

BLACKROCK MUNIVEST FUND INC
Form N-Q
July 28, 2011
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 811-05611

Name of Fund: BlackRock MuniVest Fund, Inc. (MVF)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: John M. Perlowski, Chief Executive Officer, BlackRock MuniVest 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: 08/31/2011

Date of reporting period: 05/31/2011

Item 1 Schedule of Investments

Schedule of Investments May 31, 2011 (Unaudited)

BlackRock MuniVest Fund, Inc. (MVF)
(Percentages shown are based on Net Assets)

| Municipal Bonds | Par (000) | Value |
|---|----------------------|-------------------|
| Alabama 3.5% | | |
| Alabama State Docks Department, Refunding RB, 6.00%, 10/01/40 | \$ 7,610 | \$ 7,739,751 |
| Camden IDB Alabama, RB, Weyerhaeuser Co. Project, Series A, 6.13%, 12/01/13 (a) | 2,550 | 2,886,804 |
| Prattville IDB Alabama, RB, International Paper Co. Project, Series A, AMT, 4.75%, 12/01/30 | 3,475 | 3,025,439 |
| Selma IDB, RB, Gulf Opportunity Zone, International Paper, 5.80%, 5/01/34 | 1,850 | 1,849,889 |
| Selma IDB Alabama, Refunding RB, International Paper Co. Project, Series B, 5.50%, 5/01/20 | 5,000 | 5,041,900 |
| | | <u>20,543,783</u> |
| Arizona 3.1% | | |
| Maricopa County IDA Arizona, RB, Arizona Charter Schools Project, Series A, 6.75%, 7/01/29 | 4,100 | 2,725,147 |
| Maricopa County Pollution Control Corp., Refunding RB, Southern California Edison Co., Series A, 5.00%, 6/01/35 | 3,300 | 3,277,197 |
| Phoenix Civic Improvement Corp., RB, Junior Lien, Series A, 5.00%, 7/01/40 | 2,000 | 1,897,240 |
| Pima County IDA, RB, Arizona Charter School Project, Series E, 7.25%, 7/01/31 | 2,005 | 1,960,329 |
| Pima County IDA, Refunding RB: Arizona Charter Schools Project, Series I, 6.10%, 7/01/13 (a)(b) | 110 | 121,585 |
| Arizona Charter Schools Project, Series I, 6.30%, 7/01/13 (a)(b) | 230 | 255,169 |
| Arizona Charter Schools, Series I, 6.10%, 7/01/24 (b) | 380 | 348,844 |
| Arizona Charter Schools, Series I, 6.30%, 7/01/31 (b) | 755 | 660,685 |
| Charter Schools II, Series A, 6.75%, 7/01/21 | 920 | 917,608 |
| Arizona Charter Schools Project II, Series O, 5.00%, 7/01/26 | 1,455 | 1,163,302 |
| Salt Verde Financial Corp., RB, Senior, 5.00%, 12/01/37 | 5,000 | 4,400,650 |
| | Par (000) | Value |

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Arizona (concluded)

| | | | | |
|--|----|-----|----|---------|
| State of Arizona, COP, Department of Administration, Series A (AGM), 5.25%, 10/01/28 | \$ | 400 | \$ | 408,632 |
|--|----|-----|----|---------|

18,136,388

California 11.2%

| | | |
|--|--------|------------|
| California HFA, RB, Home Mortgage, Series K, AMT, 5.50%, 2/01/42 | 3,350 | 3,404,772 |
| California Health Facilities Financing Authority, Refunding RB: Catholic Healthcare West, Series A, 6.00%, 7/01/34 | 1,055 | 1,086,914 |
| State Joseph Health System, Series A, 5.75%, 7/01/39 | 5,000 | 5,057,650 |
| Sutter Health, Series B, 6.00%, 8/15/42 | 5,600 | 5,853,064 |
| California State Public Works Board, RB: Department of Corrections, Series C, 5.50%, 6/01/22 | 5,000 | 5,134,850 |
| Department of Mental Health, Coalinga, Series A, 5.13%, 6/01/29 | 10,435 | 10,062,992 |
| Department of Correction, Series C, 5.50%, 6/01/23 | 6,000 | 6,133,980 |
| California Statewide Communities Development Authority, RB, Health Facility, Memorial Health Services, Series A, 6.00%, 10/01/23 | 4,240 | 4,378,351 |
| Golden State Tobacco (ARS) Securitization Corp. California, RB, Asset-Backed, Series A-3, 7.88%, 6/01/13 (a) | 10,725 | 12,237,976 |
| Los Angeles Department of Airports, RB, Series A, 5.25%, 5/15/39 | 1,200 | 1,217,892 |
| State of California, GO, Various Purpose, 6.50%, 4/01/33 | 9,700 | 10,825,685 |
| | | 65,394,126 |

Colorado 1.1%

| | | |
|--|-------|-----------|
| Colorado Health Facilities Authority, RB, Catholic Health Initiatives, Series D, 6.25%, 10/01/33 | 2,500 | 2,699,225 |
| Colorado Health Facilities Authority, Refunding RB, Evangelical Lutheran, Series A, 5.25%, 6/01/34 | 3,000 | 2,673,360 |

Portfolio Abbreviations

To simplify the listings of portfolio holdings in the Schedule of Investments, the names and descriptions of many of the securities have been abbreviated according to the following list:

AGC Assured Guaranty Corp.

