

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST  
Form N-CSR  
November 29, 2012

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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM N-CSR

CERTIFIED SHAREHOLDER REPORT OF REGISTERED  
MANAGEMENT INVESTMENT COMPANIES

Investment Company Act file number 811-21409

Pioneer Municipal High Income Advantage Trust  
(Exact name of registrant as specified in charter)

60 State Street, Boston, MA 02109  
(Address of principal executive offices) (ZIP code)

Terrence J. Cullen, Pioneer Investment Management, Inc.,  
60 State Street, Boston, MA 02109  
(Name and address of agent for service)

Registrant's telephone number, including area code: (617) 742-7825

Date of fiscal year end: March 31

Date of reporting period: April 1, 2012 through September 30, 2012

Form N-CSR is to be used by management investment companies to file reports with the Commission not later than 10 days after the transmission to stockholders of any report that is required to be transmitted to stockholders under Rule 30e-1 under the Investment Company Act of 1940 (17 CFR 270.30e-1). The Commission may use the information provided on Form N-CSR in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-CSR, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-CSR unless the Form displays a currently valid Office of Management and Budget ("OMB") control number. Please direct comments concerning the accuracy of the information collection burden estimate and any suggestions for reducing the burden to Secretary, Securities and Exchange Commission, 450 Fifth Street, NW, Washington, DC 20549-0609. The OMB has reviewed this collection of information under the clearance requirements of 44 U.S.C. ss. 3507.

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## ITEM 1. REPORTS TO SHAREOWNERS.

Pioneer Municipal High  
Income Advantage Trust

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Semiannual Report | September 30, 2012

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Ticker Symbol: MAV

[LOGO] PIONEER  
Investments (R)

visit us: [us.pioneerinvestments.com](http://us.pioneerinvestments.com)

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### President's Letter

Dear Shareowner,

The U.S. stock market rallied sharply through the third quarter of 2012 amid a sluggish, but nonetheless growing, U.S. economy. We have been cautiously optimistic about the U.S. from the start of the year, and the economic data continue to be encouraging. The housing and auto sectors are benefitting from record-low interest rates. The climate for consumer and business credit has improved, and inflation appears to be subdued. While corporate profits slowed in the third quarter, many U.S. companies continue to have strong balance sheets and to pay attractive dividends\* compared to fixed-income securities.

All of these factors contributed to gains for investors who owned riskier assets, including equities and higher-yielding corporate bonds. Year to date

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through September 30, 2012, the Standard & Poor's 500 Index returned 16.35%. In fixed income, the Bank of America Merrill Lynch High Yield Master II Index was up by 12.02% during the same period, while the Barclays Capital Aggregate Bond Index gained 3.99%. Treasury bonds, by contrast, generated a comparatively sluggish return of 1.70%, as measured by the Barclays Capital Intermediate Treasuries Index.

Despite this generally positive picture during the first nine months of 2012, investors face powerful macroeconomic challenges in the months ahead. These include the threat of a so-called "fiscal cliff" in the U.S. budget process after the November elections, the European sovereign-debt crisis, and slowing growth in both Europe and China. Investors can continue to count on market volatility tied to these factors, although we remain optimistic that the underlying economic trends are moving in the right direction.

At Pioneer, we have long advocated the benefits of staying diversified\*\* and investing for the long term. And while diversification alone does not assure a profit or protect against loss in a declining market, we believe in actively seeking out opportunities in undervalued securities and sectors around the globe. Our advice, as always, is to work closely with a trusted financial advisor to discuss your goals and work together to develop an investment strategy that meets your individual needs. There is no single best strategy that works for every investor.

\* Dividends are not guaranteed.

\*\* Diversification does not assure a profit or protect against loss in a declining market.

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Pioneer's investment professionals focus on finding good opportunities in both equity and bond markets using the same disciplined investment approach we have used since 1928. Our strategy is to identify undervalued individual securities with the greatest potential for success, carefully weighing risk against reward. Our teams of investment professionals continually monitor and analyze the relative valuations of different sectors and securities globally to help build portfolios that we believe can help you achieve your investment goals.

We invite you to learn more about Pioneer and our time-tested approach to investing by consulting with your financial advisor or visiting us online at [us.pioneerinvestments.com](http://us.pioneerinvestments.com). We greatly appreciate your trust in us, and we thank you for investing with Pioneer.

