

BLACKROCK MUNIVEST FUND INC
Form N-Q
January 29, 2010
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: Anne F. Ackerley, 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: 08/31/2010

Date of reporting period: 11/30/2009

Item 1 Schedule of Investments

BlackRock MuniVest Fund, Inc. (MVF)

Schedule of Investments November 30, 2009 (Unaudited)

(Percentages shown are based on Net Assets)

State	Municipal Bonds	Par (000)	Value
Alabama - 2.3%	Camden IDB Alabama, RB, Weyerhaeuser Co. Project, Series A, 6.13%, 12/01/13 (a)	\$ 2,550	\$ 2,994,899
	Prattville IDB Alabama, RB, International Paper Co. Project, Series A, AMT, 4.75%, 12/01/30	6,500	5,088,265
	Selma IDB Alabama, Refunding RB, International Paper Co. Project, Series B, 5.50%, 5/01/20	5,000	4,910,450
			12,993,614
Arizona - 1.4%	Maricopa County IDA Arizona, RB, Arizona Charter Schools Project, Series A, 6.75%, 7/01/29	4,100	2,797,307
	Pima County IDA, RB, Arizona Charter Schools Project, Series E, 7.25%, 7/01/31	2,025	1,890,459
	Pima County IDA, Refunding RB, Arizona Charter Schools Project, Series I, 6.10%, 7/01/24	490	422,351
	Pima County IDA, Refunding RB, Arizona Charter Schools Project, Series I, 6.30%, 7/01/31	985	823,411
	Pima County IDA, Refunding RB, Arizona Charter Schools Project, Series O, 5.00%, 7/01/26	1,545	1,145,015
	Pima County IDA, Refunding RB, Charter Schools II, Series A, 6.75%, 7/01/21	940	880,113
			7,958,656
California - 12.3%	California HFA, RB, Home Mortgage, Series K, AMT, 5.50%, 2/01/42	4,535	4,577,856
	California Health Facilities Financing Authority, RB, Cedars-Sinai Medical Center, 5.00%, 8/15/39	1,470	1,317,561
	California Health Facilities Financing Authority, Refunding RB, Catholic Healthcare West, Series A, 6.00%, 7/01/34	1,055	1,099,426
	California Health Facilities Financing Authority, Refunding RB, St. Joseph Health System, Series A, 5.75%, 7/01/39	5,000	5,144,450
	California State Public Works Board, RB, Department of Corrections, Series C, 5.50%, 6/01/22	5,000	5,027,250
	California State Public Works Board, RB, Department of Corrections, Series C, 5.50%, 6/01/23	6,000	6,021,300

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.
AMBAC American Municipal Bond Assurance Corp.

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AMT	Alternative Minimum Tax (subject to)
ARB	Airport Revenue Bonds
ARS	Auction Rate Securities
CAB	Capital Appreciation Bonds
EDA	Economic Development Authority
FGIC	Financial Guaranty Insurance Co.
FHA	Federal Housing Administration
FSA	Financial Security Assurance Inc.
GNMA	Government National Mortgage Association
GO	General Obligation Bonds
HDA	Housing Development Authority
HFA	Housing Finance Agency
HRB	Housing Revenue Bonds
IDA	Industrial Development Authority
IDB	Industrial Development Board
MBIA	Municipal Bond Investors Assurance (National Public Finance Guaranty Corp.)
RB	Revenue Bonds
S/F	Single-Family

BlackRock MuniVest Fund, Inc. (MVF)

Schedule of Investments November 30, 2009 (Unaudited)

(Percentages shown are based on Net Assets)