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| | |
|-------|---|
| AGM | Assured Guaranty Municipal Corp. |
| AMBAC | American Municipal Bond Assurance Corp. |
| AMT | Alternative Minimum Tax (subject to) |
| ARB | Airport Revenue Bonds |
| ARS | Auction Rate Security |
| CAB | Capital Appreciation Bonds |
| COP | Certificates of Participation |
| EDA | Economic Development Authority |
| FHA | Federal Housing Administration |
| GO | General Obligation Bonds |
| HDA | Housing Development Authority |
| HFA | Housing Finance Agency |
| HRB | Housing Revenue Bonds |
| IDA | Industrial Development Authority |
| IDB | Industrial Development Board |
| MRB | Mortgage Revenue Bonds |
| NPFGC | National Public Finance Guarantee Corp. |
| RB | Revenue Bonds |
| S/F | Single-Family |

BLACKROCK MUNIVEST FUND, INC.

MAY 31, 2011

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Schedule of Investments (continued)

BlackRock MuniVest Fund, Inc. (MVF)
(Percentages shown are based on Net Assets)

| Municipal Bonds | Par (000) | Value |
|--|--------------|-------------------|
| Colorado (concluded) | | |
| Colorado Housing & Finance Authority, Refunding RB, S/F Program, Senior Series A-2, AMT: | | |
| 6.60%, 5/01/28 | \$ 340 | \$ 344,502 |
| 7.50%, 4/01/31 | 130 | 134,749 |
| Regional Transportation District, COP, Series A, 5.38%, 6/01/31 | 385 | 397,331 |
| | | <u>6,249,167</u> |
| Connecticut 0.4% | | |
| Mohegan Tribe of Indians of Connecticut, RB, Public Improvement, Priority Distribution, 6.25%, 1/01/31 | 2,810 | 2,236,339 |
| Delaware 0.3% | | |
| County of Sussex Delaware, RB, NRG Energy, Inc., Indian River Project, 6.00%, 10/01/40 | 1,500 | 1,499,850 |
| District Of Columbia 0.2% | | |
| Metropolitan Washington Airports Authority, RB, First Senior Lien, Series A: | | |
| 5.00%, 10/01/39 | 415 | 411,244 |
| 5.25%, 10/01/44 | 650 | 649,948 |
| | | <u>1,061,192</u> |
| Florida 5.9% | | |
| County of Miami-Dade Florida, GO, Building Better Communities Program: | | |
| Series B, 6.38%, 7/01/28 | 4,630 | 5,202,685 |
| Series B-1, 5.63%, 7/01/38 | 5,000 | 5,190,300 |
| County of Miami-Dade Florida, Refunding RB, Miami International Airport: | | |
| AMT (AGC), 5.00%, 10/01/40 | 10,000 | 8,801,300 |
| Series A-1, 5.38%, 10/01/41 | 10,290 | 10,055,902 |
| Hillsborough County IDA, RB, H. Lee Moffitt Cancer Center Project, Series A, 5.25%, 7/01/37 | 5,500 | 4,986,135 |
| | | <u>34,236,322</u> |

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| Georgia 2.1% | | |
|--|-------|------------|
| DeKalb County Hospital Authority Georgia, RB, Dekalb Medical Center Inc. Project, 6.13%, 9/01/40 | 3,570 | 3,342,341 |
| DeKalb Private Hospital Authority, Refunding RB, Childrens Healthcare, 5.25%, 11/15/39 | 3,335 | 3,337,168 |
| Municipal Electric Authority of Georgia, RB, Series W: 6.60%, 1/01/18 | 250 | 277,790 |
| 6.60%, 1/01/18 (c) | 4,540 | 5,241,339 |
| | | 12,198,638 |

| Hawaii 0.9% | | |
|--|-------|-----------|
| Hawaii State Harbor, RB, Series A, 5.50%, 7/01/35 | 5,000 | 5,081,900 |

| Municipal Bonds | Par (000) | Value |
|-----------------|--------------|-------|
|-----------------|--------------|-------|

| Idaho 0.00% | | |
|---|-------|-----------|
| Idaho Housing & Finance Association, Refunding RB, S/F Mortgage, Senior Series E-2, AMT, 6.90%, 1/01/27 | \$ 50 | \$ 50,065 |

