

BLACKROCK MUNI INTERMEDIATE DURATION 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: 811-21348

Name of Fund: BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: John M. Perlowski, Chief Executive Officer, BlackRock Muni Intermediate Duration 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 Muni Intermediate Duration Fund, Inc. (MUI)

(Percentages shown are based on Net Assets)

	Par	
	(000)	Value
Municipal Bonds		
Alabama 2.8%		
City of Birmingham Alabama Special Care Facilities Financing Authority, RB, Children s Hospital (AGC), 6.00%, 6/01/19 (a)	\$ 4,615	\$ 5,289,528
County of Jefferson Alabama, RB, Limited Obligation School, Series A:		
5.50%, 1/01/21	5,500	5,532,065
5.25%, 1/01/23	6,500	6,537,895
		17,359,488
Arizona 3.5%		
Arizona Board of Regents, Univesity of Arizona, RB, 5.00%, 8/01/28	2,000	2,336,800
Arizona Health Facilities Authority, Refunding RB, Phoenix Children s Hospital, Series A, 5.00%, 2/01/30	2,685	3,083,319
Arizona State University, RB, Series D, 5.00%, 7/01/32	1,350	1,680,669
City of Phoenix Arizona IDA, RB, Facility, Legacy Traditional Schools Project, Series A, 5.75%, 7/01/24 (b)	750	867,255
City of Tucson Arizona, COP, Refunding, (AGC), 4.00%, 7/01/20	2,325	2,588,818
County of Pinal Arizona Electric District No. 3, Refunding RB, 5.00%, 7/01/25	1,600	1,866,016
Glendale Union School District No. 205, GO, Series C:		
5.00%, 7/01/24	1,945	2,383,831
5.00%, 7/01/27	500	601,710
Phoenix-Mesa Gateway Airport Authority, RB, Mesa Project, AMT:		
5.00%, 7/01/27	700	812,490
5.00%, 7/01/32	1,925	2,195,174
Scottsdale IDA, Refunding RB, Scottsdale Healthcare, Series C (AGM), 5.00%, 9/01/35	2,050	2,303,134
State of Arizona, COP, Department of Administration, Series A (AGM), 4.25%, 10/01/23	1,000	1,085,590
		21,804,806
Arkansas 1.0%		
Arkansas State University, RB, 5.00%, 12/01/33	480	572,045
City of Benton, RB, 5.00%, 6/01/29	1,055	1,285,549
	Par	
Municipal Bonds		
Arkansas (continued)		
University of Arkansas, Refunding RB:		
5.00%, 3/01/31	\$ 2,315	\$ 2,862,590
5.00%, 3/01/34	1,270	1,554,683
		6,274,867
California 3.9%		
California Health Facilities Financing Authority, RB, Sutter Health, Series B, 5.00%, 8/15/22	2,135	2,522,631
California Health Facilities Financing Authority, Refunding RB, 5.00%, 11/15/29	1,930	2,445,966
California Infrastructure & Economic Development Bank, Refunding RB, 4.00%, 11/01/31	1,335	1,504,839
California Pollution Control Financing Authority, RB, Mandatory Put Bonds, Republic Services, Inc. Project, Series B, AMT, 5.25%, 6/01/23 (c)	605	637,851
California Pollution Control Financing Authority, Refunding RB, Pacific Gas, Series C, AMT (NPFGC), 4.75%, 12/01/23	5,000	5,162,500
City of San Jose California, Refunding ARB, Series A-1, AMT, 5.00%, 3/01/25	2,000	2,286,060
State of California, GO:		
5.50%, 4/01/28	15	15,063
5.00%, 11/01/32	2,000	2,105,740
Various Purposes, 5.75%, 4/01/31	7,000	7,908,250
		24,588,900
Colorado 1.0%		
Denver Urban Renewal Authority, Refunding, Tax Allocation Bond, Stapleton, Senior-Series A-1, 5.00%, 12/01/23	2,500	3,016,650
Park Creek Metropolitan District, Refunding, Tax Allocation Bonds, 5.00%, 12/01/34	500	592,085

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Schedule of Investments (continued)

BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

	Par	
	(000)	Value
Municipal Bonds		
Colorado (continued)		
University of Northern Colorado, Refunding RB, Series A, 5.00%, 6/01/31	\$ 2,000	\$ 2,430,020
		6,038,755
Connecticut 3.4%		
Connecticut State Health & Educational Facility Authority, Refunding RB:		
5.00%, 12/01/33	4,015	5,004,577
Lawrence & Memorial Hospital, Series F, 5.00%, 7/01/31	4,530	5,109,568
University of Connecticut, RB, Series A:		
5.00%, 3/15/31	5,025	6,234,719
5.00%, 3/15/32	4,000	4,943,440
		21,292,304
Florida 6.7%		
County of Broward Florida School Board, COP, Refunding, Series A (AGM), 5.00%, 7/01/24	10,000	11,636,600
County of Lee Florida, Refunding ARB, Series A, AMT:		
5.50%, 10/01/23	1,000	1,187,170
(AGM), 5.00%, 10/01/27	1,635	1,886,136
County of Miami-Dade Florida, RB, AMT, Series B:		
6.00%, 10/01/28	3,470	4,379,105
6.00%, 10/01/29	3,480	4,379,162
County of Miami-Dade Florida Transit System Sales Surtax Revenue, Refunding RB, 5.00%, 7/01/32	1,500	1,772,190
County of Miami-Dade Florida Water & Sewer System Revenue, Refunding RB, Series C (BHAC), 5.00%, 10/01/18 (a)	8,000	8,750,240
Miami-Dade County Educational Facilities Authority, Refunding RB, Series A, 5.00%, 4/01/32	5,020	6,075,556
Midtown Miami Community Development District, Refunding, Special Assessment Bonds, Series A, 4.25%, 5/01/24	1,665	1,817,964
	Par	
Municipal Bonds		
Florida (continued)		
Sterling Hill Community Development District, Refunding RB, Special Assessment Bonds, Series B, 5.50%, 11/01/10 (d)(e)	\$ 150	\$ 104,991
		41,989,114
Georgia 2.0%		
City of Atlanta Georgia Water & Wastewater Revenue RB, Refunding RB, 5.00%, 11/01/32	10,000	12,362,100
Hawaii 0.9%		
State of Hawaii Airports System, Refunding ARB, Series A, 5.25%, 7/01/29	5,000	5,796,500
Idaho 0.5%		
Boise State University, Refunding RB, Series A:		
5.00%, 4/01/32	1,300	1,627,106
5.00%, 4/01/33	1,000	1,246,670
		2,873,776
Illinois 17.4%		
City of Chicago Illinois Midway International Airport, Refunding ARB, 2nd Lien, Series A:		
5.00%, 1/01/32	5,000	5,819,800
AMT, 5.50%, 1/01/32	1,500	1,783,065
City of Chicago Illinois O Hare International Airport, Refunding GARB, AMT, Series C:		
5.25%, 1/01/28	1,350	1,614,074
5.25%, 1/01/29	3,020	3,596,699
City of Chicago Illinois O Hare International Airport, RB, Refunding GARB, 5.00%, 1/01/32	3,745	4,502,426
City of Chicago Illinois O Hare International Airport, Refunding GARB, Senior Lien, Series A, AMT, 5.00%, 1/01/23	13,000	15,555,670
City of Chicago Illinois Transit Authority, RB, 5.25%, 12/01/31	3,700	4,160,169
Illinois State Toll Highway Authority, Refunding RB, Senior, Series A, 5.00%, 12/01/32	5,690	7,011,787
Madison-Macoupin Etc. Counties Community College District No. 536, GO, Refunding, Lewis & Clark Community College:		

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5.00%, 5/01/30	475	536,413
5.00%, 5/01/31	500	564,645

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Schedule of Investments (continued)

BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

	Par	
	(000)	Value
Municipal Bonds		
Illinois (continued)		
Madison-Macoupin Etc. Counties Community College District No. 536, GO, Refunding, Lewis & Clark Community College (continued):		
5.00%, 5/01/32	\$ 500	\$ 563,145
McHenry County Conservation District, GO, 5.13%, 2/01/17 (a)	12,695	12,991,047
Railsplitter Tobacco Settlement Authority, RB:		
5.50%, 6/01/23	3,500	4,122,825
6.25%, 6/01/24	11,750	11,804,638
State of Illinois, GO:		
5.25%, 2/01/30	5,000	5,566,200
5.00%, 5/01/30	10,000	11,017,700
State of Illinois Toll Highway Authority, RB, Series A, 5.00%, 1/01/34	9,140	10,664,826
Village of Hodgkins Illinois, RB, MBM Project, AMT, 5.90%, 11/01/17	6,000	6,013,080
Village of Wheeling Illinois, Tax Allocation Bonds, North Milwaukee/Lake-Cook TIF Project, 6.00%, 1/01/25	1,210	1,211,089
		109,099,298
Indiana 5.9%		
City of Whiting Indiana, RB, BP Products North America, Inc. Project, 5.25%, 1/01/21	4,800	5,556,192
County of Jasper Indiana, Refunding RB, Northern Indiana Public Service Co., Series C (NPFGC), 5.85%, 4/01/19	2,000	2,225,740
Indiana Finance Authority, RB, Wastewater, 1st Lien, Series A, 5.25%, 10/01/31	10,000	11,952,900
Indiana Finance Authority, Refunding RB, US Steel Corp. Project, 6.00%, 12/01/19	5,000	5,001,450
Indiana Municipal Power Agency, Refunding RB, Series A, 5.00%, 1/01/33	10,000	12,343,000
		37,079,282
Iowa 1.2%		
Iowa Higher Education Loan Authority, RB, Private College Facility:		
5.25%, 4/01/23	695	823,825
5.25%, 4/01/24	730	863,853
5.25%, 4/01/25	520	613,787
	Par	
Municipal Bonds		
Iowa (continued)		
Iowa Higher Education Loan Authority, RB, Private College Facility (continued):		
5.25%, 4/01/26	\$ 360	\$ 423,677
Iowa Higher Education Loan Authority, Refunding RB:		
Drake University Project, 4.00%, 4/01/27	620	726,324
Drake University Project, 4.00%, 4/01/28	750	869,685
Private College Facility, 5.00%, 9/01/22	2,315	2,454,317
Private College Facility, Upper Iowa University Project, 5.00%, 9/01/20	1,000	1,070,030
		7,845,498
Kansas 1.4%		
Kansas Development Finance Authority, Refunding RB, Adventist Health System/Sunbelt Obligated Group, Series C, 5.00%, 11/15/23		
	1,500	1,687,125
Seward County Unified School District No. 480 Liberal, GO, Refunding, 5.00%, 9/01/33	6,000	7,072,140
		8,759,265
Louisiana 3.9%		
City of Bossier City Louisiana Utilities, Refunding RB, 5.00%, 10/01/32	2,000	2,425,040
City of New Orleans Louisiana Aviation Board, Refunding GARB, Restructuring, Series A-2 (AGC), 6.00%, 1/01/23	850	948,626
Louisiana Local Government Environmental Facilities & Community Development Authority, Refunding RB, BRCC Facilities Corp. Project:		
5.00%, 12/01/27	3,445	4,015,285
5.00%, 12/01/28	3,715	4,329,981
New Orleans Aviation Board, RB, Series A:		

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5.00%, 1/01/32	1,000	1,193,810
5.00%, 1/01/33	1,000	1,190,460
State of Louisiana Gasoline & Fuels Tax Revenue, Refunding RB, 4.00%, 5/01/34	5,750	6,365,537

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Schedule of Investments (continued)

BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

	Par	
	(000)	Value
Municipal Bonds		
Louisiana (continued)		
Terrebonne Levee & Conservation District, RB, Sales Tax, 5.00%, 7/01/28	\$ 3,660	\$ 4,276,271
		24,745,010
Maine 0.3%		
Portland Housing Development Corp., Refunding RB, Senior Living, Retirement Facilities, Series A, 6.00%, 2/01/34	1,965	1,968,478
Maryland 0.8%		
Maryland EDC, RB, Transportation Facilities Project, Series A, 5.13%, 6/01/20	1,615	1,775,418
Maryland Health & Higher Educational Facilities Authority, RB, Johns Hopkins Health System, Series B, 5.00%, 7/01/33	1,140	1,341,928
Maryland Health & Higher Educational Facilities Authority, Refunding RB, 5.00%, 7/01/33	1,500	1,795,365
		4,912,711
Massachusetts 0.8%		
Massachusetts Development Finance Agency, RB, Dana-Farber Cancer Institute Issue, Series N, 5.00%, 12/01/33	1,300	1,611,844
Massachusetts Development Finance Agency, Refunding RB, 5.00%, 1/01/31	1,730	2,056,607
Massachusetts Health & Educational Facilities Authority, Refunding RB, Winchester Hospital, 5.00%, 7/01/25	1,060	1,197,121
		4,865,572
Michigan 3.0%		
Manistee Area Public Schools, GO, Refunding, (Q-SBLF), 5.00%, 5/01/25	1,000	1,162,400
Michigan Finance Authority, Refunding RB, Senior Lien, Detroit Water and Sewer, Series C-3 (AGM), 5.00%, 7/01/31	4,000	4,771,640
Michigan State Building Authority, Refunding RB, Facilities Program, Series II-A, 5.00%, 10/15/24	2,500	2,935,250
	Par	
Municipal Bonds		
Michigan (continued)		
Michigan State Hospital Finance Authority, Refunding RB, Henry Ford Health System, 5.25%, 11/15/24	\$ 4,900	\$ 5,496,575
State of Michigan, Refunding RB, 5.00%, 3/15/27 (f)	3,750	4,819,762
		19,185,627
Minnesota 1.2%		
City of Minneapolis, RB, YMCA of the Greater Twin Cities Project:		
4.00%, 6/01/30	150	168,401
4.00%, 6/01/31	50	55,765
Minnesota Higher Education Facilities Authority, Refunding RB, University of St. Thomas, Series 8-L, 5.00%, 4/01/35	500	606,310
University of Minnesota, RB, Biomedical Science Research Facilities Funding Program:		
Series B, 5.00%, 8/01/36	1,000	1,168,520
Series C, 5.00%, 8/01/27	1,390	1,710,395
Series C, 5.00%, 8/01/28	740	907,669
Series C, 5.00%, 8/01/29	1,555	1,903,864
Series C, 5.00%, 8/01/30	835	1,020,579
		7,541,503
Montana 0.5%		
Gallatin County School District No 7 Bozeman, GO:		
4.00%, 12/01/31	340	396,158
4.00%, 12/01/32	305	353,324
4.00%, 12/01/33	255	293,696
4.00%, 12/01/34	360	412,920
Montana State Board of Regents, RB, 5.00%, 11/15/30	1,000	1,231,630
Yellowstone County School District No. 2 Billings, GO, 5.00%, 6/15/30	500	614,955