State	Municipal Bonds	Par (000)	Value
	California State Public Works Board, RB, Department of Mental Health, Coalinga, Series A, 5.13%, 6/01/29	\$ 11,075	\$ 9,969,715
	California Statewide Communities Development Authority, RB, Health Facility, Memorial Health Services, Series A, 6.00%, 10/01/23	5,240	5,436,238
	City of Chula Vista California, RB, San Diego Gas & Electric, Series B, AMT, 5.00%, 12/01/27	1,250	1,177,788
	Golden State Tobacco Securitization Corp. California, RB, ARS, Asset-Backed, Series A-3, 7.88%, 6/01/13 (a)	10,725	13,042,243
	Golden State Tobacco Securitization Corp. California, RB, ARS, Asset-Backed, Series A-4, 7.80%, 6/01/13 (a)	3,750	4,551,075
	Golden State Tobacco Securitization Corp. California, RB, ARS, Asset-Backed, Series A-5, 7.88%, 6/01/13 (a)	1,425	1,732,885
	Los Angeles Department of Airports, RB, Series A, 5.25%, 5/15/39 (b)	1,200	1,192,140
	State of California, GO, Various Purpose, 6.50%, 4/01/33	9,700	10,407,324
			<u>70,697,251</u>
Colorado - 1.1%	Colorado Health Facilities Authority, RB, Catholic Health Initiatives, Series D, 6.25%, 10/01/33	2,500	2,694,875
	Colorado Health Facilities Authority, Refunding RB, Evangelical Lutheran, Series A, 5.25%, 6/01/34	3,000	2,789,310
	Colorado Housing & Finance Authority, Refunding RB, S/F Program, Senior Series A-2, AMT, 6.60%, 5/01/28	375	383,479
	Colorado Housing & Finance Authority, Refunding RB, S/F Program, Senior Series A-2, AMT, 7.50%, 4/01/31	160	171,910
			<u>6,039,574</u>
Connecticut - 0.4%	Mohegan Tribe of Indians of Connecticut, RB, Public Improvement, Priority Distribution, 6.25%, 1/01/31	2,810	2,171,961
District of Columbia - 0.2%	Metropolitan Washington Airports Authority, RB, First Senior Lien, Series A, 5.00%, 10/01/39	415	412,614
	Metropolitan Washington Airports Authority, RB, First Senior Lien, Series A, 5.25%, 10/01/44	650	657,670
			<u>1,070,284</u>
Florida - 5.1%	County of Miami-Dade Florida, GO, Building Better Communities Program, Series B, 6.38%, 7/01/28	4,630	5,283,108
	County of Miami-Dade Florida, GO, Building Better Communities Program, Series B-1, 5.63%, 7/01/38	5,000	5,222,850
	County of Miami-Dade Florida, Refunding RB, Miami International Airport, AMT (AGC), 5.00%, 10/01/40	10,000	9,297,100
		6,500	5,902,975

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Hillsborough County IDA, RB, H. Lee Moffitt Cancer
Center Project, Series A, 5.25%, 7/01/37
Miami-Dade County IDA, RB, Waste Management Inc.
Project, Series 1, AMT, 7.00%, 12/01/18

3,200

3,291,200

28,997,233

BlackRock MuniVest Fund, Inc. (MVF)

Schedule of Investments November 30, 2009 (Unaudited)

(Percentages shown are based on Net Assets)