Sincerely,

/s/ Daniel K. Kingsbury

Daniel K. Kingsbury  
President and CEO  
Pioneer Investment Management USA, Inc.

Any information in this shareowner report regarding market or economic trends or the factors influencing the Trust's historical or future performance are statements of opinion as of the date of this report. These statements should not be relied upon for any other purposes. Past performance is no guarantee of future results, and there is no guarantee that market forecasts discussed will be realized.

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Portfolio Management Discussion | 9/30/12

Tax-advantaged municipal securities produced healthy returns during the six months ended September 30, 2012, as both traditional and non-traditional investors were drawn by attractive values in the municipal market when compared to the taxable market. In the following interview, David Eurkus discusses the factors that influenced the performance of Pioneer Municipal High Income Advantage Trust over the six-month period. Mr. Eurkus, senior vice president and portfolio manager at Pioneer, is responsible for the daily management of the Trust.

Q How did Pioneer Municipal High Income Advantage Trust perform during the six-month period ended September 30, 2012?

A Pioneer Municipal High Income Advantage Trust produced a total return of 9.77% at net asset value, and 12.69% at market price, during the six-month period ended September 30, 2012. During the same six-month period, the Trust's benchmarks, the Barclays Capital Municipal Bond Index and the Barclays Capital High Yield Municipal Bond Index, returned 4.24% and 8.06%, respectively. The Barclays Capital Municipal Bond Index is designed to track the performance of investment-grade municipal bonds, while the Barclays Capital High Yield Municipal Bond Index is designed to track the performance of lower-rated municipal bonds. During the same six-month period, the average return (at market price) of the 12 closed end funds in Lipper's High Yield Municipal Debt Closed End Funds category (which may or may not be leveraged) was 14.10%.

The shares of the Trust were selling at a 17.7% premium to net asset value at the end of the period.

Unlike the Trust, the two Barclays Capital municipal indices do not use leverage. While the use of leverage can increase investment opportunity, it also can increase investment risk.

On September 30, 2012, the standardized 30-day SEC yield on the Trust's shares was 3.84%.

Q How would you describe the investment environment during the six-month period ended September 30, 2012?

A The six-month period ended September 30, 2012, was a favorable one for municipal securities in general, with new money flowing into the municipal market. Inflows came from traditional investors seeking tax advantages as well as from institutional investors, such as banks and insurance companies, who were attracted by the competitive yields available from municipal

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securities compared with taxable investments. Both investment-grade and higher-yielding, below-investment-grade municipal securities produced more income, on an after-tax basis, than taxable securities of comparable quality and with similar maturities. As demand for municipal securities rose while supply remained limited, municipal bond prices increased and interest rates declined, delivering total returns that often were superior to those available in the taxable market during the six-month period. Moreover, municipal revenue bonds continued to be perceived as a relatively safe place for investors' money.

Q How was the Trust's portfolio positioned over the six-month period ended September 30, 2012, and how did the positioning affect the Trust's performance?

- A During the six-month period, we maintained our traditional emphasis on project revenue bonds within the Trust's portfolio. Project revenue bonds are secured by dedicated revenue streams from specific projects, such as hospitals or other health care institutions, or airport revenues. We focus the Trust's investments in these types of securities because of the reliability of their funding sources as compared with general obligation bonds, which do not require a dedicated revenue stream and can be more affected by credit rating downgrades or the general fiscal problems of a municipality or agency.

At the end of the period on September 30, 2012, health care continued to represent the largest allocation in the Trust's total investment portfolio, at 20.7% of invested assets, followed by insurance bonds (16.3% of invested assets) and tobacco revenue bonds (13.7% of invested assets). Other project revenue allocations in the Trust's portfolio included those in the airport and airport facilities, education, housing, pollution control, and water and sewer sectors.

As of September 30, 2012, 47.3% of the Trust's total investment portfolio was invested in securities with investment-grade credit ratings, while 52.7% of the Trust's total investment portfolio was held in high-yield securities.

We kept the Trust fully invested during the six-month period and maintained a duration positioning that was longer than that of the benchmarks. The longer-duration positioning helped the Trust to capture fully the benefits of the falling interest rates and the resulting increases in bond prices during the six-month period.

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- Q Did any particular types of investments have notable effects on the Trust's performance during the six-month period ended September 30, 2012?
- A In addition to benefiting from the portfolio's longer-duration positioning, the Trust's performance during the six-month period was aided by established positions with adequate call protection that had much higher yields than those currently available. Call protection limits the issuers' ability to call back their debt in order to refinance into lower-yielding substitutes.