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		3,302,683
Nebraska 1.0%		
Douglas County Hospital Authority No. 3, Refunding RB, 5.00%, 11/01/30	800	959,920
Lancaster County Hospital Authority No. 1, Refunding RB, Immanuel Obligation Group, 5.50%, 1/01/30	1,000	1,138,680
Nebraska Public Power District, Refunding RB:		
Series A, 5.00%, 1/01/30	1,000	1,185,040
Series A, 5.00%, 1/01/32	2,000	2,352,940

Schedule of Investments (continued)

BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

	Par	
	(000)	Value
Municipal Bonds		
Nebraska (continued)		
Nebraska Public Power District, Refunding RB (continued):		
Series A-1, 3.00%, 1/01/33	\$ 900	\$ 947,979
		6,584,559
Nevada 1.6%		
Clark County Department of Aviation, Refunding RB, 5.00%, 7/01/33	5,000	6,045,000
County of Humboldt Nevada, Refunding RB, Idaho Power Co. Project, 5.15%, 12/01/24	3,800	4,220,204
		10,265,204
New Jersey 20.9%		
County of Essex New Jersey Improvement Authority, LRB, Newark Project, Series A (AGM), 5.00%, 11/01/20	2,000	2,230,800
New Jersey EDA, RB, AMT:		
Continental Airlines, Inc. Project, 5.13%, 9/15/23	6,040	6,810,825
Goethals Bridge Replacement Project, Private Activity Bond, 5.50%, 1/01/26	1,500	1,801,965
Goethals Bridge Replacement Project, Private Activity Bond, 5.50%, 1/01/27	1,000	1,199,810
New Jersey EDA, Refunding RB:		
New Jersey American Water Co., Series E, AMT, 4.70%, 12/01/25	3,000	3,310,830
School Facilities Construction, Series AA, 4.25%, 12/15/24	3,850	4,023,096
School Facilities Construction, Series EE, 5.00%, 9/01/23	3,465	3,821,375
New Jersey Educational Facilities Authority, RB, Higher Education Facilities Trust Fund, 5.00%, 6/15/28	10,000	11,290,900
New Jersey Educational Facilities Authority, Refunding RB, 5.00%, 7/01/30	5,000	6,011,750
New Jersey Higher Education Student Assistance Authority, Refunding RB:		
Series 1, AMT, 5.50%, 12/01/26	1,340	1,524,853
Student Loan, Series 1A, 4.75%, 12/01/21	1,555	1,660,631
	Par	
	(000)	Value
Municipal Bonds		
New Jersey (continued)		
New Jersey State Turnpike Authority, 5.00%, 1/01/32	\$ 12,000	\$ 14,477,880
New Jersey State Turnpike Authority, Refunding RB, Series B, 5.00%, 1/01/29	10,000	11,992,800
New Jersey Transportation Trust Fund Authority, RB:		
Series B, 5.25%, 6/15/26	3,500	3,900,015
Transportation Program, Series AA, 5.25%, 6/15/31	12,000	13,499,640
Transportation Program, Series AA, 5.25%, 6/15/32	2,250	2,562,885
Transportation System, Series A, 5.25%, 6/15/24	3,185	3,586,469
Transportation System, Series B, 5.50%, 6/15/31	13,970	15,841,700
Transportation System, Series C, 5.25%, 6/15/32	10,000	11,464,100
Newark Housing Authority, RB, Series A:		
5.00%, 12/01/23	1,230	1,482,298
5.00%, 12/01/25	1,345	1,610,557
South Jersey Port Corp., RB, Marine Terminal, Series O-1 (AGC), 4.63%, 1/01/23	1,375	1,478,180
State of New Jersey, GO, Various Purposes, 5.00%, 6/01/28	5,000	6,060,350
		131,643,709
New Mexico 1.3%		
Albuquerque Bernalillo County Water Utility Authority, Refunding RB, 4.00%, 7/01/33	4,510	5,098,014
New Mexico Hospital Equipment Loan Council, Refunding RB, 5.00%, 8/01/31	2,500	3,080,525
		8,178,539
New York 19.4%		
Build NYC Resource Corp., Refunding RB, 5.00%, 7/01/33	3,085	3,700,149
City of New York New York, GO, Refunding, Series A, 5.00%, 8/01/29	6,125	7,751,616
City of New York New York, GO:		
Sub-Series B-1, 5.25%, 9/01/22	4,250	4,661,485
Sub-Series-D- 1, 5.13%, 12/01/17 (a)	2,730	2,893,008
Sub-Series-D- 1, 5.13%, 12/01/26	1,885	1,999,174

