

BLACKROCK SENIOR HIGH INCOME FUND, INC.

Form N-Q

July 27, 2012

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: John M. Perlowski, Chief Executive Officer, BlackRock Senior High Income 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: 02/28/2013

Date of reporting period: 05/31/2012

Item 1 – Schedule of Investments

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Consolidated Schedule of Investments May 31, 2012 (Unaudited)

BlackRock Senior High Income Fund, Inc. (ARK)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Asset-Backed Securities		
American Airlines Pass-Through Trust, Series 2011-2, Class A, 8.63%, 4/15/23	USD 325	\$ 341,366
CSAM Funding, Series 2A, Class B1, 7.05%, 10/15/16	500	503,900
Fraser Sullivan CLO Ltd., Series 2012-7A, Class C, 4.47%, 4/20/23 (a)(b)	405	359,843
Gannett Peak CLO Ltd., Series 2006-1X, Class A2, 0.83%, 10/27/20 (b)	495	403,425
Goldentree Loan Opportunities VI Ltd., Series 2012-6A, Class D, 4.61%, 4/17/22 (a)(b)	650	601,055
Greyrock CDO Ltd., Series 2005- 1X, Class A2L, 0.89%, 11/15/17 (b)	1,025	893,390
LCM LP (a)(b): Series 11A, Class D2, 4.28%, 4/19/22	700	624,400
Series 9A, Class E, 4.67%, 7/14/22	500	396,200
Symphony CLO Ltd., Series 2012- 9A, Class D, 4.62%, 4/16/22 (a)(b)	525	487,042
Total Asset-Backed Securities 2.0%		4,610,621

	Shares	
Common Stocks (c)		
Chemicals 0.0%		
GEO Specialty Chemicals, Inc.	142,466	65,534
Containers & Packaging 0.1%		
Smurfit Kappa Plc	18,171	114,550
Metals & Mining 0.1%		
Euramax International	935	271,121
Paper & Forest Products 0.3%		
Ainsworth Lumber Co. Ltd.	562,190	664,058
Software 0.0%		
HMH Holdings/EduMedia	75,676	757
Total Common Stocks 0.5%		1,116,020

	Par (000)	Value
Corporate Bonds		
Aerospace & Defense 0.5%		
Huntington Ingalls Industries, Inc., 7.13%, 3/15/21	USD 425	\$ 440,938
Kratos Defense & Security Solutions, Inc., 10.00%, 6/01/17	692	733,520
		1,174,458
Airlines 0.3%		
Delta Air Lines, Inc., Series 2009- 1, Class B, 9.75%, 6/17/18	89	94,746

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United Air Lines, Inc., 12.75%, 7/15/12	589	595,140 689,886
Auto Components 1.7%		
Delphi Corp., 6.13%, 5/15/21	290	308,850
Icahn Enterprises LP: 7.75%, 1/15/16	110	115,500
8.00%, 1/15/18	2,740	2,900,975
Titan International, Inc., 7.88%, 10/01/17	490	507,150
Venture Holdings Co. LLC (c)(d): 12.00%, 7/01/49	700	
Series B, 9.50%, 7/01/05	3,325	3,832,475
Biotechnology 0.0%		
QHP Royalty Sub LLC, 10.25%, 3/15/15 (a)	73	73,251
Building Products 0.4%		
Building Materials Corp. of America (a): 7.00%, 2/15/20	485	509,250
6.75%, 5/01/21	410	419,225 928,475
Capital Markets 0.9%		
American Capital Ltd., 7.96%, 12/31/13 (e)	600	601,686
E*Trade Financial Corp., 12.50%, 11/30/17	935	1,072,913
KKR Group Finance Co., 6.38%, 9/29/20 (a)	280	301,372 1,975,971
Chemicals 4.4%		
American Pacific Corp., 9.00%, 2/01/15	610	606,950
Celanese US Holdings LLC, 5.88%, 6/15/21	745	776,663
GEO Specialty Chemicals, Inc. (a): 7.50%, 3/31/15 (f)(g)	1,869	2,223,661
10.00%, 3/31/15	1,839	1,838,720
Hexion US Finance Corp., 6.63%, 4/15/20 (a)	905	916,312
Huntsman International LLC, 8.63%, 3/15/21	395	442,400

BLACKROCK SENIOR HIGH INCOME FUND, INC.

MAY 31, 2012

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Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Corporate Bonds		
Chemicals (concluded)		
Ineos Finance Plc (a):		
8.38%, 2/15/19	USD 805	\$ 827,138
7.50%, 5/01/20	375	371,250
Kinove German Bondco GmbH, 9.63%, 6/15/18 (a)	400	409,000
LyondellBasell Industries NV (a):		
6.00%, 11/15/21	535	572,450
5.75%, 4/15/24	935	958,375
NOVA Chemicals Corp., 8.63%, 11/01/19	300	335,250
		10,278,169
Commercial Banks 0.5%		
CIT Group, Inc.:		
5.00%, 5/15/17	330	324,225
5.50%, 2/15/19 (a)	760	739,100
		1,063,325
Commercial Services & Supplies 1.4%		
ARAMARK Holdings Corp., 8.63%, 5/01/16 (a)(f)	330	337,428
AWAS Aviation Capital Ltd., 7.00%, 10/17/16 (a)	500	516,151
Brickman Group Holdings, Inc., 9.13%, 11/01/18 (a)	25	24,000
Covanta Holding Corp., 6.38%, 10/01/22	420	435,489
The Geo Group, Inc., 7.75%, 10/15/17	450	480,375
Iron Mountain, Inc., 7.75%, 10/01/19	230	244,950
Mead Products LLC / ACCO Brands Corp., 6.75%, 4/30/20 (a)	675	693,562
Mobile Mini, Inc., 7.88%, 12/01/20	335	351,750
West Corp., 8.63%, 10/01/18	165	172,013
		3,255,718
Communications Equipment 0.1%		
Hughes Satellite Systems Corp., 6.50%, 6/15/19	320	324,800
Construction Materials 0.4%		
HD Supply, Inc., 8.13%, 4/15/19 (a)	810	844,425
Consumer Finance 0.2%		
Ford Motor Credit Co. LLC:		
7.00%, 4/15/15	140	157,150
6.63%, 8/15/17	300	348,342
		505,492
Containers & Packaging 1.0%		
Ardagh Packaging Finance Plc, 9.13%, 10/15/20 (a)	300	309,000
Ball Corp., 6.75%, 9/15/20	325	352,625

