

BLACKROCK SENIOR HIGH INCOME FUND, INC.

Form N-Q

July 24, 2009

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 811-07456

Name of Fund: BlackRock Senior High Income Fund, Inc. (ARK)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: Donald C. Burke, Chief Executive Officer, BlackRock Senior High Income Fund, Inc., 800 Scudders Mill Road, Plainsboro, NJ, 08536. Mailing address: P.O. Box 9011, Princeton, NJ, 08543-9011

Registrant's telephone number, including area code: (800) 882-0052, Option 4

Date of fiscal year end: 02/28/2010

Date of reporting period: 05/31/2009

Item 1 – Schedule of Investments

BlackRock Senior High Income Fund, Inc.

Schedule of Investments May 31, 2009 (Unaudited)

(Percentages shown are based on Net Assets)

Industry	Corporate Bonds	Par (000)	Value
Aerospace & Defense - 3.1%	Hawker Beechcraft Acquisition Co. LLC, 8.50%, 4/01/15	USD 1,600	\$ 672,000
	Moog, Inc., 7.25%, 6/15/18 (a)	5,000	4,700,000
			5,372,000
Auto Components - 2.4%	The Goodyear Tire & Rubber Co., 8.625%, 12/01/11	4,000	3,890,000
	Lear Corp., 8.75%, 12/01/16	1,015	263,900
	Venture Holdings Co. LLC 12%, 6/01/09 (b)(c)	700	
	Venture Holdings Co. LLC Series B, 9.50%, 7/01/05 (b)(c)	3,325	333
			4,154,233
Building Products - 4.5%	Building Materials Corp. of America, 7.75%, 8/01/14	4,000	3,500,000
	CPG International I, Inc., 8.561%, 7/01/12 (d)	3,500	1,855,000
	CPG International I, Inc., 10.50%, 7/01/13	1,500	787,500
	Momentive Performance Materials, Inc. Series WI, 9.75%, 12/01/14	1,175	446,500
	Ply Gem Industries, Inc., 11.75%, 6/15/13	2,065	1,321,600
			7,910,600
Chemicals - 3.5%	American Pacific Corp., 9%, 2/01/15	610	532,225
	GEO Specialty Chemicals Corp., 7.50%, 3/31/15 (a)(e)(f)	1,822	1,184,440
	GEO Specialty Chemicals, Inc., 10%, 3/31/15	1,839	1,195,168
	Wellman Holdings, Inc. Second Lien Subordinate Note, 10%, 1/29/19 (a)(e)	2,383	2,383,000
	Wellman Holdings, Inc. Third Lien Subordinate Note, 5%, 1/29/19 (e)	1,557	778,500
Commercial Services & Supplies - 0.5%	ARAMARK Corp., 8.50%, 2/01/15	970	925,137
Construction Materials - 1.0%	Nortek, Inc., 10%, 12/01/13	2,630	1,702,925
Containers & Packaging - 2.8%	Berry Plastics Holding Corp., 4.504%, 9/15/14 (d)	100	65,500
	Clondalkin Acquisition BV, 2.629%, 12/15/13 (a)(d)	2,000	1,320,000
	Packaging Dynamics Finance Corp., 10%, 5/01/16 (a)	4,285	1,435,475
	Smurfit Kappa Funding Plc, 7.75%, 4/01/15	1,050	714,000
	Smurfit-Stone Container Enterprises, Inc., 8.375%, 7/01/12 (b)(c)	800	252,000
	Smurfit-Stone Container Enterprises, Inc., 8%, 3/15/17 (b)(c)	1,300	422,500
	Wise Metals Group LLC, 10.25%, 5/15/12	2,000	665,000
	Ford Motor Credit Co. LLC, 3.889%, 1/13/12 (d)	1,340	1,058,600

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Diversified Financial Services -

0.9%	Highland Legacy Ltd., 7.278%, 6/01/11 (a)(d)	4,076	611,377
			<u>1,669,977</u>