| Illinois 11.4% | | |
|--|--------|------------|
| City of Chicago Illinois, ARB, General, Third Lien, Series B-2, AMT (NPFGC), 6.00%, 1/01/27 | 17,080 | 17,356,013 |
| Illinois Finance Authority, RB: Community Rehabilitation Providers Facilities, Series A, 6.50%, 7/01/22 | 1,060 | 1,006,237 |
| Advocate Health Care Network, Series D, 6.50%, 11/01/38 | 9,700 | 10,417,994 |
| Community Rehabilitation Providers Facilities, Series A, 6.50%, 7/01/12 (a) | 1,080 | 1,162,879 |
| Illinois Finance Authority, Refunding RB, Series A: Northwestern Memorial Hospital, Series A, 6.00%, 8/15/39 | 9,000 | 9,499,770 |
| OSF Healthcare System, Series A, 6.00%, 5/15/39 | 5,140 | 5,125,968 |
| Railsplitter Tobacco Settlement Authority, RB, 6.00%, 6/01/28 | 2,645 | 2,652,882 |
| Regional Transportation Authority, RB: Series A (AMBAC), 7.20%, 11/01/20 | 3,290 | 3,951,553 |
| Series C (NPFGC), 7.75%, 6/01/20 | 4,000 | 4,907,960 |
| Village of Hodgkins Illinois, RB, MBM Project, AMT, 6.00%, 11/01/23 | 10,000 | 10,001,800 |
| | | 66,083,056 |

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Indiana 4.7%

| | | |
|--|--------|-------------------|
| Indiana Health & Educational Facilities Financing Authority, RB, Clarian Health Obligation, Series A, 5.25%, 2/15/40 | 8,980 | 8,164,706 |
| Indiana Transportation Finance Authority, RB, Series A, 6.80%, 12/01/16 | 7,280 | 8,245,983 |
| Indianapolis Local Public Improvement Bond Bank, Refunding RB, Series D, 6.75%, 2/01/14 | 10,210 | 10,951,552 |
| | | <u>27,362,241</u> |

Kansas 0.3%

| | | |
|---|-------|-----------|
| Sedgwick & Shawnee Counties Kansas, RB, Mortgage-Backed Securities Program, Series A-4, AMT (Ginnie Mae), 5.95%, 12/01/33 | 1,665 | 1,739,842 |
|---|-------|-----------|

Kentucky 1.2%

| | | |
|--|-------|---------|
| County of Owen Kentucky, RB, Kentucky American Water Co., Series B, 5.63%, 9/01/39 | 1,000 | 979,810 |
|--|-------|---------|

Schedule of Investments May 31, 2011 (Unaudited)

BlackRock MuniVest Fund, Inc. (MVF)
(Percentages shown are based on Net Assets)

| Municipal Bonds | Par (000) | Value |
|---|--------------|------------------|
| Kentucky (concluded) | | |
| Kentucky Economic Development Finance Authority, RB, Owensboro Medical Health System, Series A, 6.50%, 3/01/45 | \$ 4,000 | \$ 3,967,040 |
| Kentucky Economic Development Finance Authority, Refunding RB, Owensboro Medical Health System, Series A, 6.38%, 6/01/40 | 2,000 | 1,962,440 |
| | | <u>6,909,290</u> |
| Louisiana 0.5% | | |
| Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp., Series A-1, 6.50%, 11/01/35 | 2,615 | 2,678,963 |
| Maine 1.2% | | |
| Maine Health & Higher Educational Facilities Authority, RB, Series A, 5.00%, 7/01/39 | 5,000 | 4,969,900 |
| Portland New Public Housing Authority Maine, Refunding RB, Senior Living, Series A: 5.70%, 8/01/21 | 775 | 779,340 |
| 6.00%, 2/01/34 | 1,190 | 1,114,459 |
| | | <u>6,863,699</u> |
| Maryland 1.8% | | |
| Maryland Community Development Administration, RB, AMT, 5.10%, 9/01/37 | 1,835 | 1,770,536 |
| Maryland Community Development Administration, Refunding RB, Residential, Series D, 4.90%, 9/01/42 | 3,250 | 2,960,230 |
| Maryland Health & Higher Educational Facilities Authority, Refunding RB: Charlestown Community, 6.25%, 1/01/41 | 2,000 | 1,978,580 |
| University of Maryland Medical System, 5.00%, 7/01/34 | 2,100 | 2,000,460 |
| University of Maryland Medical System, 5.13%, 7/01/39 | 2,100 | 1,965,159 |

10,674,965

Massachusetts 6.4%

| | | |
|---|-------|-----------|
| Massachusetts Bay Transportation Authority, Refunding RB, General Transportation System, Series A, 7.00%, 3/01/19 | 3,010 | 3,678,611 |
| Massachusetts HFA, HRB, Series A, AMT, 5.20%, 12/01/37 | 3,000 | 2,823,480 |
| Massachusetts HFA, RB, S/F, Series 130, AMT, 5.00%, 12/01/32 | 2,500 | 2,379,825 |
| Massachusetts HFA, Refunding HRB, Series D, AMT, 4.85%, 6/01/40 | 3,000 | 2,683,140 |