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Berry Plastics Corp., 8.25%, 11/15/15		540		571,050
		Par (000)		Value
Corporate Bonds				
Containers & Packaging (concluded)				
Crown Americas LLC, 6.25%, 2/01/21	USD	535	\$	579,137
Sealed Air Corp. (a):				
8.13%, 9/15/19		405		439,425
8.38%, 9/15/21		110		121,000
				2,372,237
Diversified Consumer Services 0.2%				
ServiceMaster Co., 8.00%, 2/15/20		435		456,206
Diversified Financial Services 3.3%				
Ally Financial, Inc.:				
8.30%, 2/12/15		3,670		3,926,900
8.00%, 11/01/31		230		258,750
8.00%, 11/01/31		370		413,536
CNG Holdings, Inc., 9.38%, 5/15/20 (a)		260		261,300
DPL, Inc., 7.25%, 10/15/21 (a)		95		103,313
Reynolds Group Issuer, Inc. (a):				
7.13%, 4/15/19		560		575,400
9.88%, 8/15/19		1,065		1,062,337
6.88%, 2/15/21		695		705,425
8.50%, 2/15/21		100		92,750
WMG Acquisition Corp., 9.50%, 6/15/16 (a)		105		112,087
				7,511,798
Diversified Telecommunication Services 1.3%				
ITC Deltacom, Inc., 10.50%, 4/01/16		520		547,300
Level 3 Financing, Inc.:				
4.51%, 2/15/15 (b)		1,295		1,233,487
8.13%, 7/01/19		1,130		1,130,000
				2,910,787
Energy Equipment & Services 2.4%				
Calfrac Holdings LP, 7.50%, 12/01/20 (a)		920		864,800
Cie Generale de Geophysique - Veritas, 6.50%, 6/01/21		1,105		1,082,900
Frac Tech Services LLC, 8.13%, 11/15/18 (a)		625		618,750
Gulfmark Offshore, Inc., 6.38%, 3/15/22 (a)		70		70,350
Hornbeck Offshore Services, Inc., 5.88%, 4/01/20 (a)		140		137,200
Key Energy Services, Inc., 6.75%, 3/01/21		380		381,425
MEG Energy Corp., 6.50%, 3/15/21 (a)		490		499,800
Oil States International, Inc., 6.50%, 6/01/19		270		278,775
Peabody Energy Corp., 6.25%, 11/15/21 (a)		1,090		1,087,275
Precision Drilling Corp.:				
6.63%, 11/15/20		130		131,950

Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Corporate Bonds		
Energy Equipment & Services (concluded)		
Precision Drilling Corp. (concluded):		
6.50%, 12/15/21	USD 445	\$ 448,337
		5,601,562
Food Products 0.2%		
Constellation Brands, Inc.,		
6.00%, 5/01/22	245	260,313
Post Holdings, Inc., 7.38%,		
2/15/22 (a)	140	142,450
		402,763
Health Care Equipment & Supplies 0.8%		
Bausch & Lomb, Inc., 9.88%,		
11/01/15	65	68,088
Biomet, Inc., 10.38%, 10/15/17 (f)	435	463,003
DJO Finance LLC:		
10.88%, 11/15/14	150	152,625
8.75%, 3/15/18 (a)	115	115,575
7.75%, 4/15/18	30	24,225
Fresenius Medical Care US Finance II,		
Inc. (a):		
5.63%, 7/31/19	360	357,300
5.88%, 1/31/22	340	338,300
Teleflex, Inc., 6.88%, 6/01/19	250	265,000
		1,784,116
Health Care Providers & Services 2.7%		
Aviv Healthcare Properties LP:		
7.75%, 2/15/19	235	244,400
7.75%, 2/15/19 (a)	130	133,900
HCA, Inc.:		
8.50%, 4/15/19	25	27,594
6.50%, 2/15/20	1,030	1,087,937
7.88%, 2/15/20	1,174	1,288,465
5.88%, 3/15/22	785	779,113
Omnicare, Inc., 7.75%, 6/01/20	695	762,763
Tenet Healthcare Corp.:		
10.00%, 5/01/18	430	490,200
8.88%, 7/01/19	1,015	1,129,187
Vanguard Health Holding Co. II		
LLC, 7.75%, 2/01/19 (a)	300	294,000
		6,237,559
Health Care Technology 0.9%		
IMS Health, Inc., 12.50%,		
3/01/18 (a)	1,730	2,024,100
Hotels, Restaurants & Leisure 1.1%		
Affinity Gaming LLC/Affinity		
Gaming Finance Corp., 9.00%,		
5/15/18 (a)	125	125,000
Caesars Entertainment Operating Co.,		
Inc.:		
11.25%, 6/01/17	75	79,688
8.50%, 2/15/20 (a)	905	901,606

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Carlson Wagonlit BV, 6.88%, 6/15/19 (a)		200		199,000
Corporate Bonds		Par (000)		Value
Hotels, Restaurants & Leisure (concluded)				
Diamond Resorts Corp., 12.00%, 8/15/18	USD	540	\$	581,850
Little Traverse Bay Bands of Odawa Indians, 9.00%, 8/31/20 (a)		282		256,620
Tropicana Entertainment LLC, 9.63%, 12/15/14 (c)(d)		220		
Wynn Las Vegas LLC, 5.38%, 3/15/22 (a)		525		508,594
				2,652,358
Household Durables 1.0%				
Beazer Homes USA, Inc., 12.00%, 10/15/17		860		926,650
Libbey Glass, Inc., 6.88%, 5/15/20 (a)		90		90,225
Standard Pacific Corp., 8.38%, 1/15/21		1,120		1,198,400
				2,215,275
Independent Power Producers & Energy Traders 3.4%				
AES Corp.:				
7.75%, 10/15/15		155		172,050
9.75%, 4/15/16		674		790,265
The, 7.38%, 7/01/21 (a)		70		75,600
Calpine Corp. (a):				
7.25%, 10/15/17		350		369,250
7.50%, 2/15/21		190		198,550
Energy Future Holdings Corp., 10.00%, 1/15/20		775		823,437
Energy Future Intermediate Holding Co. LLC, 10.00%, 12/01/20		4,160		4,482,400
Laredo Petroleum, Inc.:				
9.50%, 2/15/19		520		577,200
7.38%, 5/01/22 (a)		215		219,838
QEP Resources, Inc., 5.38%, 10/01/22		178		173,995
				7,882,585
Industrial Conglomerates 1.5%				
Sequa Corp. (a):				
11.75%, 12/01/15		1,430		1,517,588
13.50%, 12/01/15		1,930		2,048,188
				3,565,776
Insurance 0.6%				
CNO Financial Group, Inc., 9.00%, 1/15/18 (a)		851		902,060
Genworth Financial, Inc., 7.63%, 9/24/21		370		359,070
MPL 2 Acquisition Canco, Inc., 9.88%, 8/15/18 (a)		220		189,200
				1,450,330
IT Services 0.7%				
First Data Corp.:				
7.38%, 6/15/19 (a)		445		445,000

Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Corporate Bonds		
IT Services (concluded)		
First Data Corp. (concluded):		
8.25%, 1/15/21 (a)	USD 651	\$ 631,470
12.63%, 1/15/21	288	271,440
SunGard Data Systems, Inc.,		
7.63%, 11/15/20	315	322,875
		1,670,785
Machinery 0.9%		
UR Financing Escrow Corp. (a):		
5.75%, 7/15/18	462	470,085
7.38%, 5/15/20	300	307,500
7.63%, 4/15/22	1,245	1,273,012
		2,050,597
Media 6.1%		
AMC Networks, Inc., 7.75%,		
7/15/21 (a)	190	210,900
CCO Holdings LLC, 7.88%,		
4/30/18	405	434,362
Cengage Learning Acquisitions,		
Inc., 11.50%, 4/15/20 (a)	500	498,750
Checkout Holding Corp., 0.01%,		
11/15/15 (a)(h)	570	222,300
Cinemark USA, Inc., 8.63%,		
6/15/19	195	212,063
Clear Channel Worldwide Holdings, Inc.:		
9.25%, 12/15/17	340	363,800
7.63%, 3/15/20 (a)	1,195	1,141,225
Series B, 9.25%, 12/15/17	4,301	4,623,575
DISH DBS Corp., 5.88%,		
7/15/22 (a)	335	326,625
Interactive Data Corp., 10.25%,		
8/01/18	810	897,075
Lamar Media Corp., 5.88%,		
2/01/22 (a)	255	256,594
NAI Entertainment Holdings LLC,		
8.25%, 12/15/17 (a)	530	577,700
Nielsen Finance LLC, 7.75%,		
10/15/18	640	688,000
ProQuest LLC, 9.00%, 10/15/18 (a)	220	189,200
Unitymedia Hessen GmbH & Co. KG:		
8.13%, 12/01/17 (a)	1,500	1,582,500
7.50%, 3/15/19	540	569,708
Virgin Media Secured Finance Plc,		
6.50%, 1/15/18	1,250	1,362,500
		14,156,877
Metals & Mining 1.4%		
FMG Resources August 2006 Property		
Ltd. (a):		
6.88%, 2/01/18	230	225,975
6.88%, 4/01/22	425	409,063
	255	257,550

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Global Brass and Copper, Inc.,
9.50%, 6/01/19 (a)
Kaiser Aluminum Corp., 8.25%,
6/01/20 (a)

190 190,950

	Par (000)	Value
Corporate Bonds		
Metals & Mining (concluded)		
New Gold, Inc., 7.00%, 4/15/20 (a)	USD 65	\$ 66,300
Novelis, Inc., 8.75%, 12/15/20	1,895	2,003,962
RathGibson, Inc., 11.25%, 2/15/14 (c)(d)	2,175	
		3,153,800
Oil, Gas & Consumable Fuels 7.2%		
Alpha Natural Resources, Inc.:		
6.00%, 6/01/19	115	102,925
6.25%, 6/01/21	310	275,900
Berry Petroleum Co., 6.38%, 9/15/22	180	183,600
Chaparral Energy, Inc., 7.63%, 11/15/22 (a)	115	117,588
Chesapeake Energy Corp.:		
6.63%, 8/15/20	290	272,600
6.88%, 11/15/20	150	142,125
6.13%, 2/15/21	235	220,900
Chesapeake Midstream Partners LP, 6.13%, 7/15/22	415	394,250
Chesapeake Oilfield Operating LLC, 6.63%, 11/15/19 (a)	5	4,325
Coffeyville Resources LLC, 9.00%, 4/01/15 (a)	105	111,825
Concho Resources, Inc., 5.50%, 10/01/22	210	206,325
Consol Energy, Inc.:		
8.25%, 4/01/20	1,110	1,110,000
6.38%, 3/01/21	230	210,450
Crosstex Energy LP:		
8.88%, 2/15/18	55	57,750
7.13%, 6/01/22 (a)	195	193,538
Denbury Resources, Inc., 8.25%, 2/15/20	26	28,080
Energy XXI Gulf Coast, Inc., 7.75%, 6/15/19	665	671,650
Everest Acquisition LLC / Everest Acquisition Finance, Inc. (a):		
6.88%, 5/01/19	170	174,250
9.38%, 5/01/20	125	128,125
Forest Oil Corp., 8.50%, 2/15/14	110	115,500
Hilcorp Energy I LP, 7.63%, 4/15/21 (a)	1,105	1,154,725
Holly Energy Partners LP, 6.50%, 3/01/20 (a)	80	79,600
Kodiak Oil & Gas Corp., 8.13%, 12/01/19 (a)	385	396,550
Linn Energy LLC:		
6.25%, 11/01/19 (a)	1,460	1,390,650
8.63%, 4/15/20	190	201,400
7.75%, 2/01/21	485	495,912
Newfield Exploration Co., 5.75%, 1/30/22	540	568,350

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Northern Oil and Gas, Inc., 8.00%,
6/01/20 (a)

265

263,675

BLACKROCK SENIOR HIGH INCOME FUND, INC.

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Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Corporate Bonds		
Oil, Gas & Consumable Fuels (concluded)		
Oasis Petroleum, Inc.:		
7.25%, 2/01/19	USD 170	\$ 175,100
6.50%, 11/01/21	155	155,000
Offshore Group Investments Ltd.:		
11.50%, 8/01/15 (a)	210	223,650
11.50%, 8/01/15	165	175,725
OGX Petroleo e Gas Participacoes SA		
(a):		
8.50%, 6/01/18	2,695	2,593,937
8.38%, 4/01/22	295	279,513
Petrohawk Energy Corp., 7.25%, 8/15/18	275	313,423
Pioneer Natural Resources Co., 7.20%, 1/15/28	570	703,545
Plains Exploration & Production Co., 6.75%, 2/01/22	90	89,100
Range Resources Corp.:		
5.75%, 6/01/21	645	664,350
5.00%, 8/15/22	298	286,080
Samson Investment Co., 9.75%, 2/15/20 (a)	370	368,150
SandRidge Energy, Inc.:		
7.50%, 3/15/21	120	116,400
8.13%, 10/15/22 (a)	110	108,350
SESI LLC:		
6.38%, 5/01/19	280	294,000
7.13%, 12/15/21 (a)	275	299,750
SM Energy Co., 6.50%, 11/15/21	225	230,063
Targa Resources Partners LP, 6.88%, 2/01/21	250	257,500
		16,606,204
Paper & Forest Products 0.2%		
Clearwater Paper Corp., 10.63%, 6/15/16	365	406,975
Longview Fibre Paper & Packaging, Inc., 8.00%, 6/01/16 (a)	145	143,913
		550,888
Pharmaceuticals 0.3%		
Valeant Pharmaceuticals International (a):		
6.50%, 7/15/16	380	387,600
7.25%, 7/15/22	350	329,000
		716,600
Real Estate Investment Trusts (REITs) 0.4%		
Felcor Lodging LP, 6.75%, 6/01/19	950	952,375
Real Estate Management & Development 0.8%		
Realogy Corp., 7.63%, 1/15/20 (a)	1,130	1,161,075
Shea Homes LP, 8.63%, 5/15/19	655	682,838
		1,843,913