The Trust's performance also benefited from strong security selection results from investments in both high-yield and investment-grade securities across a wide spectrum of sectors, with positions in the hospital and health care, transportation and education groups performing particularly well during the six-month period.

Our investment process for the Trust relies heavily on basic, fundamental research and the analysis of individual securities as well as the reliability of those securities' funding sources. We believe the success of the investment process can especially be seen in the Trust's performance results from the hospital and health care and industrial revenue groups. Notable examples of strong-performing individual securities in the Trust's portfolio during the period include: Temple University (Philadelphia) Hospital bonds; State of Pennsylvania Industrial Revenue bonds for U.S. Gypsum; and State of California general obligation bonds.

In transportation, a noteworthy contributor to the Trust's performance during the six-month period was an airport facility security backed by revenues from American Airlines. That particular investment had fallen in value prior to the start of the period after AMR, the parent company of the airline, filed for bankruptcy protection in November 2011. The bond price

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appreciated during the six-month period ended September 30, 2012, as investors recognized the secured nature of the revenue stream dedicated to the security.

Despite strong overall performance, the Trust did own a couple of underperforming securities during the period. Specifically, the Trust's holdings of St. Louis Industrial Development Authority (hotel-related revenue bonds), the performance of which suffered due to a restructuring of the debt, and Non-Profit Preferred Funding Trust (variable-rate municipal pool), whose underperformance was related to low distributions relative to other securities in the Trust's portfolio, generated negative returns during the six-month period.

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Q How did the level of leverage employed by the Trust change over the six-month period ended September 30, 2012?

A At the end of the six-month period ended September 30, 2012, 32.1% of the Trust's total managed assets were financed by leverage, compared with 33.4% of the Trust's total managed assets financed by leverage at the start of the period on April 1, 2012. The decrease was due to fluctuations in the values of securities in which the Trust had invested.

Q What is your investment outlook?

A While the capital markets face a number of issues, we think there continue to be good values and attractive opportunities available in the municipal market--both in high-yield and investment-grade securities. In the current environment, we think credit research will remain essential for investment success. That is especially true when selecting project revenue bonds, which we emphasize in the Trust's investment strategy. We believe we will see in the future the continued need for financing of essential projects, and that need should provide quality investment opportunities for those who focus on fundamental research of the strengths and financial reliability of each proposed project.

We certainly foresee many challenges ahead, including geopolitical issues in the Middle East, the continuing political debate in the U.S. over the country's national debt, levels of taxation, and discretionary spending policies, and litigation over public pension funds.

We plan to stay focused on intensive, independent research when selecting securities for the Trust's portfolio, looking at the different sectors involved in public finance and examining which areas we believe are most likely to have secure revenues, and which services are considered to be most essential. We are watching carefully for new areas of investment opportunity, which may include financing for charter schools, seaport facility expansions, toll road construction and maintenance, and energy production. We also will seek to identify which regional or national projects are unlikely to receive further support from the U.S. government.

Please refer to the Schedule of Investments on pages 13-24 for a full listing of Trust securities.

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Investments in high-yield or lower-rated securities are subject to greater-than-average risk.

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The Trust may invest in securities of issuers that are in default or that are in bankruptcy.

A portion of income may be subject to state, federal, and/or alternative minimum tax. Capital gains, if any, are subject to a capital gains tax.

When interest rates rise, the prices of fixed-income securities in the Trust will generally fall. Conversely, when interest rates fall, the prices of fixed-income securities in the Trust will generally rise.

By concentrating in municipal securities, the portfolio is more susceptible to adverse economic, political or regulatory developments than is a portfolio that invests more broadly.

Investments in the Trust are subject to possible loss due to the financial failure of the issuers of the underlying securities and the issuers' inability to meet their debt obligations.

The Trust currently uses leverage through the issuance of preferred shares. Leverage creates significant risks, including the risk that the Trust's income or capital appreciation will not be sufficient to cover the cost of leverage, which may adversely affect the return for the holders of common shares. Since February of 2008, regularly scheduled auctions for the Trust's preferred shares have failed and preferred shareowners have not been able to sell their shares at auction. The Board of Trustees of the Trust has considered, and continues to consider, this issue.