Municipal Bonds**Par
(000)****Value****Massachusetts (concluded)**

| | | |
|---|----------|-------------------|
| Massachusetts HFA, Refunding RB, Series C, AMT, 5.35%, 12/01/42 | \$ 6,550 | \$ 6,063,532 |
| Massachusetts Water Resources Authority, RB, Series A, 6.50%, 7/15/19 (c) | 16,000 | 19,509,760 |
| | | <u>37,138,348</u> |

Michigan 4.3%

| | | |
|--|-------|-------------------|
| City of Detroit Michigan, RB, Second Lien, Series B (AGM): 6.25%, 7/01/36 | 2,500 | 2,712,500 |
| 7.00%, 7/01/36 | 1,250 | 1,426,988 |
| Lansing Board of Water & Light, RB, Series A, 5.50%, 7/01/41 (d) | 1,660 | 1,733,057 |
| Michigan State Hospital Finance Authority, Refunding RB: Henry Ford Health System, Series A, 5.25%, 11/15/46 | 7,950 | 6,769,663 |
| McLaren Health Care, 5.75%, 5/15/38 | 7,285 | 7,401,487 |
| Royal Oak Hospital Finance Authority Michigan, Refunding RB, William Beaumont Hospital, 8.25%, 9/01/39 | 4,100 | 4,705,406 |
| | | <u>24,749,101</u> |

Mississippi 5.4%

| | | |
|--|--------|-------------------|
| County of Lowndes Mississippi, Refunding RB, Weyerhaeuser Co. Project: Series A, 6.80%, 4/01/22 | 9,160 | 9,621,847 |
| Series B, 6.70%, 4/01/22 | 4,500 | 4,693,140 |
| Mississippi Business Finance Corp., Refunding RB, System Energy Resource Inc. Project: 5.88%, 4/01/22 | 15,000 | 14,870,700 |
| 5.90%, 5/01/22 | 2,250 | 2,231,685 |
| | | <u>31,417,372</u> |

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| | | |
|--|--------|-----------|
| Nevada 0.9% | | |
| County of Clark Nevada, RB, Series B, 5.75%, 7/01/42 | 5,000 | 5,151,550 |
| New Hampshire 0.4% | | |
| New Hampshire Health & Education Facilities Authority, Refunding RB, Elliot Hospital, Series B, 5.60%, 10/01/22 | 2,400 | 2,480,160 |
| New Jersey 5.7% | | |
| New Jersey EDA, RB, Cigarette Tax: 5.50%, 6/15/24 | 9,080 | 8,586,775 |
| 5.75%, 6/15/29 | 2,885 | 2,694,705 |
| 5.75%, 6/15/34 | 3,695 | 3,345,823 |
| New Jersey EDA, Refunding RB, School Facilities Construction, Series AA, 5.25%, 12/15/33 | 10,000 | 9,989,097 |

BLACKROCK MUNIVEST FUND, INC.

MAY 31, 2011

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Schedule of Investments (continued)

BlackRock MuniVest Fund, Inc. (MVF)
(Percentages shown are based on Net Assets)

| Municipal Bonds | Par (000) | Value |
|---|--------------|-------------------|
| New Jersey (concluded) | | |
| New Jersey State Housing & Mortgage Finance Agency, RB, Series AA, 6.38%, 10/01/28 | \$ 1,445 | \$ 1,549,141 |
| Tobacco Settlement Financing Corp. New Jersey, RB, 7.00%, 6/01/13 (a) | 5,980 | 6,746,516 |
| | | <u>33,300,863</u> |
| New York 4.1% | | |
| Metropolitan Transportation Authority, RB, Series 2008C: 6.25%, 11/15/23 | 3,245 | 3,759,852 |
| 6.50%, 11/15/28 | 14,925 | 17,174,645 |
| Port Authority of New York & New Jersey, RB, JFK International Air Terminal, 6.00%, 12/01/36 | 3,165 | 3,174,527 |
| | | <u>24,109,024</u> |
| North Carolina 1.3% | | |
| Gaston County Industrial Facilities & Pollution Control Financing Authority North Carolina, RB, Exempt Facilities, National Gypsum Co. Project, AMT, 5.75%, 8/01/35 | 4,105 | 3,161,219 |
| North Carolina Medical Care Commission, RB, Novant Health Obligation, Series A, 4.75%, 11/01/43 | 5,000 | 4,154,450 |
| | | <u>7,315,669</u> |
| Ohio 3.0% | | |
| County of Butler Ohio, RB, UC Health, 5.50%, 11/01/40 | 4,000 | 3,422,640 |
| County of Franklin Ohio, GO, Various Purpose, 5.00%, 12/01/31 | 4,000 | 4,185,000 |
| County of Lucas Ohio, Refunding RB, Promedica Healthcare, Series A, 6.50%, 11/15/37 | 1,915 | 2,099,204 |
| Ohio Higher Educational Facility Commission, Refunding RB, Kenyon College Project, 5.25%, 7/01/44 | 8,000 | 7,815,520 |
| | | <u>17,522,364</u> |