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Road & Rail 1.1%

Avis Budget Car Rental LLC, 8.25%, 1/15/19	160	165,600
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	Par (000)	Value
Corporate Bonds		
Road & Rail (concluded)		
Florida East Coast Railway Corp., 8.13%, 2/01/17	USD 200	\$ 205,000
The Hertz Corp.: 7.50%, 10/15/18	780	812,175
6.75%, 4/15/19	135	138,038
6.75%, 4/15/19 (a)	150	153,375
7.38%, 1/15/21	1,095	1,148,381
		2,622,569
Software 0.6%		
Lawson Software, Inc., 9.38%, 4/01/19 (a)	1,335	1,375,050
Specialty Retail 0.7%		
Claire's Stores, Inc., 9.00%, 3/15/19 (a)	225	225,000
Penske Automotive Group, Inc., 7.75%, 12/15/16	845	874,575
Sally Holdings LLC: 6.88%, 11/15/19 (a)	350	372,750
5.75%, 6/01/22	160	161,800
		1,634,125
Textiles, Apparel & Luxury Goods 0.2%		
Levi Strauss & Co., 6.88%, 5/01/22 (a)	140	138,950
PVH Corp., 7.75%, 11/15/23	215	246,175
		385,125
Transportation Infrastructure 0.1%		
Aguila 3 SA, 7.88%, 1/31/18 (a)	176	179,520
Wireless Telecommunication Services 4.2%		
Cricket Communications, Inc., 7.75%, 5/15/16	1,770	1,867,350
Digicel Group Ltd. (a): 12.00%, 4/01/14	800	880,000
8.25%, 9/01/17	270	271,350
Intelsat Jackson Holdings SA, 7.25%, 10/15/20 (a)	1,450	1,439,125
MetroPCS Wireless, Inc., 6.63%, 11/15/20	460	445,050
Sprint Capital Corp., 6.88%, 11/15/28	2,440	1,811,700
Sprint Nextel Corp. (a): 9.00%, 11/15/18	1,150	1,244,875
7.00%, 3/01/20	1,725	1,737,937
		9,697,387
Total Corporate Bonds 56.1%		129,609,712

Floating Rate Loan Interests (b)
Aerospace & Defense 0.3%

TransDigm, Inc.: Add on Term Loan B2, 4.00%, 2/14/17	189	187,868
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Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Floating Rate Loan Interests (b)		
Aerospace & Defense (concluded)		
TransDigm, Inc. (concluded):		
Term Loan (First Lien), 4.00%, 2/14/17	USD 601	\$ 595,496
		783,364
Airlines 0.4%		
Delta Air Lines, Inc., Credit - New Term Loan B, 5.50%, 4/20/17	1,006	1,000,337
Auto Components 2.3%		
Allison Transmission, Inc., Term Loan B, 2.75%, 8/07/14	1,775	1,741,089
August LuxUK Holding Co. Sarl, Luxco Term Loan, 6.25%, 4/27/18	105	104,826
Autoparts Holdings Ltd.: First Lien Term Loan, 6.50%, 7/28/17	861	832,703
Second Lien Term Loan, 10.50%, 1/29/18	900	814,500
Federal-Mogul Corp., Term Loan B, 2.18%, 12/29/14	499	468,776
TheGoodyear Tire & Rubber Company, Term Loan (Second Lien), 4.75%, 4/30/19	950	919,724
Schaeffler AG, Term Loan C2, 6.00%, 1/27/17	495	492,525
		5,374,143
Biotechnology 0.3%		
Grifols, Inc., Term Loan B, 4.50%, 6/01/17	655	645,743
Building Products 1.3%		
Armstrong World Industries, Inc., Term Loan B, 4.00%, 3/09/18	474	468,399
CPG International, Inc., Term Loan B, 6.00%, 2/18/17	593	570,281
Goodman Global, Inc.: Initial Term Loan (First Lien), 5.75%, 10/28/16	1,629	1,622,850
Term Loan (Second Lien), 9.00%, 10/30/17	382	385,064
		3,046,594
Capital Markets 1.1%		
HarbourVest Partners, Term Loan (First Lien), 6.25%, 12/16/16	799	799,363
Nuveen Investments, Inc.: (First Lien), Term Loan, 5.97%, 5/13/17	371	364,138
Incremental Term Loan, 7.25%, 5/13/17	295	294,262
Term Loan, 5.97%, 5/12/17	1,004	990,315
		2,448,078

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Chemicals 4.3%

American Rock Salt Holdings LLC, Term Loan, 5.50%, 4/25/17	1,183	1,121,437
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Floating Rate Loan Interests (b)	Par (000)	Value
Chemicals (concluded)		
Chemtura Corp., Exit Term Loan B, 5.50%, 8/27/16	USD 800	\$ 799,336
Gentek, Inc., Term Loan B, 5.00% - 5.75%, 10/06/15	689	689,176
Ineos US Finance LLC, 6 year Term Loan, 6.50%, 5/04/18	3,200	3,134,272
Nexeo Solutions LLC, Term Loan B, 5.00% - 5.75%, 9/08/17	866	843,511
PolyOne Corp., Term Loan, 5.00%, 12/20/17	349	348,144
PQ Corp., 3.99%, 7/30/14	1,735	1,663,711
Styron Sarl LLC, Term Loan B, 6.00% - 6.75%, 8/02/17	355	316,476
Tronox Worldwide LLC, Term Loan B, 4.25%, 2/08/18	389	382,122
Univar, Inc., Term Loan B, 5.00%, 6/30/17	669	649,858
		9,948,043

Commercial Services & Supplies 2.9%

ACCO Brands Corp., Term Loan B, 4.25%, 4/30/19	711	710,536
Altegrity, Inc., Tranche D Term Loan, 7.75%, 2/20/15	1,273	1,262,508
AWAS Finance Luxembourg Sarl, Term Loan B, 5.25%, 6/10/16	575	572,306
Delos Aircraft, Inc., Term Loan B2, 4.75%, 4/12/16	1,075	1,073,656
KAR Auction Services, Inc., Term Loan B, 5.00%, 5/19/17	1,241	1,237,523
Protection One Alarm Monitoring, Inc., Term Loan, 5.75%, 3/16/19	510	505,961
Synagro Technologies, Inc., Term Loan B, 2.24%, 4/02/14	490	427,947
Volume Services America, Inc., Term Loan B, 10.50%, 9/16/16	985	979,258
		6,769,695

Communications Equipment 1.4%

Avaya, Inc.:		
Term Loan B1, 3.22%, 10/24/14	954	898,442
Term Loan B3, 4.97%, 10/26/17	175	153,813
CommScope, Inc., Term Loan B, 4.25%, 1/12/18	827	821,383
Telesat LLC, Term Loan B, 4.25%, 3/26/19	1,385	1,366,455
		3,240,093

Construction & Engineering 0.9%

BakerCorp. International, Inc., Term Loan B, 4.75%, 6/01/18	680	672,339
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Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)
 (Percentages shown are based on Net Assets)