State	Municipal Bonds	Par (000)	Value
Georgia - 2.5%	De Kalb Private Hospital Authority, Refunding RB, Children s Healthcare, 5.25%, 11/15/39 (b)	\$ 3,335	\$ 3,270,768
	Gainesville Redevelopment Authority, Refunding RB, Riverside Military Academy, 5.13%, 3/01/37	1,100	679,800
	Monroe County Development Authority Georgia, Refunding RB, Oglethorpe Power Corp. Scherer, Series A, 6.80%, 1/01/11	4,785	5,026,595
	Municipal Electric Authority of Georgia, RB, Series W, 6.60%, 1/01/18	4,585	5,327,541
	Municipal Electric Authority of Georgia, RB, Series W, 6.60%, 1/01/18 (c)	250	290,473
			14,595,177
Idaho - 0.0%	Idaho Housing & Finance Association, Refunding RB, S/F Mortgage, Senior Series E-2, AMT, 6.90%, 1/01/27	160	160,253
Illinois - 11.2%	City of Chicago Illinois, ARB, General, Third Lien, Series B-2, AMT (MBIA), 6.00%, 1/01/27	17,080	17,381,462
	City of Chicago Illinois, RB, Series C, AMT (GNMA), 7.00%, 3/01/32	60	61,693
	City of Chicago Illinois, Refunding RB, General Airport, Third Lien, Series A, AMT (MBIA), 5.75%, 1/01/19	5,000	5,125,900
	Illinois Finance Authority, RB, Advocate Health Care Network, Series D, 6.50%, 11/01/38	9,700	10,619,366
	Illinois Finance Authority, RB, Community Rehabilitation Providers Facilities, Series A, 6.50%, 7/01/22	2,140	2,183,057
	Illinois Finance Authority, Refunding RB, Northwestern Memorial Hospital, Series A, 6.00%, 8/15/39	9,000	9,663,300
	Regional Transportation Authority, RB, Series A (AMBAC), 7.20%, 11/01/20	3,500	4,275,740
	Regional Transportation Authority, RB, Series C (MBIA), 7.75%, 6/01/20	4,000	5,103,520
	Village of Hodgkins Illinois, RB, MBM Project, AMT, 6.00%, 11/01/23	10,000	10,003,700
Indiana - 6.0%	Indiana Health & Educational Facilities Financing Authority, RB, Clarian Health Obligation, Series A, 5.25%, 2/15/40	8,980	8,255,134
	Indiana Transportation Finance Authority, RB, Series A, 6.80%, 12/01/16	8,195	9,432,609
	Indianapolis Local Public Improvement Bond Bank, Refunding RB, Series D, 6.75%, 2/01/14	15,335	16,958,670

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			34,646,413
Kansas - 0.4%	Sedgwick & Shawnee Counties Kansas, RB, Mortgage-Backed Securities Program, Series A-4, AMT (GNMA), 5.95%, 12/01/33	2,440	2,551,337
Kentucky - 1.1%	Louisville/Jefferson County Metropolitan Government, Refunding RB, Norton Healthcare Inc., 5.25%, 10/01/36	6,795	6,367,866
Louisiana - 2.3%	Louisiana Public Facilities Authority, RB, Franciscan Missionaries, Series A, 5.00%, 8/15/33	8,720	7,663,659
	Louisiana Public Facilities Authority, RB, Franciscan Missionaries, Series A, 5.25%, 8/15/36	6,090	5,507,613
			13,171,272

BlackRock MuniVest Fund, Inc. (MVF)

Schedule of Investments November 30, 2009 (Unaudited)

(Percentages shown are based on Net Assets)