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| Pennsylvania 1.6% | | |
|--|----------------------|-------------------|
| Chester County IDA, RB, Aqua Pennsylvania Inc. Project, Series A, AMT (NPFGC), 5.00%, 2/01/40 | 540 | 519,296 |
| Delaware River Port Authority, RB, Series D, 5.00%, 1/01/40 | 195 | 194,403 |
| Lycoming County Authority, Refunding RB, Susquehanna Health System Project, Series A, 5.75%, 7/01/39 | 3,950 | 3,636,172 |
| Pennsylvania Economic Development Financing Authority, Refunding RB, Aqua Pennsylvania Inc. Project, Series A, AMT, 5.00%, 12/01/34 | 2,780 | 2,757,232 |
| Philadelphia Authority for Industrial Development, RB: Arbor House Inc. Project, Series E, 6.10%, 7/01/33 | 1,000 | 935,630 |
| | Par (000) | Value |
| Municipal Bonds | | |
| Pennsylvania (concluded) | | |
| Philadelphia Authority for Industrial Development, RB (concluded): Rieder House Project, Series A, 6.10%, 7/01/33 | \$ 1,355 | \$ 1,267,779 |
| | | <u>9,310,512</u> |
| Puerto Rico 2.7% | | |
| Puerto Rico Sales Tax Financing Corp., RB, First Sub-Series A, 6.38%, 8/01/39 | 13,000 | 13,721,630 |
| Puerto Rico Sales Tax Financing Corp., Refunding RB, CAB, Series A (NPFGC), 5.69%, 8/01/41 (e) | 15,000 | 2,075,550 |
| | | <u>15,797,180</u> |
| South Carolina 1.0% | | |
| County of Georgetown South Carolina, Refunding RB, International Paper Co. Project, Series A, AMT, 5.55%, 12/01/29 | 1,000 | 979,070 |
| County of Richland South Carolina, Refunding RB, International Paper Co. Project, AMT, 6.10%, 4/01/23 | 5,000 | 5,036,100 |
| | | <u>6,015,170</u> |
| Texas 12.9% | | |
| Brazos River Authority, Refunding RB, Texas Utility Co., Series, AMT, 7.70%, 4/01/33 | 3,055 | 1,224,627 |
| Brazos River Harbor Navigation District, Refunding RB, Dow Chemical Co. Project, Series A-7, AMT, 6.63%, 5/15/33 | 11,460 | 11,572,079 |
| | 8,335 | 8,646,062 |

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| | | |
|--|-------|-----------|
| City of Houston Texas, RB, Senior Lien, Series A, 5.50%, 7/01/34 | | |
| Gulf Coast Waste Disposal Authority, Refunding RB, Series A, AMT, 6.10%, 8/01/24 | 4,000 | 4,022,200 |
| Harris County Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, Series B: 7.13%, 12/01/31 | 3,500 | 3,859,240 |
| 7.25%, 12/01/35 | 5,400 | 5,943,078 |
| Houston Industrial Development Corp., RB, Senior, Air Cargo, AMT, 6.38%, 1/01/23 | 1,785 | 1,659,229 |
| La Vernia Higher Education Finance Corp., RB, KIPP Inc., 6.25%, 8/15/39 | 925 | 928,423 |
| Love Field Airport Modernization Corp., RB, Southwest Airlines Co. Project, 5.25%, 11/01/40 | 3,600 | 3,232,980 |
| Matagorda County Navigation District No. 1 Texas, Refunding RB, CenterPoint Energy Project, 5.60%, 3/01/27 (f) | 9,355 | 9,416,837 |
| North Texas Tollway Authority, Refunding RB, First Tier, Series A, 6.25%, 1/01/39 | 3,500 | 3,625,685 |

Schedule of Investments (continued)

BlackRock MuniVest Fund, Inc. (MVF)
(Percentages shown are based on Net Assets)