	Par (000)	Value
Floating Rate Loan Interests (b)		
Construction & Engineering (concluded)		
Safway Services LLC, First Out		
Tranche Loan, 9.00%, 12/16/17	USD 1,500	\$ 1,500,000
		2,172,339
Construction Materials 0.9%		
HD Supply, Inc., Senior Debt B, 7.25%, 10/12/17	2,115	2,123,460
Consumer Finance 0.6%		
Springleaf Finance Corp., Term Loan, 5.50%, 5/10/17	1,610	1,484,549
Containers & Packaging 0.4%		
Sealed Air Corp., Term Loan B, 4.75%, 10/03/18	909	909,494
Diversified Consumer Services 2.7%		
Coinmach Service Corp., Term Loan, 3.24%, 11/20/14	2,160	2,008,591
Education Management LLC, Term Loan C3, 8.25%, 3/29/18	575	562,925
Laureate Education, Inc., Extended Term Loan, 5.25%, 8/15/18	2,142	2,052,308
ServiceMaster Co.: Delayed Draw Term Loan, 2.74%, 7/24/14	86	84,147
Term Loan, 2.79%, 7/24/14	868	845,019
Weight Watchers International, Inc., Term Loan F, 4.00%, 3/12/19	630	618,345
		6,171,335
Diversified Financial Services 1.2%		
Reynolds Group Holdings, Inc.: Tranche B Term Loan, 6.50%, 2/09/18	450	450,677
Tranche C Term Loan, 6.50%, 8/09/18	2,198	2,203,940
		2,654,617
Diversified Telecommunication Services 3.0%		
Hawaiian Telcom Communications, Inc., Term Loan B, 7.00%, 2/28/17	870	858,037
Integra Telecom Holdings, Inc., Term Loan B, 9.25%, 4/15/15	909	880,221
Level 3 Financing, Inc.: Term Loan B2, 5.75%, 9/03/18	2,050	2,030,607
Term Loan B3, 5.75%, 8/31/18	775	767,669
Tranche A Term Loan, 2.49% - 2.72%, 3/13/14	1,100	1,070,212
US Telepacific Corp., Term Loan B, 5.75%, 2/23/17	1,368	1,288,020
		6,894,766

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	Par (000)	Value
Floating Rate Loan Interests (b)		
Electronic Equipment, Instruments & Components 0.5%		
CDW LLC, Extended Term Loan, 4.00%, 7/14/17	USD 431	\$ 411,869
Sensata Technologies Finance Co. LLC, Term Loan, 4.00%, 5/11/18	775	762,260
		1,174,129
Energy Equipment & Services 2.2%		
Dynegy Midwest Generation LLC, Coal Co. Term Loan, 9.25%, 8/04/16	861	878,031
Dynegy Power LLC, Gas Co. Term Loan, 9.25%, 8/04/16	1,576	1,624,366
MEG Energy Corp., Term Loan B, 4.00%, 3/16/18	1,552	1,533,636
Tervita Corp., Term Loan B, 3.24%, 11/14/14	1,203	1,153,659
		5,189,692
Food & Staples Retailing 0.3%		
US Foods, Inc. (FKA US Foodservice, Inc.), Term Loan B, 2.74%, 7/03/14	643	621,048
Food Products 2.0%		
Advance Pierre Foods, Term Loan (First Lien), 7.00%, 9/30/16	2,278	2,279,913
Del Monte Corp., Term Loan, 4.50%, 3/08/18	1,042	1,015,100
Pinnacle Foods Finance LLC: Term Loan E, 4.75%, 10/17/18	733	726,515
Tranche B Term Loan, 3.97%, 10/03/16	119	117,830
Solvest Ltd. (Dole): Tranche B-2 Term Loan, 5.00% - 6.00%, 7/06/18	203	202,367
Tranche C-2 Term Loan, 5.00% - 6.00%, 7/06/18	364	362,131
		4,703,856
Health Care Equipment & Supplies 1.9%		
Bausch & Lomb, Inc., Term Loan B, 5.25%, 5/17/19	1,135	1,114,525
DJO Finance LLC: Term Loan B2, 5.24%, 11/01/16	356	352,820
Term Loan B3, 6.25%, 9/15/17	1,235	1,220,081
Hupah Finance Inc., Term Loan B, 6.25%, 1/21/19	675	677,113
Immucor, Inc., Term Loan B, 7.25%, 8/17/18	975	973,276
		4,337,815

Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Floating Rate Loan Interests (b)		
Health Care Providers & Services 2.9%		
ConvaTec, Inc., Term Loan, 5.75%, 12/22/16	USD 1,068	\$ 1,059,454
DaVita, Inc., Term Loan B, 4.50%, 10/20/16	1,086	1,079,222
Emergency Medical Services, Term Loan, 5.25% - 6.00%, 5/25/18	863	851,061
Harden Healthcare LLC: Term Loan A, 8.50%, 3/02/15	304	298,217
Tranche A Additional Term Loan, 7.75%, 3/02/15	1,070	1,048,524
inVentiv Health, Inc.: Combined Term Loan B, 6.50%, 8/04/16	140	131,268
Incremental Term Loan B-3, 6.75%, 5/15/18	620	588,293
Medpace, Inc., Term Loan, 6.50% - 7.25%, 6/16/17	1,042	1,000,440
Wolverine Healthcare, Term Loan B, 6.75%, 5/12/17	560	550,900
		6,607,379
Health Care Technology 1.0%		
IMS Health, Inc., Term Loan B, 4.50%, 8/25/17	1,028	1,019,105
Kinetic Concepts, Inc., Term Loan B, 7.00%, 5/04/18	698	702,181
MedAssets, Inc., Term Loan, 5.25%, 11/16/16	548	545,105
		2,266,391
Hotels, Restaurants & Leisure 3.9%		
Alpha D2 Ltd.: Term Loan B, 5.75%, 4/28/17	365	364,011
Term Loan B, 6/08/18	225	222,656
Caesars Entertainment Operating Co., Inc.: Extended Term Loan B6, 5.49%, 1/26/18	175	154,028
Incremental Term Loan B4, 9.50%, 10/31/16	729	733,481
Term Loan B1, 3.24%, 1/28/15	536	489,292
Term Loan B3, 3.24% - 3.47%, 1/28/15	2,942	2,684,938
Dunkin' Brands, Inc., Term Loan B, 4.00%, 11/23/17	1,344	1,327,764
Golden Living, Term Loan, 5.00%, 5/04/18	141	131,295
OSI Restaurant Partners LLC: Revolver, 2.72% - 4.50%, 6/14/13	8	7,891
	82	79,793