Diversified Telecommunication

Services - 2.4%	Nordic Telephone Co. Holdings ApS, 8.875%, 5/01/16 (a)	1,200	1,200,000
	Qwest Corp., 8.375%, 5/01/16 (a)	3,000	2,947,500
			<u>4,147,500</u>

Electric Utilities - 0.4%	NSG Holdings LLC, 7.75%, 12/15/25 (a)	1,000	805,000
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Food & Staples Retailing - 0.2%	SUPERVALU, Inc., 8%, 5/01/16	USD 370	\$ 362,600
Food Products - 0.8%	Tyson Foods, Inc., 10.50%, 3/01/14 (a)	1,340	1,420,400
Health Care Providers & Services - 1.0%	Community Health Systems, Inc. Series WI, 8.875%, 7/15/15	1,880	1,858,850
Hotels, Restaurants & Leisure - 7.0%	American Real Estate Partners LP, 7.125%, 2/15/13	3,000	2,565,000
	CCM Merger, Inc., 8%, 8/01/13 (a)	4,125	2,846,250
	Harrah's Operating Co., Inc., 10%, 12/15/18 (a)	4,674	3,119,895
	Little Traverse Bay Bands of Odawa Indians, 10.25%, 2/15/14 (a)	1,210	523,325
	MGM Mirage, 10.375%, 5/15/14 (a)	400	412,000
	MGM Mirage, 11.125%, 11/15/17 (a)	750	785,625
	Shingle Springs Tribal Gaming Authority, 9.375%, 6/15/15 (a)	690	400,200
	Snoqualmie Entertainment Authority, 5.384%, 2/01/14 (a)(d)	500	261,250
	Tropicana Entertainment LLC Series WI, 9.625%, 12/15/14 (b)(c)	220	1,100
	Tunica-Biloxi Gaming Authority, 9%, 11/15/15 (a)	845	733,037
	Universal City Florida Holding Co. I, 5.778%, 5/01/10 (d)	1,000	715,000
			12,362,682
Household Durables - 0.4%	KB Home, 6.375%, 8/15/11	695	667,200
IT Services - 1.9%	First Data Corp., 9.875%, 9/24/15	5,000	3,400,000
Independent Power Producers & Energy Traders - 4.3%	Calpine Construction Finance Co. LP, 8%, 6/01/16 (a)	750	713,437
	Dynegy Holdings, Inc., 8.375%, 5/01/16	2,000	1,610,000
	Energy Future Holdings Corp., 11.25%, 11/01/17 (f)	1,590	819,682
	Texas Competitive Electric Holdings Co. LLC, 10.25%, 11/01/15	6,510	3,857,175
	Texas Competitive Electric Holdings Co. LLC, 11.25%, 11/01/16 (f)	1,267	495,789
			7,496,083
Industrial Conglomerates - 1.3%	Sequa Corp., 11.75%, 12/01/15 (a)	2,550	1,134,750
	Sequa Corp., 13.50%, 12/01/15 (a)(f)	3,590	1,162,357
			2,297,107
Machinery - 1.7%	ESCO Corp., 4.504%, 12/15/13 (a)(d)	1,540	1,108,800
	Ingersoll-Rand Global Holding Co. Ltd., 9.50%, 4/15/14	550	596,120
	RBS Global, Inc., 8.875%, 9/01/16	835	605,375

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	Titan International, Inc., 8%, 1/15/12	770	662,200
			2,972,495
Marine - 0.1%	Navios Maritime Holdings, Inc., 9.50%, 12/15/14	324	247,860
Media - 4.1%	Affinion Group, Inc., 10.125%, 10/15/13	515	484,100
	CSC Holdings, Inc., 8.50%, 4/15/14 (a)	390	388,050
	Charter Communications Holdings LLC, 10%, 4/01/09 (b)(c)	1,121	5,605