| Municipal Bonds | Par (000) | Value |
|--|--------------|-------------------|
| Texas (concluded) | | |
| Tarrant County Cultural Education Facilities Finance Corp., RB, Scott & White Healthcare, 6.00%, 8/15/45 | \$ 5,000 | \$ 5,181,850 |
| Texas Private Activity Bond Surface Transportation Corp., RB, Senior Lien: LBJ Infrastructure Group LLC, LBJ Freeway Managed Lanes Project, 7.00%, 6/30/40 | 10,000 | 10,598,400 |
| NTE Mobility Partners LLC, North Tarrant Express Managed Lanes Project, 6.88%, 12/31/39 | 4,710 | 4,934,761 |
| | | <u>74,845,451</u> |
| U. S. Virgin Islands 1.3% | | |
| United States Virgin Islands, Refunding RB, Sr Secured-Hovensa Coker Project, AMT, 6.50%, 7/01/21 | 8,000 | 7,842,800 |
| Vermont 0.2% | | |
| Vermont Educational & Health Buildings Financing Agency, RB, Developmental & Mental Health, Series A, 6.38%, 6/15/22 | 1,000 | 939,300 |
| Virginia 2.8% | | |
| Chesterfield County IDA, Refunding RB, Virginia Electric & Power Co., Series A, 5.88%, 6/01/17 | 1,425 | 1,457,134 |
| City of Norfolk Virginia, Refunding RB, Series B (AMBAC), 5.50%, 2/01/31 | 3,550 | 3,445,949 |
| City of Portsmouth Virginia, GO, Refunding, Series D, 5.00%, 7/15/34 | 3,105 | 3,260,250 |
| Fairfax County EDA, Refunding RB, Goodwin House Inc.: 5.13%, 10/01/37 | 2,000 | 1,774,480 |
| 5.13%, 10/01/42 | 6,015 | 5,236,900 |
| Virginia HDA, Refunding RB, Sub-Series A3, AMT, 5.05%, 7/01/26 | 1,325 | 1,332,181 |
| | | <u>16,506,894</u> |
| Washington 4.8% | | |

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| | | |
|---|--------|------------|
| Energy Northwest, Refunding RB, Series B, 7.13%, 7/01/16 | 14,320 | 18,199,717 |
| Seattle Housing Authority Washington, HRB, Replacement Housing Projects, 6.13%, 12/01/32 | 2,230 | 2,042,435 |
| Washington Health Care Facilities Authority, Refunding RB, Catholic Health Initiatives, Series D, 6.38%, 10/01/36 | 7,000 | 7,469,210 |
| | | 27,711,362 |

West Virginia 0.4%

| | | |
|--|-------|-----------|
| West Virginia Hospital Finance Authority, Refunding RB, Charleston, Series A, 5.63%, 9/01/32 | 2,500 | 2,473,775 |
|--|-------|-----------|

| Municipal Bonds | Par (000) | Value |
|--|--------------|--------------|
| Wisconsin 1.5% | | |
| City of Milwaukee Wisconsin, RB, Senior, Air Cargo, AMT, 6.50%, 1/01/25 | \$ 1,485 | \$ 1,388,430 |
| Wisconsin Health & Educational Facilities Authority, MRB, Hudson Memorial Hospital (FHA), 5.70%, 1/15/29 | 4,500 | 4,539,600 |
| Wisconsin Health & Educational Facilities Authority, RB, Synergyhealth Inc., 6.00%, 11/15/32 | 3,040 | 3,079,642 |
| | | 9,007,672 |

Wyoming 0.8%

| | | |
|---|-------|-----------|
| County of Sweetwater Wyoming, Refunding RB, Idaho Power Co. Project, 5.25%, 7/15/26 | 4,500 | 4,735,800 |
|---|-------|-----------|

Total Municipal Bonds 111.3% 647,175,790

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

Arizona 0.6%

| | | |
|--|-------|-----------|
| Phoenix Civic Improvement Corp., RB, Junior Lien, Series A, 5.00%, 7/01/34 | 3,500 | 3,634,190 |
|--|-------|-----------|

California 5.4%

| | | |
|---|--------|------------|
| Los Angeles Community College District California, GO, Election of 2008, Series A, 6.00%, 8/01/33 | 9,586 | 10,510,511 |
| University of California, RB, Series O, 5.25%, 5/15/39 | 20,000 | 20,588,800 |

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31,099,311

Connecticut 2.1%

Connecticut State Health & Educational
Facility Authority, RB, Yale University,
Series Z-3, 5.05%, 7/01/42

12,000 12,418,320

District of Columbia 1.4%

District of Columbia Water & Sewer
Authority, RB, Series A, 5.50%,
10/01/39

7,495 7,987,095

Florida 4.1%

County of Miami-Dade Florida, RB,
Water & Sewer System (AGM),
5.00%, 10/01/39

14,747 14,811,389

Miami-Dade County Expressway
Authority, RB, Series A (AGC), 5.00%,
7/01/35

8,900 8,777,002

23,588,391

Illinois 3.4%

City of Chicago Illinois, Refunding RB,
Second Lien (AGM), 5.25%, 11/01/33

1,330 1,355,682

BLACKROCK MUNIVEST FUND, INC.