The Trust is required to maintain certain regulatory and rating agency asset coverage requirements in connection with its outstanding preferred shares. In order to maintain required asset coverage levels, the Trust may be required to alter the composition of its investment portfolio or take other actions, such as redeeming preferred shares with the proceeds from portfolio transactions, at what might be inopportune times in the market. Such actions could reduce the net earnings or returns to holders of the Trust's common shares over time.

Risks of investing in the Trust are discussed in greater detail in the Trust's original offering documents relating to its common shares and shareowner reports issued from time to time.

These risks may increase share price volatility.

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Past performance is no guarantee of future results, and there is no guarantee that market forecasts discussed will be realized.

Any information in this shareowner report regarding market or economic trends or the factors influencing the Trust's historical or future performance are statements of opinion as of the date of this report. These statements should not be relied upon for any other purposes.

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Portfolio Summary | 9/30/12

Portfolio Diversification

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(As a percentage of total investment portfolio)

[THE FOLLOWING DATA WAS REPRESENTED AS A PIE CHART IN THE PRINTED MATERIAL]

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Health Revenue	20.7%
Insured	16.2%
Tobacco Revenue	13.7%
Facilities Revenue	12.6%
Development Revenue	9.4%
Other Revenue	8.6%
Airport Revenue	6.1%
Education Revenue	4.5%
Pollution Control Revenue	3.8%
Transportation Revenue	2.4%
Water Revenue	1.9%
Utilities Revenue	0.1%

### Portfolio Maturity

-----  
(As a percentage of long-term holdings)

[THE FOLLOWING DATA WAS REPRESENTED AS A PIE CHART IN THE PRINTED MATERIAL]

20+ years	67.4%
10-20 years	28.9%
7-10 years	1.1%
5-7 years	0.8%
2-5 years	0.5%
0-2 year	1.3%

### Quality Distribution

-----  
(As a percentage of total investment portfolio; based on Standard & Poor's ratings)

[THE FOLLOWING DATA WAS REPRESENTED AS A PIE CHART IN THE PRINTED MATERIAL]

AAA	3.0%
AA	17.8%
A	8.0%
BBB	18.5%
BB	7.6%
B	8.6%
CCC	2.1%
D	0.1%
Not Rated	34.3%

Bond ratings are ordered highest to lowest in portfolio. Based on Standard & Poor's measures, AAA (highest possible rating) through BBB are considered investment grade; BB or lower ratings are considered non-investment grade. Cash equivalents and some bonds may not be rated.

The portfolio is actively managed and current holdings may be different.



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Prices and Distributions | 9/30/12

Share Prices and Distributions

Market Value per Common Share

	9/30/12	3/31/12
	\$15.99	\$14.72
Premium	17.7%	14.4%

Net Asset Value per Common Share

	9/30/12	3/31/12
	\$13.59	\$12.87

Distributions per Common Share

	Net Investment Income	Short-Term Capital Gains	Long-Term Capital Gains
4/1/12-9/30/12	\$0.57	\$--	\$--

10 Largest Holdings

(As a percentage of long-term holdings)\*

1. University of California, RIB, 13.177%, 5/15/32	2.60%
2. North Texas Tollway Authority Revenue, 5.75%, 1/1/33	2.41

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3.	Massachusetts Housing Finance Agency Revenue, 5.35%, 12/1/45	2.41
4.	Massachusetts Development Finance Agency Revenue, 5.75%, 1/1/42	2.35
5.	Lehman Municipal Trust Receipts General Obligations, 12.866%, 7/28/31	2.35
6.	Houston Texas Airport System Special Facilities Revenue, 6.75%, 7/1/29	2.23
7.	California County Tobacco Securitization Agency Revenue, 5.25%, 6/1/46	1.93
8.	New Jersey Transportation Trust Fund Authority Revenue, 0.0%, 12/15/27	1.87
9.	Tobacco Settlement Financing Corp., Revenue, 6.25%, 6/1/42	1.87
10.	Non-Profit Preferred Funding Trust I, 6.75%, 9/15/37	1.83

\* This list excludes temporary cash investments and derivative instruments. The portfolio is actively managed, and current holdings may be different. The holdings listed should not be considered recommendations to buy or sell any security listed.

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Performance Update | 9/30/12

### Investment Returns

The mountain chart on the right shows the change in market value, including reinvestment of dividends and distributions, of a \$10,000 investment made in common shares of Pioneer Municipal High Income Advantage Trust, compared to that of the Barclays Capital Municipal Bond Index and the Barclays Capital High Yield Municipal Bond Index.