State	Municipal Bonds	Par (000)	Value
Maine - 1.2%	Maine Health & Higher Educational Facilities Authority, RB, Series A, 5.00%, 7/01/39 (b)	\$ 5,000	\$ 4,912,600
	Portland New Public Housing Authority Maine, Refunding RB, Senior Living, Series A, 5.70%, 8/01/21	775	735,676
	Portland New Public Housing Authority Maine, Refunding RB, Senior Living, Series A, 6.00%, 2/01/34	1,190	1,063,491
			6,711,767
Maryland - 0.5%	Maryland Community Development Administration, Refunding RB, Residential, Series D, AMT, 4.90%, 9/01/42	3,250	3,004,625
Massachusetts - 8.7%	Boston Water & Sewer Commission, RB, 9.25%, 1/01/11 (c)	985	1,035,511
	Massachusetts Bay Transportation Authority, Refunding RB, General Transportation System, Series A, 7.00%, 3/01/19	3,010	3,682,253
	Massachusetts HFA, HRB, Series A, AMT, 5.20%, 12/01/37	3,000	2,922,330
	Massachusetts HFA, RB, S/F, Series 130, AMT, 5.00%, 12/01/32	2,500	2,410,625
	Massachusetts HFA, Refunding HRB, Series D, AMT, 4.85%, 6/01/40	3,000	2,721,390
	Massachusetts Water Resources Authority, RB, Series A, 6.50%, 7/15/19 (c)	30,000	36,938,700
			49,710,809
Michigan - 5.6%	City of Detroit Michigan, RB, Second Lien, Series B (FSA), 6.25%, 7/01/36	2,500	2,688,250
	City of Detroit Michigan, RB, Second Lien, Series B (FSA), 7.00%, 7/01/36	1,250	1,401,038
	Michigan State Hospital Finance Authority, Refunding RB, Henry Ford Health System, Series A, 5.25%, 11/15/46	7,950	6,754,638
	Michigan State Hospital Finance Authority, Refunding RB, Hospital, Crittenton, Series A, 5.63%, 3/01/27	1,900	1,886,358
	Michigan State Hospital Finance Authority, Refunding RB, Hospital, Oakwood Obligation Group, Series A, 5.00%, 7/15/25	2,000	1,854,360
	Michigan State Hospital Finance Authority, Refunding RB, Hospital, Sinai Hospital, 6.70%, 1/01/26	1,000	925,880
	Michigan State Hospital Finance Authority, Refunding RB, McLaren Health Care, 5.75%, 5/15/38	7,285	7,304,087
	Michigan State Hospital Finance Authority, Refunding RB, Trinity Health, Series A, 6.00%, 12/01/20	4,200	4,313,778
	4,100	4,738,616	

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Royal Oak Hospital Finance Authority Michigan,
 Refunding RB, William Beaumont Hospital, 8.25%,
 9/01/39

31,867,005

Mississippi - 5.5%

County of Lowndes Mississippi, Refunding RB, Weyerhaeuser Co. Project, Series A, 6.80%, 4/01/22	9,160	9,845,992
County of Lowndes Mississippi, Refunding RB, Weyerhaeuser Co. Project, Series B, 6.70%, 4/01/22	4,500	4,798,845
Mississippi Business Finance Corp., Refunding RB, System Energy Resource Inc. Project, 5.88%, 4/01/22	15,000	14,835,450

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(Percentages shown are based on Net Assets)

State	Municipal Bonds	Par (000)	Value
	Mississippi Business Finance Corp., Refunding RB, System Energy Resource Inc. Project, 5.90%, 5/01/22	\$ 2,250	\$ 2,225,317
			31,705,604
Missouri - 0.4%	Missouri Development Finance Board, Refunding RB, Branson, Series A, 5.50%, 12/01/32	2,600	2,476,266
New Hampshire - 0.5%	New Hampshire Health & Education Facilities Authority, Refunding RB, Elliot Hospital, Series B, 5.60%, 10/01/22	2,525	2,557,774
New Jersey - 6.2%	New Jersey EDA, RB, Cigarette Tax, 5.50%, 6/15/24	9,080	8,831,934
	New Jersey EDA, RB, Cigarette Tax, 5.75%, 6/15/29	2,885	2,767,350
	New Jersey EDA, RB, Cigarette Tax, 5.75%, 6/15/34	4,695	4,368,885
	New Jersey EDA, Refunding RB, School Facilities Construction, Series AA, 5.25%, 12/15/33	10,000	10,426,600
	New Jersey State Housing & Mortgage Finance Agency, RB, Series AA, 6.38%, 10/01/28	1,530	1,684,056
	Tobacco Settlement Financing Corp. New Jersey, RB, 7.00%, 6/01/13 (a)	5,980	7,157,821
			35,236,646
New York - 3.6%	Metropolitan Transportation Authority, RB, Series 2008C, 6.25%, 11/15/23	3,245	3,733,405
	Metropolitan Transportation Authority, RB, Series 2008C, 6.50%, 11/15/28	14,925	17,046,290
			20,779,695
North Carolina - 0.4%	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	2,415,054
Ohio - 4.7%	Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Senior Series A-2, 6.50%, 6/01/47	27,500	21,438,450
	Ohio Air Quality Development Authority, RB, Ohio Valley Electric Corp., 5.63%, 10/01/19	1,770	1,769,982
	State of Ohio, RB, Cleveland Clinic Health, Series B, 5.50%, 1/01/34	3,500	3,595,515
			26,803,947
Pennsylvania - 1.0%	Lycoming County Authority, Refunding RB, Susquehanna Health System Project, Series A, 5.75%, 7/01/39	3,950	3,771,815