MAY 31, 2011

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Schedule of Investments (continued)

BlackRock MuniVest Fund, Inc. (MVF)
(Percentages shown are based on Net Assets)

| Municipal Bonds Transferred to Tender Option Bond Trusts (g) | Par (000) | Value |
|--|--------------|-------------------|
| Illinois (concluded) | | |
| Illinois Finance Authority, RB, University of Chicago, Series B, 6.25%, 7/01/38 | \$ 10,000 | \$ 11,250,900 |
| Illinois State Toll Highway Authority, RB, Series B, 5.50%, 1/01/33 | 6,999 | 7,173,015 |
| | | <u>19,779,597</u> |
| Kentucky 5.5% | | |
| Kentucky Economic Development Finance Authority, Refunding RB, St. Elizabeth, Series A, 5.50%, 5/01/39 | 8,003 | 8,130,612 |
| Kentucky Housing Corp., Refunding RB, Series L, AMT, 5.25%, 1/01/38 | 7,160 | 7,169,952 |
| Lexington-Fayette Urban County Airport Board, Refunding RB, Series A, 5.00%, 7/01/27 | 7,001 | 7,342,594 |
| Louisville & Jefferson County Metropolitan Government Parking Authority, RB, Series A, 5.38%, 12/01/39 | 9,195 | 9,457,058 |
| | | <u>32,100,216</u> |
| Maryland 0.8% | | |
| Maryland State Transportation Authority, RB, Transportation Facility Project (AGM), 5.00%, 7/01/41 | 4,710 | 4,854,173 |
| Nevada 3.0% | | |
| Clark County Water Reclamation District, GO, Series B, 5.75%, 7/01/34 | 15,789 | 17,304,823 |
| New York 5.0% | | |
| New York City Municipal Water Finance Authority, RB: Series DD, 5.00%, 6/15/37 | 24,199 | 24,658,003 |
| Series FF-2, 5.50%, 6/15/40 | 4,154 | 4,428,576 |
| | | <u>29,086,579</u> |
| North Carolina 3.1% | | |

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| | | |
|--|------------------|--------------|
| North Carolina Capital Facilities Finance Agency, Refunding RB: | | |
| Duke University Project, Series A, 5.00%, 10/01/41 | 12,678 | 12,890,964 |
| Wake Forest University, 5.00%, 1/01/38 | 5,000 | 5,175,150 |
| | | 18,066,114 |
| Ohio 3.7% | | |
| County of Allen Ohio, Refunding RB, Catholic Healthcare, Series A, 5.25%, 6/01/38 | 2,870 | 2,805,195 |
| County of Montgomery Ohio, Refunding RB, Catholic Healthcare, Series A, 5.50%, 5/01/34 | 5,470 | 5,610,798 |
| Ohio Higher Educational Facility Commission, Refunding RB, Hospital, Cleveland Clinic Health, Series A, 5.25%, 1/01/33 | 4,400 | 4,451,040 |
| Municipal Bonds Transferred to Tender Option Bond Trusts (g) | Par (000) | Value |
| Ohio (concluded) | | |
| State of Ohio, RB, Cleveland Clinic Health, Series B, 5.50%, 1/01/34 | \$ 8,500 | \$ 8,711,225 |
| | | 21,578,258 |
| Oregon 2.1% | | |
| Oregon State Housing & Community Services Department, HRB, Series A, AMT, 4.95%, 7/01/30 | 13,000 | 12,427,214 |
| South Carolina 0.6% | | |
| South Carolina State Housing Finance & Development Authority, Refunding RB, Series B-1, 5.55%, 7/01/39 | 3,159 | 3,210,854 |
| Texas 8.3% | | |
| Harris County Health Facilities Development Corp., Refunding RB, School Health Care System, Series B, 5.75%, 7/01/27 | 20,970 | 25,428,641 |
| Houston Higher Education Finance Corp., RB, Rice University Project, Series A, 5.00%, 5/15/40 | 10,000 | 10,402,365 |
| Texas Department of Housing & Community Affairs, MRB, Series B, AMT (Ginnie Mae), 5.25%, 9/01/32 | 6,432 | 6,366,864 |
| Texas State University Systems, Refunding RB (AGM), 5.00%, 3/15/30 | 5,667 | 5,814,164 |
| | | 48,012,034 |

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Virginia 1.2%

| | | |
|---|-------|------------------|
| Fairfax County IDA Virginia, Refunding RB, Health Care, Inova Health System, Series A, 5.50%, 5/15/35 | 2,099 | 2,152,817 |
| Virginia Small Business Financing Authority, Refunding RB, Sentara Healthcare, 5.00%, 11/01/40 | 5,002 | 5,033,568 |
| | | <u>7,186,385</u> |

Washington 4.4%

| | | |
|--|--------|-------------------|
| Central Puget Sound Regional Transit Authority, RB, Series A: 5.00%, 11/01/36 | 5,500 | 6,135,180 |
| (AGM), 5.00%, 11/01/32 | 14,007 | 14,464,326 |
| Central Puget Sound Regional Transportation Authority, Washington, RB, Series A, 5.00%, 11/01/34 | 5,500 | 5,112,650 |
| | | <u>25,712,156</u> |

Wisconsin 1.0%

| | | |
|--|-------|-----------|
| Wisconsin Health & Educational Facilities Authority, Refunding RB, Froedtert & Community Health Inc., 5.25%, 4/01/39 | 6,099 | 5,993,088 |
|--|-------|-----------|

| | | |
|---|--|-------------|
| Total Municipal Bonds Transferred to Tender Option Bond Trusts 55.7% | | 324,038,798 |
|---|--|-------------|

| | | |
|--|--|-------------|
| Total Long-Term Investments (Cost \$949,433,656) 167.0% | | 971,214,588 |
|--|--|-------------|