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Sub-Series I-1, 5.50%, 4/01/21

5,000

5,627,500

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Schedule of Investments (continued)

BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

	Par	
	(000)	Value
Municipal Bonds		
New York (continued)		
City of New York New York Transitional Finance Authority, BARB, Fiscal 2009, Series S-3, 5.00%, 1/15/23	\$ 3,560	\$ 3,941,846
County of Nassau New York, GO, Series A: 5.00%, 1/01/32	1,000	1,224,690
5.00%, 1/01/33	3,110	3,799,954
County of Westchester New York Healthcare Corp., Refunding RB, Senior Lien, Remarketing, Series A: 5.00%, 11/01/24	5,470	6,377,145
5.00%, 11/01/30	655	748,737
Long Island Power Authority, Refunding RB, Electric System, Series A, 5.50%, 4/01/19 (a)	1,000	1,126,850
Metropolitan Transportation Authority, RB: Sub-Series B-1, 5.00%, 11/15/24	2,300	2,763,542
Sub-Series B-4, 5.00%, 11/15/24	1,500	1,802,310
Monroe County Industrial Development Corp., Refunding RB, Series A, 5.00%, 7/01/29	5,695	6,909,117
New York City Trust for Cultural Resources, Refunding RB, Carnegie Hall, Series A, 5.00%, 12/01/29	2,750	3,105,025
New York State Dormitory Authority, RB (a): Education, Series D, 5.00%, 9/15/16	5	5,029
North Shore-Long Island Jewish Health System, Series A, 5.50%, 5/01/19	1,495	1,692,534
New York State Dormitory Authority, Refunding RB: 4.25%, 9/01/19 (a)	480	529,080
5.00%, 7/01/30	1,555	1,931,574
New York State Thruway Authority, RB, Junior Lien, Series A: 5.00%, 1/01/33	4,500	5,528,205
5.00%, 1/01/34	2,000	2,447,480
Port Authority of New York & New Jersey, ARB, JFK International Air Terminal LLC Project, 5.00%, 12/01/20	2,475	2,828,009
	Par	
	(000)	Value
Municipal Bonds		
New York (continued)		
Port Authority of New York & New Jersey, Refunding ARB, Consolidated, 152nd Series, AMT, 5.00%, 11/01/23	\$ 1,000	\$ 1,066,160
Port Authority of New York & New Jersey, Refunding RB, 5.00%, 11/01/28	6,185	7,832,931
State of New York Dormitory Authority, RB: Fordham University, Series A, 5.25%, 7/01/25	900	1,056,528
Icahn School of Medicine at Mount Sinai, Series A, 5.00%, 7/01/32	9,000	10,982,340
Mental Health Services (AGM), 5.00%, 8/15/18 (a)	10	10,898
Mental Health Services (AGM), 5.00%, 8/15/18 (a)	30	32,693
Mental Health Services (AGM), 5.00%, 2/15/22	3,950	4,300,207
Mental Health Services, 2nd Series (AGM), 5.00%, 8/15/18 (a)	10	10,898
Municipal Health Facilities Lease, Sub-Series 2-4, 5.00%, 1/15/27	6,900	7,331,457
New York University Hospitals Center, Series A, 5.00%, 7/01/20 (a)	1,725	2,008,556
New York University Hospitals Center, Series A, 5.13%, 7/01/20	1,670	1,952,564
State of New York Dormitory Authority, Refunding RB, North Shore-Long Island Jewish Obligated Group, Series A, 5.00%, 5/01/32	3,060	3,738,861
State of New York Urban Development Corp., RB, Service Contract, Series B, 5.00%, 1/01/21	6,500	7,047,755
State of New York Urban Development Corp., Refunding RB, State Personal Income Tax, Series A, 4.00%, 3/15/37	1,000	1,125,800
		121,891,707
North Carolina 0.3%		
North Carolina Medical Care Commission, Refunding RB, WakeMed, Series A, 5.00%, 10/01/31	1,500	1,759,785