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	Philadelphia Authority for Industrial Development, RB, Arbor House Inc. Project, Series E, 6.10%, 7/01/33	1,000	904,170
	Philadelphia Authority for Industrial Development, RB, Rieder House Project, Series A, 6.10%, 7/01/33	1,355	1,225,150
			5,901,135
Puerto Rico - 2.8%	Puerto Rico Sales Tax Financing Corp., RB, First Sub-Series A, 6.38%, 8/01/39	13,000	13,703,430
	Puerto Rico Sales Tax Financing Corp., Refunding RB, CAB, Series A (MBIA), 5.72%, 8/01/41 (d)	15,000	2,283,450
			15,986,880

BlackRock MuniVest Fund, Inc. (MVF)

Schedule of Investments November 30, 2009 (Unaudited)

(Percentages shown are based on Net Assets)

State	Municipal Bonds	Par (000)	Value
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	\$ 895,530
	County of Richland South Carolina, Refunding RB, International Paper Co. Project, AMT, 6.10%, 4/01/23	5,000	4,985,950
			<u>5,881,480</u>
South Dakota - 0.4%	South Dakota Health & Educational Facilities Authority, RB, Sanford Health, 5.00%, 11/01/40	2,605	2,471,546
Texas - 13.0%	Brazos River Authority, Refunding RB, Texas Utility Co., Series A, AMT, 7.70%, 4/01/33	3,055	1,774,283
	Brazos River Harbor Navigation District, Refunding RB, Dow Chemical Co. Project, Series A7, AMT, 6.63%, 5/15/33	11,460	11,508,590
	City of Houston Texas, RB, Senior Lien, Series A, 5.50%, 7/01/34	8,335	8,681,736
	Guadalupe-Blanco River Authority, RB, EI du Pont de Nemours & Co. Project, AMT, 6.40%, 4/01/26	10,250	10,256,047
	Gulf Coast Waste Disposal Authority, Refunding RB, Series A, AMT, 6.10%, 8/01/24	4,000	3,965,200
	Harris County Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, Series B, 7.13%, 12/01/31	3,500	3,904,845
	Harris County Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, Series B, 7.25%, 12/01/35	5,400	6,007,176
	Harris County-Houston Sports Authority, Refunding RB, Senior Lien, Series G (MBIA), 5.75%, 11/15/20	5,500	5,599,825
	Houston Industrial Development Corp., RB, Senior, Air Cargo, AMT, 6.38%, 1/01/23	1,790	1,485,485
	La Vernia Higher Education Finance Corp., RB, KIPP Inc., 6.25%, 8/15/39	925	916,259
	Matagorda County Navigation District No. 1 Texas, Refunding RB, CenterPoint Energy Project, 5.60%, 3/01/27	9,355	9,052,834
	North Texas Tollway Authority, Refunding RB, First Tier, Series A, 6.25%, 1/01/39	3,500	3,657,535
	Port of Corpus Christi Authority of Nueces County Texas, Refunding RB, Celanese Project, Series A, 6.45%, 11/01/30	2,700	2,687,553
	Red River Authority Texas, Refunding RB, Celanese Project, Series B, AMT, 6.70%, 11/01/30	5,000	4,997,950
U.S. Virgin Islands - 1.4%	United States Virgin Islands, Refunding RB, Senior Secured, Hovensa Coker Project, AMT, 6.50%, 7/01/21	8,000	8,124,080