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	Charter Communications Holdings LLC, 11.125%, 1/15/11 (b)(c)	USD 1,319	\$ 65,950
	Charter Communications Holdings LLC, 10%, 5/15/11 (b)(c)	660	3,300
	Intelsat Corp., 9.25%, 8/15/14 (a)	3,500	3,377,500
	Local Insight Regatta Holdings, Inc., 11%, 12/01/17	1,244	335,880
	Nielsen Finance LLC, 11.625%, 2/01/14 (a)	2,500	2,475,000
			<u>7,135,385</u>
Metals & Mining - 2.0%	Aleris International, Inc., 9%, 12/15/14 (b)(c)(f)	840	8,400
	RathGibson, Inc., 11.25%, 2/15/14	2,175	576,375
	Ryerson, Inc., 8.403%, 11/01/14 (a)(d)	3,360	1,852,200
	Teck Resources Ltd., 10.75%, 5/15/19 (a)	1,075	1,105,906
			<u>3,542,881</u>
Oil, Gas & Consumable Fuels - 6.9%	Chesapeake Energy Corp., 9.50%, 2/15/15	935	923,312
	Chesapeake Energy Corp., 6.875%, 1/15/16	4,000	3,450,000
	Compton Petroleum Finance Corp., 7.625%, 12/01/13	1,475	737,500
	Denbury Resources, Inc., 9.75%, 3/01/16	2,500	2,550,000
	Forest Oil Corp., 8.50%, 2/15/14 (a)	1,285	1,240,025
	Sabine Pass LNG LP, 7.50%, 11/30/16	2,985	2,417,850
	SandRidge Energy, Inc., 4.833%, 4/01/14 (d)	1,000	790,309
			<u>12,108,996</u>
Paper & Forest Products - 4.2%	Abitibi-Consolidated, Inc., 0%, 6/15/11 (b)(c)(d)	2,755	261,725
	Ainsworth Lumber Co. Ltd., 11%, 7/29/15 (a)	3,162	865,581
	Georgia-Pacific LLC, 8.25%, 5/01/16 (a)	1,630	1,605,550
	NewPage Corp., 7.278%, 5/01/12 (d)	5,175	2,509,875
	Verso Paper Holdings LLC, 11.50%, 7/01/14 (a)	315	289,699
	Verso Paper Holdings LLC Series B, 4.778%, 8/01/14 (d)	3,300	1,782,000
			<u>7,314,430</u>
Pharmaceuticals - 2.0%	Angiotech Pharmaceuticals, Inc., 4.418%, 12/01/13 (d)	2,690	1,936,800
	Elan Finance Plc, 7.75%, 11/15/11	1,650	1,485,000
			<u>3,421,800</u>
Real Estate Management & Development - 0.3%	Realty Corp., 10.50%, 4/15/14	1,200	441,000
Semiconductors & Semiconductor Equipment - 1.2%	Avago Technologies Finance Pte. Ltd., 6.168%, 6/01/13 (d)	766	647,270
	Spansion, Inc., 4.386%, 6/01/13 (a)(b)(c)	2,180	1,373,400