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Term Loan B, 2.56% - 4.50%,

6/14/14

Sabre, Inc., Non Extended Initial

Term Loan, 2.24%, 9/30/14

310

294,565

	Par (000)	Value
Floating Rate Loan Interests (b)		
Hotels, Restaurants & Leisure (concluded)		
SeaWorld Parks & Entertainment, Inc., Term Loan B, 4.00%, 8/17/17	USD 900	\$ 886,266
Six Flags Theme Parks, Inc., Tranche B Term Loan (First Lien), 4.25%, 12/20/18	420	415,502
Wendy's International, Inc.: Delayed Draw Term Loan, 0.50%, 5/15/19	502	494,900
Term Loan B, 4.75%, 5/15/19	628	620,173
		8,906,555
Household Products 0.3%		
Prestige Brands, Inc., Term Loan, 5.25% - 6.25%, 1/31/19	733	732,928
Independent Power Producers & Energy Traders 0.4%		
AES Corp., Term Loan, 4.25%, 6/01/18	941	929,101
Industrial Conglomerates 1.2%		
Schrader International, Term Loan B, 6.25%, 4/27/18	80	80,637
Sequa Corp.: Incremental Term Loan, 6.25%, 12/03/14	304	303,477
Term Loan, 3.72%, 12/03/14	1,225	1,200,939
Tomkins Plc, Term Loan B, 4.25%, 9/29/16	1,121	1,114,840
		2,699,893
Insurance 0.2%		
Asurion LLC, Term Loan (First Lien), 5.50%, 5/24/18	564	554,696
Internet Software & Services 0.3%		
Web.com Group, Inc., Term Loan B, 7.00%, 10/27/17	613	606,124
IT Services 4.0%		
Ceridian Corp., Term Loan, 3.24%, 11/10/14	1,220	1,153,261
First Data Corp.: Extended Term Loan B, 4.24%, 3/23/18	4,159	3,756,804
Term Loan B-1, 2.99%, 9/24/14	333	314,819
Term Loan B-3, 2.99%, 9/24/14	141	133,511
InfoGroup Inc., Term Loan B, 5.75%, 5/25/18	473	420,958
iPayment, Inc., Term Loan B, 5.75%, 5/08/17	511	509,723
NeuStar, Inc., Term Loan B, 5.00%, 11/08/18	771	773,053
SunGard Data Systems, Inc. (Solar Capital Corp.), Tranche B Term Loan, 3.86% - 4.09%, 2/26/16	287	283,706

BLACKROCK SENIOR HIGH INCOME FUND, INC.

MAY 31, 2012

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Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Floating Rate Loan Interests (b)		
IT Services (concluded)		
TransUnion LLC, Term Loan B, 5.50%, 2/12/18	USD 1,945	\$ 1,953,060
		9,298,895
Leisure Equipment & Products 0.4%		
Eastman Kodak Co., DIP Term Loan B, 8.50%, 7/19/13	726	726,023
Freedom Group, Inc., Term Loan, 5.50%, 4/12/19	300	298,875
		1,024,898
Machinery 1.3%		
Harbor Freight Tools USA, Inc., Term Loan B, 5.50%, 11/10/17	450	445,725
Rexnord Corp., Term Loan B, 5.00%, 4/02/18	349	347,030
Terex Corp., Term Loan B, 5.50%, 4/28/17	1,130	1,129,335
Wabash National Corp., Term Loan B, 6.00%, 5/02/19	1,025	1,014,750
		2,936,840
Media 11.0%		
Acosta, Inc., Term Loan, 4.75%, 3/01/18	305	301,340
Affinion Group, Inc., Tranche B Term Loan, 5.00%, 7/16/15	265	244,975
AMC Networks, Inc., Term Loan B, 4.00%, 12/31/18	717	710,034
Capsugel Healthcare Ltd., Term Loan, 5.25%, 8/01/18	779	778,925
Cengage Learning Acquisitions, Inc.: Term Loan, 2.49%, 7/03/14	753	680,126
Tranche 1 Incremental Term Loan, 7.50%, 7/03/14	666	637,314
Charter Communications Operating LLC: Term Loan C, 3.72%, 9/06/16	1,632	1,607,227
Term Loan D, 4.00%, 5/15/19	636	626,457
Cumulus Media, Inc., Term Loan, 5.75%, 9/17/18	1,152	1,142,520
EMI Music Publishing Ltd., Term Loan B, 11/14/17	475	472,031
Gray Television, Inc., Term Loan B, 3.74%, 12/31/14	869	859,840
HMH Publishing Co. Ltd., Term Loan, 0.00%, 6/12/14	1,338	741,614
Hubbard Broadcasting, Term Loan B (Second Lien), 5.25%, 4/28/17	557	552,331
Intelsat Jackson Holdings SA, Tranche B Term Loan, 5.25%, 4/02/18	5,824	5,772,148
	891	875,407

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Interactive Data Corp., Term Loan B, 4.50%, 2/12/18				
Kabel Deutschland GmbH, Term Loan F, 4.25%, 2/01/19		1,200		1,179,756
Floating Rate Loan Interests (b)		Par (000)		Value
Media (concluded)				
Newsday LLC, Fixed Rate Term Loan, 10.50%, 8/01/13	USD	3,250	\$	3,312,985
Nielsen Finance LLC, Class C Term Loan, 3.49%, 5/02/16		223		219,667
Sinclair Television Group, Inc., Tranche B Term Loan, 4.00%, 10/28/16		1,217		1,206,309
Univision Communications, Inc., Extended First Lien Term Loan, 4.49%, 3/31/17		1,708		1,565,018
UPC Financing Partnership: Term Loan, 4.75%, 12/29/17		350		344,575
Term Loan T, 3.74%, 12/30/16		425		419,109
WC Luxco Sarl, Term Loan B3, 4.25%, 3/15/18		311		308,759
Weather Channel, Term Loan B, 4.25%, 2/13/17		844		838,108
				25,396,575
Metals & Mining 2.2%				
Constellium Holding Co. BV, Term Loan B, 9.25%, 5/22/18		230		224,250
Novelis, Inc.: Incremental Term Loan B2, 4.00%, 3/10/17		893		873,587
Term Loan B2, 4.00%, 3/10/17		1,629		1,593,398
SunCoke Energy, Inc., Term Loan B, 4.00%, 7/26/18		844		833,081
Walter Energy, Inc., Term Loan B, 4.00%, 4/02/18		1,629		1,563,936
				5,088,252
Multiline Retail 0.3%				
99 Cents Only Stores, Term Loan B, 5.25%, 1/11/19		793		787,350
Oil, Gas & Consumable Fuels 1.7%				
Chesapeake Energy Corp., Unsecured Term Loan, 8.50%, 12/01/17		1,715		1,683,272
EP Energy LLC, Term Loan B, 6.50%, 4/24/18		455		455,287
Gibson Energy, Term Loan B, 4.75%, 6/15/18		794		789,037
Obsidian Natural Gas Trust, Term Loan, 7.00%, 11/02/15		1,034		1,034,425
				3,962,021
Paper & Forest Products 0.2%				
NewPage Corp., DIP Term Loan, 8.00%, 3/07/13		350		352,772
Pharmaceuticals 2.2%				
Aptalis Pharma, Inc., Term Loan B, 5.50%, 2/10/17		938		907,167

BLACKROCK SENIOR HIGH INCOME FUND, INC.