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Vermont - 0.2%	Vermont Educational & Health Buildings Financing Agency, RB, Developmental & Mental Health, Series A, 6.38%, 6/15/22	1,000	954,760
Virginia - 2.6%	Chesterfield County IDA, Refunding RB, Virginia Electric & Power Co., Series A, 5.88%, 6/01/17	1,425	1,484,351
	City of Norfolk Virginia, Refunding RB, Series B (AMBAC), 5.50%, 2/01/31	4,225	4,066,267
	Fairfax County EDA, Refunding RB, Goodwin House Inc., 5.13%, 10/01/37	2,000	1,764,420

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BlackRock MuniVest Fund, Inc. (MVF)

Schedule of Investments November 30, 2009 (Unaudited)

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State	Municipal Bonds	Par (000)	Value
	Fairfax County EDA, Refunding RB, Goodwin House Inc., 5.13%, 10/01/42	\$ 7,015	\$ 6,093,369
	Virginia HDA, Refunding RB, Sub-Series A3, AMT, 5.05%, 7/01/26	1,325	1,329,664
			14,738,071
Washington - 4.8%	Energy Northwest, Refunding RB, Series B, 7.13%, 7/01/16	14,320	18,168,930
	Seattle Housing Authority Washington, HRB, Replacement Housing Projects, 6.13%, 12/01/32	2,265	2,007,130
	Washington Health Care Facilities Authority, Refunding RB, Catholic Health Initiatives, Series D, 6.38%, 10/01/36	7,000	7,540,190
			27,716,250
West Virginia - 0.4%	West Virginia Hospital Finance Authority, Refunding RB, Charleston, Series A, 5.63%, 9/01/32	2,500	2,429,475
Wisconsin - 2.5%	City of Milwaukee Wisconsin, RB, Senior, Air Cargo, AMT, 6.50%, 1/01/25	1,720	1,422,784
	Wisconsin Health & Educational Facilities Authority, RB, Mortgage, Hudson Memorial Hospital (FHA), 5.70%, 1/15/29	4,500	4,558,635
	Wisconsin Health & Educational Facilities Authority, RB, SynergyHealth Inc., 6.00%, 11/15/32	3,040	3,108,826
	Wisconsin Housing & EDA, Refunding RB, Series A, AMT, 5.63%, 3/01/31	5,255	5,382,066
			14,472,311
Wyoming - 0.8%	County of Sweetwater Wyoming, Refunding RB, Idaho Power Co. Project, 5.25%, 7/15/26	4,500	4,605,255
	Total Municipal Bonds - 114.5%		656,884,382
	Municipal Bonds Transferred to Tender Option Bond Trusts (e)		
Arizona - 0.6%	Phoenix Civic Improvement Corp., RB, Junior Lien, Series A, 5.00%, 7/01/34	3,500	3,615,640
California - 1.9%	Los Angeles Community College District California, GO, Election of 2008, Series A, 6.00%, 8/01/33	9,586	10,591,834

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Connecticut - 2.2%	Connecticut State Health & Educational Facility Authority, RB, Yale University, Series Z-3, 5.05%, 7/01/42	12,000	12,568,920
District of Columbia - 1.4%	District of Columbia Water & Sewer Authority, RB, Series A, 5.50%, 10/01/39	7,495	7,929,495
Illinois - 9.1%	City of Chicago Illinois, Refunding RB, Second Lien (FSA), 5.25%, 11/01/33	1,330	1,386,258
	Illinois Finance Authority, RB, University of Chicago, Series B, 6.25%, 7/01/38	10,000	11,211,800
	Illinois State Toll Highway Authority, RB, Series B, 5.50%, 1/01/33	6,999	7,434,466
	Kane & De Kalb Counties Community Unit School District No. 302 Illinois, GO, School (FGIC), 5.75%, 2/01/14	10,460	12,333,177
	Metropolitan Pier & Exposition Authority Illinois, Refunding RB, McCormick Place Expansion, Series B (MBIA), 5.75%, 6/15/23	18,554	20,055,254
			52,420,955