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			2,020,670
Specialty Retail - 0.8%	Michaels Stores, Inc., 10%, 11/01/14	1,055	759,600
	United Auto Group, Inc., 7.75%, 12/15/16	915	704,550
			1,464,150
Textiles, Apparel & Luxury Goods - 1.3%	Quiksilver, Inc., 6.875%, 4/15/15	3,525	2,344,125
Wireless Telecommunication Services - 3.3%	Cricket Communications, Inc., 7.75%, 5/15/16 (a)	1,250	1,207,812
	Crown Castle International Corp., 9%, 1/15/15	225	227,250
	MetroPCS Wireless, Inc., 9.25%, 11/01/14 (a)	2,000	2,000,000
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Industry	Corporate Bonds	Par (000)	Value
	Orascom Telecom Finance SCA, 7.875%, 2/08/14 (a)	USD 395	\$ 323,900
	Sprint Capital Corp., 7.625%, 1/30/11	2,000	1,975,000
			5,733,962
	Total Corporate Bonds - 66.3%		116,247,856
	Floating Rate Loan Interests		
Aerospace & Defense - 2.0%	Hawker Beechcraft Acquisition Co. LLC Letter of Credit Facility Deposit, 1.12% - 2.10%, 3/26/14	294	168,600
	Hawker Beechcraft Acquisition Co. LLC Term Loan, 2.319% - 3.22%, 3/26/14	4,990	2,863,951
	IAP Worldwide Services, Inc. Term Loan (First-Lien), 7.25%, 12/30/12	791	482,275
			3,514,826
Airlines - 0.6%	Delta Air Lines, Inc. Credit-Linked Deposit Loan, 0.261% - 2.414%, 4/30/12	1,225	1,037,167
Auto Components - 3.1%	Allison Transmission, Inc. Term Loan, 3.12% - 3.15%, 8/07/14	5,080	3,917,781
	Dana Holding Corp. Term Advance, 7.25%, 1/31/15	1,527	722,155
	The Goodyear Tire & Rubber Co. Loan (Second Lien), 2.07%, 4/30/14	500	418,047
	Intermet Corp. Synth LC, 5.12%, 11/09/10 (b)(c)	378	151,341
	Intermet Corp. Synth LC PIK, 6.293%, 11/09/10 (b)(c)	32	12,769
	Intermet Corp. Term Loan B, 6.293%, 11/08/10 (b)(c)	508	203,062
	Intermet Corp. Term Loan B PIK, 6.293%, 11/08/10 (b)(c)(f)	138	55,333
	Metaldyne Co. LLC DF Loan, 0.166% - 8.75%, 1/11/12 (b)(c)	58	6,865
	Metaldyne Co. LLC Initial Tranche B Term Loan, 6.188%, 1/13/14 (b)(c)	393	46,809
			5,534,162
Automobiles - 0.2%	General Motors Corp. Secured Term Loan, 8%, 11/29/13	371	347,693
Building Products - 1.6%	Building Materials Corp. of America Term Loan Advance, 3.063%, 2/22/14	1,984	1,673,279
	Stile Acquisition Corp. Canadian Term Loan, 4.75%, 4/06/13	1,086	555,910
	Stile U.S. Acquisition Corp. U.S. Term Loan, 4.25%, 4/06/13	1,105	565,633
			2,794,822
Chemicals - 3.7%	Ashland, Inc. Term Loan B, 7.65%, 5/13/14	496	495,889
	Nalco Co. Term Loan B, 6.50%, 5/06/16	1,025	1,026,922
		4,963	3,746,688

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PQ Corp. (fka Niagara Acquisition, Inc.) Term Loan (First
Lien), 4.29% - 4.47%, 7/31/14
Solutia Inc. Loan, 7.25%, 2/28/14