MAY 31, 2012

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Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Floating Rate Loan Interests (b)		
Pharmaceuticals (concluded)		
Pharmaceutical Product Development, Inc., Term Loan Tranche 2, 6.25%, 12/05/18	USD 1,592	\$ 1,591,987
Quintiles Transnational Corp., Term Loan, 5.00%, 6/08/18	700	689,000
RPI Finance Trust:		
Incremental Tranche 2 Term Loan, 4.00%, 11/09/18	170	168,513
Term Loan Tranche 2, 4.00%, 5/09/18	445	441,765
Valeant Pharmaceuticals International, Add-On Term Loan B, 4.75%, 2/13/19	730	713,392
Warner Chilcott Corp.: Term Loan B-1, 4.25%, 3/15/18	453	449,105
Term Loan B-2, 4.25%, 3/15/18	226	224,552
		5,185,481
Professional Services 0.8%		
Booz Allen Hamilton, Inc., Tranche B Term Loan, 3.75%, 8/03/17	345	343,706
Emdeon, Inc., Term Loan B, 6.75%, 11/02/18	1,321	1,317,516
ON Assignment, Inc., Term Loan B, 5.00%, 5/15/19	235	232,356
		1,893,578
Real Estate Investment Trusts (REITs) 1.0%		
iStar Financial, Inc.: Term Loan A1, 5.00%, 6/28/13	2,307	2,296,262
Term Loan A2, 7.00%, 6/30/14	80	79,800
		2,376,062
Real Estate Management & Development 1.4%		
Realogy Corp.: Extended Synthetic Letter of Credit Loan, 4.49%, 10/10/16	1,160	1,057,038
Extended Term Loan, 4.49%, 10/10/16	2,133	1,944,103
Stockbridge SBE Holdings LLC, Term Loan BTerm Loan B, 13.00%, 5/02/17	160	157,600
		3,158,741
Road & Rail 0.7%		
Avis Budget Car Rental LLC, Incremental Term Loan, 6.25%, 9/21/18	367	365,851
	830	826,198

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RailAmerica, Inc., Term Loan B,
4.00%, 3/01/19

	Par (000)	Value
Floating Rate Loan Interests (b)		
Road & Rail (concluded)		
Road Infrastructure Investment LLC, Term Loan B, 6.25%, 3/30/18	USD 440	\$ 433,400
		1,625,449
Semiconductors & Semiconductor Equipment 0.6%		
Freescall Semiconductor, Inc., Extended Term Loan B, 4.49%, 12/01/16	1,002	939,353
NXP B.V., Term Loan A-2, 5.50%, 3/03/17	507	499,178
		1,438,531
Software 1.7%		
Blackboard, Inc., Term Loan B, 7.50%, 10/04/18	324	308,993
Lawson Software, Inc., Term Loan B, 6.25%, 4/05/18	1,920	1,916,237
Sophia, LP, Term Loan B, 6.25%, 7/19/18	650	651,163
SS&C Technologies: Term Loan B-1, 5.00%, 5/11/19	852	848,680
Term Loan B-2, 5.00%, 5/13/19	88	87,795
		3,812,868
Specialty Retail 3.6%		
Academy Ltd., Term Loan, 6.00%, 8/03/18	998	997,500
Bass Pro Group LLC, Term Loan, 5.25%, 6/13/17	435	433,551
Burlington Coat Factory Warehouse Corp., Term Loan B, 5.50%, 2/28/17	712	704,847
Claire's Stores, Inc., Term Loan B, 2.99% - 3.22%, 5/29/14	542	503,585
General Nutrition Centers, Inc., Term Loan B, 4.25%, 3/02/18	705	696,568
Jo-Ann Stores, Inc., Term Loan B, 4.75%, 3/16/18	388	383,398
Michaels Stores, Inc.: Extended Term Loan B3, 5.00%, 7/29/16	239	237,921
Term Loan B2, 5.00%, 7/29/16	959	954,101
Petco Animal Supplies, Inc., Term Loan B, 4.50%, 11/24/17	1,504	1,483,827
Things Remembered, Inc., New Term Loan B, 8.00%, 5/30/18	580	568,400
Toys 'R Us Delaware, Inc.: Term Loan, 6.00%, 9/01/16	381	372,473
Term Loan B2, 5.25%, 5/25/18	162	154,320
Term Loan B3, 5.25%, 5/25/18	190	180,025

Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Floating Rate Loan Interests (b)		
Specialty Retail (concluded)		
The Yankee Candle Co., Inc., New Term Loan B, 5.25%, 4/02/19	USD 555	\$ 550,699
		8,221,215
Textiles, Apparel & Luxury Goods 0.3%		
Ascend Performance Materials LLC, Term Loan B, 6.75%, 4/10/18	755	733,611
Wireless Telecommunication Services 1.8%		
Crown Castle International Corp., Term Loan B, 4.00%, 1/31/19	409	402,840
MetroPCS Wireless, Inc., Term Loan B-3, 4.00%, 3/16/18	567	551,057
Vodafone Americas Finance 2, Inc., Term Loan, 6.88%, 8/11/15 (f)	3,046	3,091,386
		4,045,283
Total Floating Rate Loan Interests 76.3%		176,334,679

	Beneficial Interest (000)	
Other Interests (i)		
Auto Components 0.0%		
Intermet Liquidating Trust, Class A (c)	320	
Diversified Financial Services 0.4%		
J.G.Wentworth LLC Preferred Equity Interests (c)	(j)	1,033,025
Media 0.0%		
Adelphia Preferred Escrow (c)	3	
Adelphia Recovery Trust, Series ACC-6B INT (c)	250	1,250
		1,250
Total Other Interests 0.4%		1,034,275

Preferred Securities

Preferred Stocks 0.1%	Shares	
Diversified Financial Services		
Ally Financial, Inc., 7.00% (a)	170	145,764

Preferred Securities	Shares	Value
Trust Preferreds 0.2%		
Diversified Financial Services		
GMAC Capital Trust I, Series 2, 8.13%, 2/15/40 (b)	22,630	\$ 518,680
Total Preferred Securities 0.3%		664,444

Warrants (k)
Media 0.1%

Charter Communications, Inc.

(Issued/exercisable 11/30/09,

1 Share for 1 warrant, Expires

11/30/14, Strike Price \$51.28) (c)

6,862

116,654

Total Long-Term Investments
(Cost \$324,304,076) 135.7%

313,486,405

Short-Term Securities

Bank of New York Cash Reserves,

0.01 (l)

**Beneficial
Interest
(000)**

USD

517

516,814

Total Short-Term Securities
(Cost \$516,814) 0.2%

516,814

Total Investments (Cost - \$324,820,890*) 135.9%

314,003,219

Liabilities in Excess of Other Assets (35.9)%

(82,954,659)

Net Assets 100.0%

\$ 231,048,560

* As of May 31, 2012, gross unrealized appreciation and gross unrealized depreciation based on cost for federal income tax purposes were as follows:

Tax cost	\$	322,936,910
Gross unrealized appreciation	\$	6,476,974
Gross unrealized depreciation		(15,410,665)
Net unrealized depreciation	\$	(8,933,691)

- (a) 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.
- (b) Variable rate security. Rate shown is as of report date.
- (c) Non-income producing security.
- (d) Issuer filed for bankruptcy and/or is in default of principal and/or interest payments.
- (e) Represents a step-down bond that pays an initial coupon rate for the first period and then a lower coupon rate for the following periods. Rate shown is as of report date.

Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)

- (f) Represents a payment-in-kind security which may pay interest/dividends in additional par/shares.
- (g) Convertible security.
- (h) Represents a zero-coupon bond. Rate shown reflects the current yield as of report date.
- (i) Other interests represent beneficial interests in liquidation trusts and other reorganization or private entities.
- (j) Amount is less than \$500.
- (k) Warrants entitle the Fund to purchase a predetermined number of shares of common stock and are non-income producing. The purchase price and number of shares are subject to adjustment under certain conditions until the expiration date, if any.
- (l) Represents the current yield as of report date.

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:

CAD	Canadian Dollar
DIP	Debtor-In-Possession
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
FKA	Formerly Known As
USD	US Dollar

Foreign currency exchange contracts as of May 31, 2012 were as follows:

Currency Purchased		Currency Sold	Counterparty	Settlement Date	Unrealized Appreciation
USD	384,081	CAD	Citibank	7/18/12	\$ 15,094

Credit default swaps on traded indexes - sold protection outstanding as of May 31, 2012 were as follows:

Index	Receive Fixed Rate	Counter-party	Expiration Date	Issuer Credit Rating ¹	Notional Amount (000) ²	Unrealized Depreciation
Dow Jones CDX North America High Yield Index Series 18	5.00%	Deutsche Bank AG	6/20/17	Not Rated	USD 3,500	\$ (132,566)
Dow Jones CDX North America High Yield	5.00%	JPMorgan Chase & Co.	6/20/17	Not Rated	USD 5,950	(294,455)

Index
Series 18

Total	\$ (427,021)
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¹ Using Standard & Poor's rating of the underlying securities.

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

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 rating group indexes, and/or as defined by Fund management. These definitions may not apply for purposes of this report, which may combine such industry sub-classifications for reporting ease.

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

Level 1 unadjusted 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)

Changes in valuation techniques may result in transfers into or out of an assigned level within the disclosure hierarchy. In accordance with the Fund's policy, transfers between different levels of the fair value disclosure 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 investment 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 and other significant accounting policies, please refer to the Fund's most recent financial statements as contained in its annual report.

Consolidated Schedule of Investments (continued)

BlackRock Senior High Income Fund, Inc. (ARK)
(Percentages shown are based on Net Assets)

The following tables summarize the inputs used as of May 31, 2012 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 in Securities:				
Long Term Investments:				
Asset-Backed Securities		\$ 341,366	\$ 4,269,255	\$ 4,610,621
Common Stocks	\$ 664,058	114,550	337,412	1,116,020
Corporate Bonds		125,290,711	4,319,001	129,609,712
Floating Rate Loan Interests		166,117,093	10,217,586	176,334,679
Other Interests	1,250		1,033,025	1,034,275
Preferred Securities	518,680	145,764		664,444
Warrants	116,654			116,654
Short-Term Securities		516,814		516,814
Liabilities:				
Unfunded Loan Commitments		(808)		(808)
Total	\$ 1,300,642	\$ 292,525,490	\$ 20,176,279	\$ 314,002,411

Valuation Inputs	Level 1	Level 2	Level 3	Total
Derivative Financial Instruments¹				
Assets:				
Foreign currency exchange contracts		\$ 15,094		\$ 15,094
Liabilities:				
Credit contracts		(427,021)		(427,021)
Total		\$ (411,927)		\$ (411,927)

¹ Derivative financial instruments are foreign currency exchange contracts and swaps, which are valued at the unrealized appreciation/depreciation on the instrument.

Certain of the Fund's assets and liabilities are held at carrying amount, which approximates fair value for financial reporting purposes. As of May 31, 2012, such assets and liabilities are categorized within the disclosure hierarchy as follows:

Valuation Inputs	Level 1	Level 2	Level 3	Total
Assets:				
Foreign currency	\$ 4,397			\$ 4,397
Liabilities:				
Loan Payable		\$ (76,000,000)		(76,000,000)
Total	\$ 4,397	\$ (76,000,000)		\$ (75,995,603)

There were no transfers between Level 1 and Level 2 during the period ended May 31, 2012.

Consolidated Schedule of Investments (concluded)

BlackRock Senior High Income Fund (ARK)

The following table summarizes the valuation techniques used and unobservable inputs developed by the BlackRock Global Valuation Methodologies Committee to determine the fair value of certain of the Fund's Level 3 investments as of May 31, 2012:

	Value	Valuation Techniques	Unobservable Inputs ¹	Range of Unobservable Inputs	Weighted Average of Unobservable Inputs ²
Assets:					
Common Stocks	\$ 65,534	Market Comparable Companies	EBITDA Multiple	5.0x	5.0x
Corporate Bonds	4,062,381	Market Comparable Companies	EBITDA Multiple	5.0x	5.0x
Total³	\$ 4,127,915				

¹ A change to the unobservable input may result in a significant change to the value of the investment as follows:

Unobservable Input	Impact to Value if Input Increases	Impact to Value if Input Decreases
EBITDA Multiple	Increase	Decrease

² Unobservable inputs are weighted based on the value of the investments included in the range.

³ Does not include Level 3 investments with values derived utilizing prices from prior transactions or third party pricing information without adjustment for which such inputs are unobservable. See above valuation input table for values of such Level 3 investments. A significant change in the unobservable inputs could result in a significantly lower or higher value in such Level 3 investments. The following is a reconciliation of Level 3 investments for which significant unobservable inputs were used in determining fair value:

	Asset-Backed Securities	Common Stocks	Corporate Bonds	Floating Rate Loan Interests	Other Interests	Total
Assets:						
Opening balance, as of February 29, 2012	\$ 3,022,303	\$ 355,574	\$ 4,310,541	\$ 12,348,294	\$ 989,983	\$ 21,026,695
Transfers into Level 3 ¹						
Transfers out of Level 3 ¹				(2,967,667)		(2,967,667)
Accrued discounts/premiums	11,479		44,729	3,216		59,424
Net realized gain (loss)	(37,006)			(91)		(37,097)
Net change in unrealized appreciation/depreciation ²	87,085	(18,162)	(36,269)	39,194	43,035	114,883
Purchases	2,463,289			1,653,525	7	4,116,821
Sales	(1,277,895)			(858,885)		(2,136,780)
Closing balance, as of May 31, 2012	\$ 4,269,255	\$ 337,412	\$ 4,319,001	\$ 10,217,586	\$ 1,033,025	\$ 20,176,279

¹ Transfers into and transfers out of Level 3 represent the beginning of the reporting period value. As of February 29, 2012, the Fund used significant unobservable inputs in determining the value of certain investments. As of May 31, 2012, the Fund used observable inputs in determining the value on the same investments. As a result, investments with a beginning of period value of \$2,967,667 transferred from Level 3 to Level 2 in the disclosure hierarchy.

² The change in unrealized appreciation/depreciation on investments still held as of May 31, 2012 was \$(1,736).

A reconciliation of Level 3 investments is presented when the Fund had a significant amount of Level 3 investments at the beginning and/or end of the period in relation to net assets.

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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 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/ John M. Perlowski
John M. Perlowski
Chief Executive Officer (principal executive officer) of
BlackRock Senior High Income Fund, Inc.

Date: July 25, 2012

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 Senior High Income Fund, Inc.

Date: July 25, 2012

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

Date: July 25, 2012

