	Industrial Development Board
LRB	Lease Revenue Bonds
NPFGC	National Public Finance Guarantee Corp.
Q-SBLF	Qualified School Board Loan Fund
RB	Revenue Bonds
S/F	Single-Family

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Schedule of Investments (continued)

BlackRock MuniHoldings Investment Quality Fund (MFL)

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 Trust 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 Trust'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 Trust'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 Trust's policy regarding valuation of investments, refer to the Trust's most recent financial statements as contained in its semi-annual report.

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

	Level 1	Level 2	Level 3	Total
Assets:				
Investments:				
Long-Term Investments ¹		\$ 965,803,522		\$ 965,803,522
Short-Term Securities		10,084,795		10,084,795
Total Investments		\$ 975,888,317		\$ 975,888,317
Derivative Financial Instruments ²				
Liabilities:				
Interest rate contracts	\$ (34,303)			\$ (34,303)

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

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

Schedule of Investments (concluded)

BlackRock MuniHoldings Investment Quality Fund (MFL)

The Trust 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 pledged for future contracts	\$ 384,150			\$ 384,150
Liabilities:				
Bank overdraft		\$ (345,143)		(345,143)
TOB Trust Certificates		(117,533,574)		(117,533,574)
VRDP Shares		(274,600,000)		(274,600,000)
Total	\$ 384,150	\$ (392,478,717)		\$ (392,094,567)

During the period ended May 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 Investment Quality Fund

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

Date: July 22, 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 Investment Quality Fund

Date: July 22, 2016

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

Date: July 22, 2016