1,489 1,198,930

6,468,429

**Commercial Services &
Supplies - 0.4%**

John Maneely Co. Term Loan, 3.599% - 4.389%, 12/09/13

871 681,558

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Industry	Floating Rate Loan Interests	Par (000)	Value
Construction & Engineering - 0.2%	Brand Energy & Infrastructure Services, Inc. (FR Brand Acquisition Corp.) Synthetic L/C Term Loan (First Lien), 1.125%, 2/07/14	USD 500	\$ 390,000
Construction Materials - 0.3%	Headwaters Inc. Term Loan B1 (First Lien), 6.22%, 4/30/11	735	477,586
Containers & Packaging - 0.3%	Smurfit-Stone Container DIP Term Loan, 10%, 7/28/10	602	607,119
Distributors - 0.4%	Keystone Automotive Operations, Inc. Loan, 0.335% - 3.25%, 1/12/12	1,423	640,222
Diversified Consumer Services - 0.9%	Coinmach Corp. Term Loan, 3.31% - 3.76%, 11/14/14	1,980	1,504,762
Diversified Financial Services - 0.1%	J.G. Wentworth, LLC Loan (First Lien), 3.47%, 4/04/14 (b)(c)	3,200	277,334
Diversified Telecommunication Services - 0.2%	Paetec Communications Term Loan, 2.819%, 2/28/13	350	316,750
Electrical Equipment - 0.2%	Generac Acquisition Corp. First Lien Term Loan, 2.911%, 11/10/13	554	380,310
Energy Equipment & Services - 0.9%	Dresser, Inc. Term B Loan, 3.104%, 5/04/14	206	178,515
	Dresser, Inc. Term Loan (Second Lien), 6.085%, 5/04/15	1,000	608,750
	MEG Energy Corp. Delayed Draw Term Loan, 3.22%, 4/02/13	494	425,780
	MEG Energy Corp. Initial Term Loan, 3.22%, 4/03/13	485	417,706
			1,630,751
Food & Staples Retailing - 0.2%	McJunkin Corp. Term Loan, 4.47%, 1/31/14	350	311,850
Food & Tobacco - 0.2%	WM. Bolthouse Farms, Inc. Second Lien Term Loan, 5.819%, 12/16/13	375	285,938
Food Products - 0.9%	Dole Food Co., Inc. Credit-Linked Deposit, 1.139%, 4/12/13	828	821,288
	Solvest, Ltd. (Dole) Tranche C Term Loan, 8%, 4/12/13	705	699,585
			1,520,873
Health Care Equipment & Supplies - 0.5%	DJO Finance LLC (ReAble Therapeutics Finance LLC) Term Loan, 3.319% - 4.22%, 5/20/14	987	871,963
Health Care Providers & Services - 3.3%	CHS/Community Health Systems, Inc. Funded Term Loan, 2.569%, 7/25/14	1,397	1,239,211

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	DaVita, Inc. Term Loan B, 1.82%, 10/05/12	550	513,648
	Fresenius AG Term Loan B1, 6.75%, 7/06/14	650	649,407
	Fresenius AG Term Loan B2, 6.75%, 7/06/14	350	349,843
	HCA Inc. Tranche A-1 Term Loan, 2.97% - 3.22%, 11/17/12	3,475	3,108,940
			5,861,049
Hotels, Restaurants & Leisure - 1.7%	Harrah s Operating Co., Inc. Term B-2 Loan, 3.319% - 4.092%, 1/28/15	990	758,725
	Las Vegas Sands, LLC Delayed Draw I Term Loan, 2.07%, 5/23/14	172	122,813
	Las Vegas Sands, LLC Tranche B Term Loan, 2.07%, 5/23/14	555	397,041
	QCE, LLC (Quiznos) Term Loan (Second Lien), 3.50%, 11/05/13	973	620,455

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Industry	Floating Rate Loan Interests	Par (000)	Value
	VML US Finance LLC New Project Term Loan, 2.57%, 5/25/13	USD 1,000	\$ 834,000
	VML US Finance LLC Term B Delayed Draw Project Loan, 2.57%, 5/25/12	250	208,500
			2,941,534
IT Services - 2.1%	Audio Visual Services Group, Inc. Loan (Second Lien), 7.72%, 8/28/14	510	32,297
	Audio Visual Services Group, Inc. Tranche B Term Loan (First Lien), 3.47%, 2/28/14	1,970	758,450
	Ceridian Corp U.S. Term Loan, 3.316%, 11/09/14	1,483	1,091,809
	First Data Corp. Initial Tranche B-2 Term Loan, 3.059% - 3.069%, 9/24/14	1,231	902,178
	First Data Corp. Initial Tranche B-3 Term Loan, 3.059% - 3.069%, 9/24/14	392	287,632
	RedPrairie Corp. Term Loan, 3.688%, 7/20/12	607	436,792
	RedPrairie Corp. Term Loan, 5.25%, 7/20/12	260	187,421
			3,696,579
Independent Power Producers & Energy Traders - 0.3%	Texas Competitive Electric Holdings Co., LLC (TXU) Initial Tranche B-2 Term Loan, 3.819% - 3.882%, 10/10/14	488	335,661
	Texas Competitive Electric Holdings Co., LLC (TXU) Initial Tranche B-3 Term Loan, 3.819% - 3.882%, 10/10/14	229	156,411
			492,072
Insurance - 0.1%	Alliant Holdings I, Inc. Term Loan, 4.232%, 8/21/14	143	121,878
Internet & Catalog Retail - 0.4%	FTD Group, Inc. Tranche B Term Loan, 6.75%, 8/04/14	746	716,400
Leisure Equipment & Products - 0.7%	Fender Musical Instruments Corp. Delayed Draw Loan, 2.67%, 6/09/14	662	410,576
	Fender Musical Instruments Corp. Initial Loan, 3.47%, 6/09/14	1,311	812,878
			1,223,454
Life Sciences Tools & Services - 0.4%	Life Technologies Corp. Term B Facility, 5.25%, 11/20/15	750	748,031
Machinery - 2.9%	LN Acquisition Corp. (Lincoln Industrial) Initial Term Loan (Second Lien), 6.10%, 1/09/15	1,000	730,000
	Navistar International Corp. Revolving Credit-Linked Deposit, 0.166% - 3.569%, 1/19/12	1,067	889,524
	Navistar International Corp. Term Advance, 3.569%, 1/19/12	2,933	2,446,192
	Oshkosh Truck Corp. Term B Loan, 7.15% - 7.32%, 12/06/13	1,195	1,022,889