BlackRock MuniVest Fund, Inc. (MVF)

Schedule of Investments November 30, 2009 (Unaudited)

(Percentages shown are based on Net Assets)

State	Municipal Bonds Transferred to Tender Option Bond Trusts (e)	Par (000)	Value
Kentucky - 4.3%	Kentucky Economic Development Finance Authority, Refunding RB, St. Elizabeth, Series A, 5.50%, 5/01/39 (b)	\$ 8,003	\$ 8,008,219
	Lexington-Fayette Urban County Airport Board, Refunding RB, Series A, 5.00%, 7/01/27	7,001	7,405,686
	Louisville & Jefferson County Metropolitan Government Parking Authority, RB, Series A, 5.38%, 12/01/39	9,195	9,399,129
			24,813,034
Maryland - 0.9%	Maryland State Transportation Authority, RB, Transportation Facility Project (FSA), 5.00%, 7/01/41	4,710	4,865,854
Massachusetts - 3.6%	Massachusetts School Building Authority, RB, Series A (FSA), 5.00%, 8/15/30	20,000	20,865,200
Nevada - 3.0%	Clark County Water Reclamation District, GO, Series B, 5.75%, 7/01/34	15,789	17,044,206
New York - 5.1%	New York City Municipal Water Finance Authority, RB, Series DD, 5.00%, 6/15/37	24,199	24,567,979
	New York City Municipal Water Finance Authority, RB, Series FF-2, 5.50%, 6/15/40	4,154	4,453,548
			29,021,527
North Carolina - 3.2%	North Carolina Capital Facilities Finance Agency, Refunding RB, Duke University Project, Series A, 5.00%, 10/01/41	12,678	13,002,040
	North Carolina Capital Facilities Finance Agency, Refunding RB, Wake Forest University, 5.00%, 1/01/38	5,000	5,184,550
			18,186,590
Ohio - 2.7%	County of Montgomery Ohio, Refunding RB, Catholic Healthcare, Series A, 5.50%, 5/01/34	5,470	5,635,905
	Ohio State Higher Educational Facility Commission, Refunding RB, Hospital, Cleveland Clinic Health, Series A, 5.25%, 1/01/33	4,400	4,475,152
	State of Ohio, RB, Cleveland Clinic Health, Series B, 5.50%, 1/01/34	5,000	5,136,450
			15,247,507

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South Carolina - 0.6%	South Carolina State Housing Finance & Development Authority, Refunding RB, Series B-1, 5.55%, 7/01/39	3,269	3,332,565
Texas - 6.9%	Harris County Health Facilities Development Corp., Refunding RB, School Health Care System, Series B, 5.75%, 7/01/27 (c)	20,970	25,629,324
	Texas Department of Housing & Community Affairs, RB, Mortgage, Series B, AMT (GNMA), 5.25%, 9/01/32	8,373	8,350,338
	Texas State University Systems, Refunding RB (FSA), 5.00%, 3/15/30	5,667	5,832,648
			39,812,310
Virginia - 0.4%	Fairfax County IDA Virginia, Refunding RB, Health Care, Inova Health System, Series A, 5.50%, 5/15/35	2,099	2,173,628

BlackRock MuniVest Fund, Inc. (MVF)

Schedule of Investments November 30, 2009 (Unaudited)

(Percentages shown are based on Net Assets)