Average Annual Total Returns  
(As of March 31, 2012)

Period	Net Asset Value (NAV)	Market Price
Life-of-Class (10/17/2003)	7.33%	8.74%
5 Years	6.31	9.59
1 Year	16.77	18.00

[THE FOLLOWING DATA WAS REPRESENTED AS A MOUNTAIN CHART IN THE PRINTED MATERIAL]

Value of \$10,000 Investment

Pioneer Municipal High Income Advantage Trust	Barclays Capital Municipal Bond Index	Barclays Capital High Yield Municipal Bond Index
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10/31/2003	\$ 10,000	\$ 10,000	\$ 10,000
9/30/2004	\$ 9,965	\$ 10,513	\$ 11,043
9/30/2005	\$ 11,335	\$ 10,939	\$ 12,231
9/30/2006	\$ 12,310	\$ 11,425	\$ 13,544
9/30/2007	\$ 13,392	\$ 11,779	\$ 13,932
9/30/2008	\$ 9,595	\$ 11,559	\$ 12,533
9/30/2009	\$ 12,443	\$ 13,275	\$ 13,104
9/30/2010	\$ 15,558	\$ 14,046	\$ 14,694
9/30/2011	\$ 16,720	\$ 14,592	\$ 15,308
9/30/2012	\$ 21,180	\$ 15,805	\$ 17,571

Call 1-800-225-6292 or visit [us.pioneerinvestments.com](http://us.pioneerinvestments.com) for the most recent month-end performance results. Current performance may be lower or higher than the performance data quoted.

Performance data shown represents past performance. Past performance is no guarantee of future results. Investment return and market price will fluctuate, and your shares may trade below NAV due to such factors as interest rate changes and the perceived credit quality of borrowers.

Total investment return does not reflect broker sales charges or commissions. All performance is for common shares of the Trust.

Closed-end funds, unlike open-end funds, are not continuously offered. There is a one-time public offering and, once issued, shares of closed-end funds are sold in the open market through a stock exchange, and frequently trade at prices lower than their NAV. NAV per common share is total assets less total liabilities, which includes preferred shares, divided by the number of common shares outstanding.

When NAV is lower than market price, dividends are assumed to be reinvested at the greater of NAV or 95% of the market price. When NAV is higher, dividends are assumed to be reinvested at prices obtained under the Trust's dividend reinvestment plan.

The performance table and graph do not reflect the deduction of fees and taxes that a shareowner would pay on Trust distributions or the sale of Trust shares.

Index comparison begins October 31, 2003. The Barclays Capital Municipal Bond Index is a broad measure of the municipal bond market. The Barclays Capital High Yield Municipal Bond Index totals over \$26 billion in market value and maintains over 1300 securities. Municipal bonds in this index have the following requirements: maturities of one year or greater, sub investment grade (below Baa or non-rated), fixed coupon rate, issue date later than 12/31/90, deal size over \$20 million, maturity size of at least \$3 million. Index returns are calculated monthly, assume reinvestment of dividends and, unlike Trust returns, do not reflect any fees, expenses or sales charges. The indices do not employ leverage. You cannot invest directly in the indices.

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Schedule of Investments | 9/30/12 (unaudited)