			5,088,605
Media - 12.0%	Affinion Group Holdings, Inc. Loan, 9.273%, 3/01/12	2,000	1,300,000
	Cengage Learning Acquisitions, Inc. (Thomson Learning)		
	Tranche 1 Incremental Term Loan, 7.50%, 7/03/14	5,709	5,472,451
	Cequel Communications, LLC (aka Cebridge) Term Loan, 2.349% - 2.401%, 11/05/13	1,618	1,458,794
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Industry	Floating Rate Loan Interests	Par (000)	Value
	Cequel Communications, LLC Tranche B Term Loan (Second Lien), 6.411%, 5/05/14	USD 4,243	\$ 3,541,019
	Ellis Communications KDOC, LLC Loan, 10%, 12/30/11	3,879	1,086,013
	HMH Publishing Co. Ltd. (fka Education Media) Tranche A Term Loan, 7.66%, 6/12/14	4,642	3,307,722
	Hanley-Wood, LLC (FSC Acquisition) Term Loan, 2.563% - 2.599%, 3/08/14	986	351,160
	MCC Iowa LLC (Mediacom Broadband Group) Tranche D-1 Term Loan, 2.04%, 1/31/15	955	869,756
	Newsday, LLC Fixed Rate Term Loan, 9.75%, 8/01/13	3,250	3,241,875
	Penton Media, Inc. Term Loan (First Lien), 2.569% - 3.289%, 2/01/13	735	433,650
			21,062,440
Metals & Mining - 0.3%	Euramax International, Inc. Domestic Loan (Second Lien), 13%, 6/29/13	692	20,769
	Euramax International, Inc. Domestic Loan (Second Lien), 13%, 6/29/13	343	10,303
	Euramax International, Inc. Domestic Term Loan, 8.75%, 6/29/12	1,632	413,333
			444,405
Multiline Retail - 0.4%	Dollar General Corp. Tranche B-2 Term Loan, 3.068% - 3.07%, 7/07/14	750	685,715
Oil, Gas & Consumable Fuels - 1.3%	Big West Oil, LLC Delayed Advance Loan, 6.50%, 5/15/14	550	431,750
	Big West Oil, LLC Initial Advance Loan, 6.50%, 5/15/14	437	343,438
	ScorpionDrilling Ltd. Second Lien, 8.72%, 5/08/14	2,000	1,600,000
			2,375,188
Paper & Forest Products - 0.3%	Georgia-Pacific LLC Term B Loan, 2.323%, 12/20/12	600	555,975
Pharmaceuticals - 0.3%	Warner Chilcott Co., Inc. Tranche B Acquisition Date Term Loan, 2.319%, 1/18/12	370	349,999
	Warner Chilcott Corp. Tranche C Acquisition Date Term Loan, 2.139%, 1/18/12	130	122,751
			472,750
Real Estate Management & Development - 1.8%	LNR Property Corp. Initial Tranche B Term Loan, 3.91%, 7/12/11	2,400	1,170,000
	Realogy Corp. Synthetic LC, 0.166% - 3.15%, 10/10/13	2,947	2,048,513
			3,218,513