Schedule of Investments (continued)

BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

	Par	
	(000)	Value
Municipal Bonds		
Ohio 1.2%		
State of Ohio Turnpike Commission, RB, Junior Lien, Infrastructure Projects, Series A-1, 5.25%, 2/15/31	\$ 6,000	\$ 7,326,360
Oklahoma 0.8%		
Oklahoma City Public Property Authority, Refunding RB:		
5.00%, 10/01/27	1,190	1,475,398
5.00%, 10/01/28	1,265	1,557,999
5.00%, 10/01/29	1,400	1,714,818
		4,748,215
Oregon 2.5%		
County of Yamhill School District No. 40 McMinnville, GO, 4.00%, 6/15/33 (f)	1,380	1,577,795
Klamath County School District, GO:		
5.00%, 6/15/30	1,000	1,219,130
5.00%, 6/15/31	1,000	1,217,680
Klamath Falls Intercommunity Hospital Authority, Refunding RB, Sky Lakes Medical Center Project:		
5.00%, 9/01/30	400	495,520
5.00%, 9/01/31	300	370,122
5.00%, 9/01/32	540	664,043
Oregon Health & Science University, Refunding RB, Series B, 5.00%, 7/01/33	2,500	3,143,725
Oregon State Facilities Authority, Refunding RB, Reed College Project, Series A, 5.00%, 7/01/29	1,835	2,096,066
State of Oregon, GO, Series H, 5.00%, 5/01/36	2,000	2,366,380
Umatilla County School District No. 16R Pendleton, GO, Series A, 5.00%, 6/15/32	2,000	2,451,600
		15,602,061
Pennsylvania 5.7%		
City of Philadelphia Pennsylvania, ARB, Series A, AMT, 5.00%, 6/15/20	2,895	3,003,910
City of Pittsburgh Pennsylvania, GO, Refunding, Series B (AGM), 5.25%, 9/01/17	9,630	9,670,831
County of Allegheny Pennsylvania, GO, Refunding, Series C-68, 5.00%, 11/01/25	2,515	2,962,569
	Par	
	(000)	Value
Municipal Bonds		
Pennsylvania (continued)		
County of Allegheny Pennsylvania, GO, Series C-67:		
5.00%, 11/01/25	\$ 2,700	\$ 3,190,995
5.00%, 11/01/26	2,375	2,779,296
Pennsylvania Turnpike Commission, RB:		
Series B, 5.00%, 12/01/32	1,500	1,828,710
Sub-Series B, 5.25%, 12/01/31	4,000	4,681,600
South Fork Municipal Authority, Refunding RB, Conemaugh Valley Memorial Hospital, Series A (AGC), 6.00%, 7/01/20 (a)	6,225	7,461,721
		35,579,632
Puerto Rico 1.5%		
Puerto Rico Housing Finance Authority, Refunding RB, M/F Housing, Subordinate, Capital Fund Modernization, 5.13%, 12/01/27	9,000	9,683,190
Rhode Island 1.8%		
Narragansett Bay Commission, Refunding RB, Series B, 5.00%, 9/01/32	4,150	5,092,880
Providence Redevelopment Agency, Refunding RB, Series A, 5.00%, 4/01/29	1,000	1,159,970
Rhode Island Health & Educational Building Corp., RB, City of Newport Issue Financing Program, Series C, 5.00%, 5/15/30	2,305	2,707,684
Rhode Island Health & Educational Building Corp., Refunding RB, 5.00%, 9/01/32	2,000	2,424,120
		11,384,654
South Carolina 1.9%		
South Carolina State Public Service Authority, Refunding RB, Series A, 5.00%, 12/01/34	10,000	12,236,700
South Dakota 0.2%		
South Dakota Health & Educational Facilities Authority, Refunding RB, Regional Health, 5.00%, 9/01/25	1,000	1,141,140

BLACKROCK MUNI INTERMEDIATE DURATION FUND, INC.

JULY 31, 2016

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Schedule of Investments (continued)

BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

	Par	
	(000)	Value
Municipal Bonds		
Tennessee 2.0%		
County of Memphis-Shelby Tennessee Sports Authority, Inc., Refunding RB, Memphis Arena Project:		
Series A, 5.00%, 11/01/23	\$ 2,695	\$ 3,022,955
Series B, 5.00%, 11/01/22	1,000	1,123,740
Knox County Health Educational & Housing Facility Board Tennessee, Refunding RB, Eastowne Village Project, 4.00%, 6/01/31 (c)	3,275	3,488,399
Metropolitan Government Nashville & Davidson County Health & Educational Facs Bd, RB, Vanderbilt University Medical Center, Series A, 5.00%, 7/01/35	4,000	4,866,000
		12,501,094
Texas 7.1%		
City of Grapevine Texas, GO, 5.00%, 2/15/33	5,685	6,850,084
City of Houston Texas, Refunding ARB, Subordinate Lien, Series A, AMT: 5.00%, 7/01/25	1,500	1,720,935
5.00%, 7/01/32	1,010	1,148,168
Dallas/Fort Worth International Airport, Refunding RB, AMT:		
Series E, 5.00%, 11/01/26	2,185	2,508,161
Series E, 5.00%, 11/01/27	4,960	5,686,937
Series F, 5.00%, 11/01/31	6,345	7,216,232
Love Field Airport Modernization Corp., RB, Southwest Airlines Co. Project, AMT, 5.00%, 11/01/28	1,000	1,148,900
North Texas Tollway Authority, Refunding RB, Series A, 5.00%, 1/01/33	2,500	3,085,525
Red River Education Financing Corp., RB, 5.00%, 3/15/33	1,340	1,612,315
San Jacinto River Authority, RB, Special Project (AGM), 5.25%, 10/01/25	2,910	3,259,986
Socorro ISD, GO, Refunding, School Building (PSF-GTD), 5.00%, 8/15/32	2,500	2,882,675
Via Metropolitan Transit Authority, Refunding RB:		
5.25%, 8/01/28	1,585	1,918,928
5.25%, 8/01/29	1,720	2,040,866
	Par	
	(000)	Value
Municipal Bonds		
Texas (continued)		
Via Metropolitan Transit Authority, Refunding RB (continued):		
5.25%, 8/01/33	\$ 3,000	\$ 3,588,900
		44,668,612
U.S. Virgin Islands 0.9%		
Virgin Islands Public Finance Authority, Refunding RB, Series A, 5.25%, 10/01/24	5,000	5,805,850
Vermont 1.0%		
University of Vermont & State Agricultural College, Refunding RB, 4.00%, 10/01/30	5,565	6,355,063
West Virginia 1.0%		
West Virginia Hospital Finance Authority, Refunding RB, Charleston Area Medical Center, Inc., Series A, 5.13%, 9/01/23	4,000	4,418,960
West Virginia University, RB, West Virginia University Project, Series B, 5.00%, 10/01/30	1,500	1,760,310
		6,179,270
Wisconsin 1.6%		
Public Finance Authority, Refunding RB, AMT:		
National Gypsum Co., 5.25%, 4/01/30	2,410	2,702,646
Wisconsin Airport Facilities, Senior Obligated Group, Series B, 5.25%, 7/01/28	4,765	5,364,675
Wisconsin Health & Educational Facilities Authority, Refunding RB, The Monroe Clinic, Inc. (f):		
4.00%, 2/15/31	450	495,086
4.00%, 2/15/33	1,100	1,201,915
		9,764,322
Total Municipal Bonds 135.8%		852,985,203

Municipal Bonds Transferred to

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Tender Option Bond Trusts (g)

Connecticut 2.0%

Connecticut State Health & Educational Facility Authority, Refunding RB, 5.00%, 12/01/33	10,000	12,464,699
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Schedule of Investments (continued)

BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

Municipal Bonds Transferred to	Par	
	(000)	Value
Tender Option Bond Trusts (g)		
Illinois 1.4%		
Du Page & Will Counties Community School District No. 204, GO, School Building, Series A (NPFGC), 5.25%, 12/30/22	\$ 8,650	\$ 9,001,852
Louisiana 2.3%		
State of Louisiana, GO, Series A, 5.00%, 8/01/24	12,000	14,366,040
Massachusetts 1.9%		
Massachusetts Development Finance Agency, Refunding RB, Partners Healthcare, Series L, 5.00%, 7/01/31	10,175	11,985,630
Minnesota 1.8%		
State of Minnesota, GO, State Various Purposes, Series A, 4.00%, 8/01/29	10,525	11,610,431
New York 9.3%		
City of New York New York, GO, Refunding, Series E, 5.00%, 8/01/27	3,507	3,933,003
City of New York New York, GO, Series I, 5.00%, 3/01/32	7,009	8,516,039
City of New York New York Municipal Water Finance Authority, Refunding RB, Water & Sewer System, Series A:		
4.75%, 6/15/17 (a)	1,508	1,562,801
4.75%, 6/15/30	6,492	6,727,919
Metropolitan Transportation Authority, RB, Series B, 5.25%, 11/15/19 (a)	4,001	4,598,935
Port Authority of New York & New Jersey, ARB, Consolidated, 169th Series, AMT, 5.00%, 10/15/26	5,530	6,412,643
Port Authority of New York & New Jersey, RB, 178th Series, AMT, 5.00%, 12/01/32	4,009	4,762,817
Municipal Bonds Transferred to	Par	
	(000)	Value
Tender Option Bond Trusts (g)		
New York (continued)		
Sales Tax Asset Receivable Corp., Refunding RB, Fiscal 2015, Series A, 5.00%, 10/15/31	\$ 5,010	\$ 6,280,636
State of New York Dormitory Authority, Refunding RB, Series E, 5.25%, 3/15/33	7,000	8,882,580
State of New York Urban Development Corp., RB, Personal Income Tax, Series A-1, 5.00%, 3/15/32	5,501	6,649,633
		58,327,006
Total Municipal Bonds Transferred to		
Tender Option Bond Trusts 18.7%		117,755,658
Total Long-Term Investments		
(Cost \$889,697,580) 154.5%		970,740,861
Short-Term Securities	Shares	
BlackRock Liquidity Funds, MuniCash, Institutional Class, 0.26% (h)(i)	9,082,048	9,082,048
Total Short-Term Securities		
(Cost \$9,082,048) 1.4%		9,082,048
Total Investments(Cost \$898,779,628*) 155.9%		979,822,909
Liabilities in Excess of Other Assets (0.2)%		(1,227,422)
Liability for TOB Trust Certificates, Including Interest Expense and Fees Payable (10.0)%		(63,172,394)
VMTP Shares, at Liquidation Value (45.7)%		(287,100,000)
Net Assets Applicable to Common Shares 100.0%		\$ 628,323,093