Principal Amount USD (\$)	S&P/Moody's Ratings	Value
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		TAX EXEMPT OBLIGATIONS -- 139.2% of Net Assets	
2,500,000	B-/B2	Alabama -- 1.6%	
		Alabama Industrial Development Authority Solid Waste Disposal Revenue, 6.45%, 12/1/23	\$
2,500,000	NR/NR	Huntsville-Redstone Village Special Care Facilities Financing Authority, 5.5%, 1/1/43	
			-----
			\$
-----			
5,000,000	NR/NR	Arizona -- 3.3%	
		Casa Grande Industrial Development Authority Hospital Revenue, 7.625%, 12/1/29	\$
1,487,000	NR/Baa3	Pima County Industrial Development Authority, 6.75%, 7/1/31	
2,640,000	NR/NR	Pima County Industrial Development Authority, 7.0%, 1/1/38	
1,000,000	NR/NR	San Luis Facility Development Corp., 7.25%, 5/1/27	
			-----
			\$
-----			
11,990,000	CCC/NR	California -- 19.1%	
		California County Tobacco Securitization Agency Revenue, 5.25%, 6/1/46	\$
1,450,000	NR/NR	California Enterprise Development Authority Recovery Zone Facility Revenue, 8.5%, 4/1/31	
2,425,000	A-/A1	California State General Obligation Various Purpose, 5.75%, 4/1/31	
4,000,000	BB/NR	California Statewide Communities Development Authority, 7.25%, 10/1/38 (144A)	
757,342 (a)	NR/NR	California Statewide Communities Development Authority Environmental Facilities Revenue, 9.0%, 12/1/38	
2,680,000 (b)	AA+/Aaa	Golden State Tobacco Securitization Corp., 6.75%, 6/1/39	
2,500,000	NR/Ba1	Hesperia Public Financing Authority Tax Allocation, 5.5%, 9/1/27	
8,575,000 (c)	AA-/NR	Lehman Municipal Trust Receipts General Obligation, 12.866%, 7/28/31	
3,140,000	AA-/WR	Lehman Municipal Trust Receipts Revenue, RIB, 12.959%, 9/20/28 (144A)	
1,500,000	A-/NR	Madera Irrigation Financing Authority Water Revenue, 6.25%, 1/1/31	
1,500,000	A-/NR	Madera Irrigation Financing Authority Water Revenue, 6.5%, 1/1/40	
2,500,000	A-/A2	San Jose California Airport Revenue, 5.0%, 3/1/37	
7,000,000	B-/Caa1	Tobacco Securitization Authority of Northern California Revenue, 5.375%, 6/1/38	
10,500,000	AA-/NR	University of California, RIB, 13.177%, 5/15/32	
			-----
			\$
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The accompanying notes are an integral part of these financial statements.

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Schedule of Investments | 9/30/12 (unaudited) (continued)

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Principal Amount USD (\$)	S&P/Moody's Ratings		Value
\$ 1,000,000	NR/NR	Colorado -- 0.3% Kremmling Memorial Hospital District Certificate of Participation, 7.125%, 12/1/45	\$
7,750,000	BBB/Baa1	Connecticut -- 2.8% Connecticut State Development Authority Revenue, 5.75%, 11/1/37	\$
1,000,000	NR/NR	Hamden Connecticut Facility Revenue, 7.75%, 1/1/43	\$
2,700,000	BBB/Baa1	District of Columbia -- 3.1% District of Columbia Tobacco Settlement Financing Corp., 6.5%, 5/15/33	\$
6,825,000	BBB/Baa1	District of Columbia Tobacco Settlement Financing Corp., 6.75%, 5/15/40	\$
1,500,000	NR/NR	Florida -- 4.7% Alachua County Health Facilities Authority Revenue, 8.125%, 11/15/41	\$
1,500,000	NR/NR	Alachua County Health Facilities Authority Revenue, 8.125%, 11/15/46	
500,000	NR/Ba3	Capital Trust Agency Revenue Bonds, 7.75%, 1/1/41	
1,000,000	NR/NR	Florida Development Finance Corp., Educational Facilities Revenue, 6.0%, 9/15/40	
2,000,000	NR/NR	Florida Development Finance Corp., Educational Facilities Revenue, 7.625%, 6/15/41	
1,000,000	NR/NR	Florida Development Finance Corp., Educational Facilities Revenue, 7.75%, 6/15/42	
1,980,000	NR/NR	Hillsborough County Industrial Development Authority, 6.75%, 7/1/29	
1,000,000 (b)	NR/WR	Hillsborough County Industrial Development Authority Revenue, 8.0%, 8/15/32	
2,500,000	A-/A2	Miami-Dade County Florida Aviation Revenue, 5.5%, 10/1/41	\$
5,210,000	AA-/WR	Georgia -- 4.3% Atlanta Georgia Water and Wastewater Revenue, RIB, 12.959%, 1/30/13 (144A)	\$
1,000,000	CCC+/NR	Clayton County Development Authority Revenue, 9.0%, 6/1/35	
900,000	NR/NR	DeKalb County Georgia Hospital Authority Revenue, 6.0%, 9/1/30	
750,000	NR/NR	DeKalb County Georgia Hospital Authority Revenue, 6.125%, 9/1/40	
3,360,000	NR/NR	Fulton County Residential Care Facilities for the Elderly Authority, 7.0%, 7/1/29	

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The accompanying notes are an integral part of these financial statements.