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Specialty Retail - 0.4%	Adesa, Inc. (KAR Holdings, Inc.) Initial Term Loan, 2.57% - 3.47%, 10/20/13	750	642,188
Wireless Telecommunication Services - 0.8%	Cricket Communications, Inc. (aka Leap Wireless) Term B Loan, 5.75%, 6/16/13	425	426,771
	Digicel Group Term Loan B, 3.75%, 3/01/12	1,000	907,500
			1,334,271
Total Floating Rate Loan Interests - 46.4%			81,275,162

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Industry	Non-U.S. Government Agency Mortgage-Backed Securities	Par (000)	Value
Commercial Mortgage-Backed Securities - 2.0%	Crown Castle Towers LLC Series 2005-1A Class AFL, 0.699%, 6/15/35 (a)(d)	USD 1,680	\$ 1,596,000
	Crown Castle Towers LLC Series 2005-1A Class AFX, 4.643%, 6/15/35 (a)	2,035	1,984,125
Total Non-U.S. Government Agency Mortgage-Backed Securities - 2.0%			3,580,125
	Common Stocks	Shares	
Chemicals - 0.0%	GEO Specialty Chemicals, Inc. (b)	142,466	54,693
	Wellman Holdings, Inc. (b)	5,131	1,283
			55,976
Containers & Packaging - 0.1%	Smurfit Kappa Plc (b)	18,171	101,883
Hotels, Restaurants & Leisure - 0.0%	Lodgian, Inc. (b)	41,866	79,545
Paper & Forest Products - 0.6%	Ainsworth Lumber Co. Ltd. (b)	375,634	533,302
	Ainsworth Lumber Co. Ltd. (a)(b)	421,556	596,288
			1,129,590
Total Common Stocks - 0.7%			1,366,994
	Capital Trusts	Par (000)	
Diversified Financial Services - 0.2%	Citigroup, Inc. Series E, 8.40% (b)(c)(d)(g)	USD 425	371,871
Total Capital Trusts - 0.2%			371,871
	Other Interests (h)	Beneficial Interest (000)	
Media - 0.0%	Adelphia Preferred Escrow	3	
	Adelphia Recovery Trust Series ACC-6B INT	250	25
Total Other Interests - 0.0%			25

Total Investments	
(Cost - \$296,205,750*) - 115.6%	202,842,033
Liabilities in Excess of Other Assets - (15.6)%	(27,393,539)
	<hr/>
Net Assets - 100.0%	\$ 175,448,494
	<hr/>

* The cost and unrealized appreciation (depreciation) of investments as of May 31, 2009, as computed for federal income tax purposes, were as follows:

Aggregate cost	\$ 296,907,541
	<hr/>
Gross unrealized appreciation	\$ 4,862,442
Gross unrealized depreciation	(98,927,950)
	<hr/>
Net unrealized depreciation	\$ (94,065,508)
	<hr/>

- (a) 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.
- (b) Non-income producing security.
- (c) Issuer filed for bankruptcy and/or is in default of interest payments.
- (d) Variable rate security. Rate shown is as of report date.

BlackRock Senior High Income Fund, Inc.**Schedule of Investments May 31, 2009 (Unaudited)**

- (e) Convertible security.
- (f) Represents a payment-in-kind security which may pay interest/dividends in additional par/shares.
- (g) Security is perpetual in nature and has no stated maturity date.
- (h) Other interests represent beneficial interest in liquidation trusts and other reorganization entities and are non-income producing.