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

Tax cost	\$ 837,302,705
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Gross unrealized appreciation	\$	81,088,290
Gross unrealized depreciation		(1,669,934)
Net unrealized appreciation	\$	79,418,356

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) 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.
- (c) Variable rate security. Rate as of period end.

BLACKROCK MUNI INTERMEDIATE DURATION FUND, INC.

JULY 31, 2016

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Schedule of Investments (continued)

BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

- (d) Non-income producing security.
- (e) Issuer filed for bankruptcy and/or is in default of interest payments.
- (f) When-issued security.
- (g) 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.
- (h) Current yield as of period end.
- (i) 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	12,303,103	(3,221,055)	9,082,048	\$ 9,082,048	\$ 3,650

Portfolio Abbreviations

AGC	Assured Guarantee Corp.
AGM	Assured Guaranty Municipal Corp.
AMT	Alternative Minimum Tax (subject to)
ARB	Airport Revenue Bonds
BARB	Building Aid Revenue Bonds
BHAC	Berkshire Hathaway Assurance Corp.
COP	Certificates of Participation
EDA	Economic Development Authority
EDC	Economic Development Corp.
GARB	General Airport Revenue Bonds
GO	General Obligation Bonds
GTD	Guaranteed
IDA	Industrial Development Authority
ISD	Independent School District
LRB	Lease Revenue Bonds
M/F	Multi-Family
NPFGC	National Public Finance Guarantee Corp.
PSF	Permanent School Fund
RB	Revenue Bonds

Derivative Financial Instruments Outstanding as of Period End

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Futures Contracts

Contracts				Notional Value	Unrealized Appreciation
Short	Issue	Expiration	Notional Value	(Depreciation)	
(92)	5-Year U.S. Treasury Note	September 2016	\$ 11,225,438	\$ 5,405	
(233)	10-Year U.S. Treasury Note	September 2016	\$ 30,999,922	(123,180)	
(57)	Long U.S. Treasury Bond	September 2016	\$ 9,942,937	(270,703)	
Total				\$ (388,478)	

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BLACKROCK MUNI INTERMEDIATE DURATION FUND, INC.

JULY 31, 2016

Schedule of Investments (continued)

BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

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		\$ 970,740,861		\$ 970,740,861
Short-Term Securities	\$ 9,082,048			9,082,048
Total	\$ 9,082,048	\$ 970,740,861		\$ 979,822,909
Derivative Financial Instruments²				
Assets:				
Interest rate contracts	\$ 5,405			\$ 5,405
Liabilities:				
Interest rate contracts	(393,883)			(393,883)
Total	\$ (388,478)			\$ (388,478)

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.

BLACKROCK MUNI INTERMEDIATE DURATION FUND, INC.

JULY 31, 2016

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Schedule of Investments (concluded)

BlackRock Muni Intermediate Duration Fund, Inc. (MUI)

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	\$ 10,010			\$ 10,010
Cash pledged for futures contracts	611,900			611,900
Liabilities:				
TOB Trust Certificates		\$ (63,101,848)		(63,101,848)
VMTP Shares		(287,100,000)		(287,100,000)
Total	\$ 621,910	\$ (350,201,848)		\$ (349,579,938)

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 Muni Intermediate Duration Fund, Inc.

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

Date: September 21, 2016

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

Date: September 21, 2016