State	Municipal Bonds Transferred to Tender Option Bond Trusts (e)	Par (000)	Value
Washington - 9.3%	Central Puget Sound Regional Transportation Authority Washington, RB, Series A, 5.00%, 11/01/36	\$ 11,000	\$ 11,241,285
	Central Puget Sound Regional Transportation Authority Washington, RB, Series A (FSA), 5.00%, 11/01/32	14,007	14,431,402
	Energy Northwest, Refunding RB, Columbia Generating, Series A (MBIA), 5.75%, 7/01/18	10,660	11,669,502
	Energy Northwest, Refunding RB, Project No. 1, Series B (MBIA), 6.00%, 7/01/17	14,700	16,290,393
			53,632,582
Wisconsin - 1.0%	Wisconsin Health & Educational Facilities Authority, Refunding RB, Froedtert & Community Health Inc., 5.25%, 4/01/39	6,099	5,886,527
	Total Municipal Bonds Transferred to Tender Option Bond Trusts - 56.2%		322,008,374
	Total Long-Term Investments (Cost - \$956,622,166) - 170.7%		978,892,756
	Short-Term Securities	Shares	
	FFI Institutional Tax-Exempt Fund, 0.23% (f)	8,600,000	8,600,000
	Total Short-Term Securities (Cost - \$8,600,000) - 1.5%		8,600,000
	Total Investments (Cost - \$965,222,166*) - 172.2%		987,492,756
	Liabilities in Excess of Other Assets - (0.1)%		(244,756)
	Liability for Trust Certificates, Including Interest Expense and Fees Payable - (29.6)%		(169,844,620)
	Preferred Shares, at Redemption Value - (42.5)%		(243,850,924)
	Net Assets Applicable to Common Shares - 100.0%		\$ 573,552,456

* The cost and unrealized appreciation (depreciation) of investments as of November 30, 2009, as computed for federal income tax purposes, were as follows:

Aggregate cost \$ 792,242,313

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Gross unrealized appreciation	\$ 51,049,528
Gross unrealized depreciation	(25,489,307)
	<hr/>
Net unrealized appreciation	\$ 25,560,221
	<hr/>

- (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) When-issued security. Unsettled when-issued transactions were as follows:

Counterparty	Value	Unrealized Appreciation
JPMorgan Securities, Inc.	\$ 8,275,905	\$ 32,117
Morgan Stanley Capital Services, Inc.	\$ 6,104,740	\$ 107,524
UBS AG	\$ 3,003,082	\$ 13,428

- (c) Security is collateralized by Municipal or US Treasury Obligations.
- (d) Represents a zero-coupon bond. Rate shown reflects the current yield as of report date.
- (e) 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.

BlackRock MuniVest Fund, Inc. (MVF)
Schedule of Investments November 30, 2009 (Unaudited)

- (f) Investments in companies considered to be an affiliate of the Fund, for purposes of Section 2(a)(3) of the Investment Company Act of 1940, were as follows:

Affiliate	Net Activity	Income
FFI Institutional Tax-Exempt Fund	\$ 4,495,636	\$ 2,669

Fair Value Measurements - Various inputs are used in determining the fair value of investments, which are 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)

The inputs or methodology 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 other significant accounting policies, please refer to the Fund's most recent financial statements as contained in its annual report.

The following table summarizes the inputs used as of November 30, 2009 in determining the fair valuation of the Fund's investments:

Valuation Inputs	Investments in Securities
	Assets
Level 1 - Short-Term Securities	\$ 8,600,000
Level 2 - Long-Term Investments ¹	978,892,756
Level 3	
Total	\$ 987,492,756

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

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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 13(a)-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 MuniVest Fund, Inc.

By: /s/ Anne F. Ackerley
Anne F. Ackerley
Chief Executive Officer of
BlackRock MuniVest Fund, Inc.

Date: January 22, 2010

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/ Anne F. Ackerley
Anne F. Ackerley
Chief Executive Officer (principal executive officer) of
BlackRock MuniVest Fund, Inc.

Date: January 22, 2010

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

Date: January 22, 2010