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
BlackRock Liquidity Series, LLC		
Cash Sweep Series	USD (4,346,896)	\$ 4,490

For Fund compliance purposes, the Fund's industry classifications refer to any one or more of the industry sub-classifications used by one or more widely recognized market indexes or ratings group indexes, and/or as defined by Fund management. This definition may not apply for purposes of this report, which may combine industry sub-classifications for reporting ease.

Foreign currency exchange contracts as of May 31, 2009 were as follows:

Currency Purchased		Currency Sold		Counterparty	Settlement Date	Unrealized Depreciation
USD	817,266	CAD	990,000	Citibank, NA	6/10/09	\$ (89,599)

Credit default swaps on single-name issues - buy protection outstanding as of May 31, 2009 were as follows:

Issuer	Pay Fixed Rate	Counterparty	Expiration	Notional Amount (000)	Unrealized Appreciation (Depreciation)
First Data Corp.	5%	JPMorgan Chase Bank NA	December 2013	USD 5,000	\$ 208,859
Host Hotels & Resorts LP	5%	Goldman Sachs Bank USA	March 2014	USD 2,500	(308,770)

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Masco Corp.	5.30%	JPMorgan Chase Bank NA	March 2014	USD	1,000	(81,238)
Mohawk Industries, Inc.	4.45%	JPMorgan Chase Bank NA	March 2014	USD	1,000	(70,014)
Lennar Corp.	5.75%	JPMorgan Chase Bank NA	June 2014	USD	1,100	(103,705)
Total						\$ (354,868)

BlackRock Senior High Income Fund, Inc.

Schedule of Investments May 31, 2009 (Unaudited)

Credit default swaps on single-name issues - sold protection outstanding as of May 31, 2009 were as follows:

Issuer	Receive Fixed Rate	Counterparty	Expiration	Credit Rating¹	Notional Amount (000)²	Unrealized Depreciation
Ford Motor Co.	2.05%	Deutsche Bank AG	March 2010	CCC+	USD5,000	\$ (341,494)

¹ Using Standard and Poor's ratings of the issuer.

² The maximum potential amount the Fund may pay should a negative credit event take place as defined under the terms of the agreement.

Currency Abbreviations:

CAD Canadian Dollar

USD US Dollar

BlackRock Senior High Income Fund, Inc.**Schedule of Investments May 31, 2009 (Unaudited)**

Financial Accounting Standards Board Statement of Financial Accounting Standards No. 157, Fair Value Measurements (FAS 157) clarifies the definition of fair value, establishes a framework for measuring fair values and requires additional disclosures about the use of 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 securities

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 May 31, 2009 in determining the fair valuation of the Fund's investments:

Valuation Inputs	Investments in Securities		Other Financial Instruments*	
	Assets	Assets	Liabilities	
Level 1	\$ 612,848			
Level 2	157,578,970	\$ 208,859	\$ (994,820)	
Level 3	44,650,215			
Total	\$ 202,842,033	\$ 208,859	\$ (994,820)	

* Other financial instruments are swaps and foreign currency exchange contracts. Swaps and foreign currency exchange contracts are valued at the unrealized appreciation/depreciation on the instrument.

BlackRock Senior High Income Fund, Inc.

Schedule of Investments May 31, 2009 (Unaudited)

The following is a reconciliation of investments for unobservable inputs (Level 3) used in determining fair value:

	Investments in Securities	
	Assets	
Balance, as of February 28, 2009	\$	52,636,697
Realized gain (loss)		(3,884,608)
Change in unrealized appreciation (depreciation)		8,066,512
Net purchases (sales)		(12,538,407)
Net transfers in/out of Level 3		370,021
Balance as of May 31, 2009	\$	44,650,215

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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 Senior High Income Fund, Inc.

By: /s/ Donald C. Burke
Donald C. Burke
Chief Executive Officer of
BlackRock Senior High Income Fund, Inc.

Date: July 15, 2009

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/ Donald C. Burke
Donald C. Burke
Chief Executive Officer (principal executive officer) of
BlackRock Senior High Income Fund, Inc.

Date: July 15, 2009

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

Date: July 15, 2009