Schedule of Investments (continued)

BlackRock MuniVest Fund, Inc. (MVF)
(Percentages shown are based on Net Assets)

| Short-Term Securities | Shares | Value |
|--|------------|----------------|
| FFI Institutional Tax-Exempt Fund, 0.11% (h)(i) | 16,010,690 | \$ 16,010,690 |
| Total Short-Term Securities (Cost \$16,010,690) 2.7% | | 16,010,690 |
| Total Investments (Cost \$965,444,346*) 169.7% | | 987,225,278 |
| Other Assets Less Liabilities 2.0% | | 11,614,183 |
| Liability for Trust Certificates, Including Interest | | |
| Expense and Fees Payable (29.8)% | | (173,501,767) |
| Preferred Shares, at Redemption Value (41.9)% | | (243,851,929) |
| Net Assets Applicable to Common Shares 100.0% | | \$ 581,485,765 |

* The cost and unrealized appreciation (depreciation) of investments as of May 31, 2011, as computed for federal income tax purposes, were as follows:

| | |
|-------------------------------|-----------------|
| Aggregate cost | \$ 792,250,434 |
| Gross unrealized appreciation | \$ 40,402,563 |
| Gross unrealized depreciation | \$ (18,786,620) |
| Net unrealized appreciation | \$ 21,615,943 |

- (a) US 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 under Rule 144A of the Securities Act of 1933. These securities may be resold in transactions exempt from registration to qualified institutional investors.
- (c) Security is collateralized by Municipal or US Treasury obligations.
- (d) When-issued security. Unsettled when-issued transactions were as follows:

| Counterparty | Value | Unrealized Appreciation |
|--------------|-------|----------------------------|
|--------------|-------|----------------------------|

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| | | | | |
|---------------------------|----|-----------|----|-------|
| Merrill Lynch & Co., Inc. | \$ | 1,733,057 | \$ | 1,527 |
|---------------------------|----|-----------|----|-------|

- (e) Represents a zero-coupon bond. Rate shown reflects the current yield as of report date.
- (f) Variable rate security. Rate shown is as of report date.
- (g) Securities represent bonds transferred to a tender option bond trust in exchange for which the Fund acquired residual interest certificates. These securities serve as collateral in a financing transaction.
- (h) Investments in companies considered to be an affiliate of the Fund during the period, for purposes of Section 2(a)(3) of the Investment Company Act of 1940, as amended, were as follows:

| Affiliate | Shares Held at August 31, 2010 | Net Activity | Shares Held at May 31, 2011 | Income |
|-----------------------------------|--------------------------------|--------------|-----------------------------|-----------|
| FFI Institutional Tax-Exempt Fund | 4,494,923 | 11,515,767 | 16,010,690 | \$ 15,442 |

- (i) Represents the current yield as of report date.

Financial futures contracts sold as of May 31, 2011 were as follows:

| Contracts | Issue | Exchange | Expiration | Notional Value | Unrealized Depreciation |
|-----------|----------------------------|------------------------|------------|----------------|-------------------------|
| 460 | 10-Year U.S. Treasury Note | Chicago Board of Trade | June 2011 | \$ 54,988,814 | \$ (2,065,562) |

Fair Value Measurements - Various inputs are used in determining the fair value of investments and derivative financial instruments. These inputs are summarized in three broad levels for financial reporting purposes as follows:

Level 1 price quotations in active markets/exchanges for identical assets and liabilities

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 inputs or methodologies used for valuing securities are not necessarily an indication of the risk associated with investing in those securities. For information about the Fund's policy regarding valuation of investments and derivative financial instruments and other significant accounting

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policies, please refer to the Fund's most recent financial statements as contained in its semi-annual report.

The following tables summarize the inputs used as of May 31, 2011 in determining the fair valuation of the Fund's investments and derivative financial instruments:

| Valuation Inputs | Level 1 | Level 2 | Level 3 | Total |
|------------------------------------|---------------|----------------|---------|----------------|
| Assets: | | | | |
| Investments: | | | | |
| Long-Term Investments ¹ | | \$ 971,214,588 | | \$ 971,214,588 |
| Short Term Securities | \$ 16,010,690 | | | 16,010,690 |
| Total | \$ 16,010,690 | \$ 971,214,588 | \$ | \$ 987,225,278 |

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

Schedule of Investments (concluded)

BlackRock MuniVest Fund, Inc. (MVF)

| Valuation Inputs | Level 1 | Level 2 | Level 3 | Total |
|---|----------------|---------|---------|----------------|
| Derivative Financial Instruments ² | | | | |
| Liabilities: | | | | |
| Interest rate contracts | \$ (2,065,562) | | | \$ (2,065,562) |

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

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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
a