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Principal Amount USD (\$)	S&P/Moody's Ratings		Value
\$ 1,650,000	NR/NR	Georgia -- (continued) Savannah Georgia Economic Development Authority Revenue, 7.4%, 1/1/34	\$
			\$
1,000,000	B/NR	Guam -- 1.8% Guam Government of Department Education Certificates of Participation, 6.625%, 12/1/30	\$
4,400,000 (b)	AA+/B2	Northern Mariana Islands, 6.75%, 10/1/33	\$
			\$
2,000,000	BBB+/Baa1	Idaho -- 1.1% Power County Industrial Development Corp. Revenue, 6.45%, 8/1/32	\$
1,500,000	BBB+/Baa1	Power County Pollution Control Revenue, 5.625%, 10/1/14	\$
			\$
1,000,000	NR/Baa2	Illinois -- 6.6% City of Country Club Hills General Obligation, 5.0%, 12/1/31	\$
1,450,000	A+/A1	Illinois Finance Authority Revenue, 5.5%, 4/1/39	
1,605,000	AA-/Aa3	Illinois Finance Authority Revenue, 6.0%, 8/15/25	
1,000,000 (a)	NR/NR	Illinois Finance Authority Revenue, 6.0%, 11/15/27	
280,000	BBB+/NR	Illinois Finance Authority Revenue, 6.0%, 8/15/38	
2,000,000	AA+/Aa2	Illinois Finance Authority Revenue, 6.0%, 8/15/39	
2,500,000	NR/NR	Illinois Finance Authority Revenue, 6.125%, 11/15/25	
6,000,000	NR/NR	Illinois Finance Authority Revenue, 8.25%, 5/15/45	
2,500,000	NR/NR	Illinois Finance Authority Revenue, 8.25%, 2/15/46	
2,270,000	NR/NR	Southwestern Illinois Development Authority Revenue, 5.625%, 11/1/26	\$
			\$
250,000	NR/NR	Indiana -- 0.9% City of Carmel Indiana Nursing Home Revenue, 7.0%, 11/15/32	\$
750,000	NR/NR	City of Carmel Indiana Nursing Home Revenue, 7.125%, 11/15/42	
500,000	NR/NR	City of Carmel Indiana Nursing Home Revenue,	

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250,000	NR/Baa3	7.125%, 11/15/47 East Chicago Indiana Exempt Facilities Revenue, 7.0%, 1/1/14
1,805,000	NR/NR	Vincennes Industrial Economic Development Revenue, 6.25%, 1/1/24

-----  
\$

The accompanying notes are an integral part of these financial statements.

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Schedule of Investments | 9/30/12 (unaudited) (continued)

Principal Amount USD (\$)	S&P/Moody's Ratings		Value
\$ 1,000,000	NR/A2	Kansas -- 0.3% Kansas Development Finance Authority Revenue, 5.0%, 5/15/35	\$
4,390,000	BB/NR	Kentucky -- 1.4% Kentucky Economic Development Finance Authority Hospital System Revenue, 5.875%, 10/1/22	\$
5,000,000	BBB-/Baa2	Louisiana -- 5.9% Jefferson Parish Hospital Service Revenue, 6.375%, 7/1/41	\$
2,500,000	BBB-/Baa3	Louisiana Local Government Environmental Facilities & Community Development Authority Revenue, 6.75%, 11/1/32	
6,000,000	NR/Baa1	Louisiana Public Facilities Authority Revenue, 5.5%, 5/15/47	
750,000	BBB-/NR	Opelousas Louisiana General Hospital Authority Revenue, 5.75%, 10/1/23	
2,915,000	A-/A3	Tobacco Settlement Financing Corp. Revenue, 5.875%, 5/15/39	----- \$
1,500,000	NR/Baa3	Maine -- 0.6% Maine Health & Higher Educational Facilities Authority Revenue, 7.5%, 7/1/32	\$
460,000	NR/NR	Maryland -- 1.7% Maryland Health & Higher Educational Facilities Authority Revenue, 5.25%, 1/1/27	\$
1,250,000	NR/NR	Maryland Health & Higher Educational Facilities Authority Revenue, 5.3%, 1/1/37	
1,250,000	NR/Baa3	Maryland Health & Higher Educational Facilities Authority Revenue, 5.75%, 7/1/38	
2,000,000	NR/NR	Maryland Health & Higher Educational Facilities Authority Revenue, 6.25%, 1/1/45	

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Amount	Ratings	Description	Value
675,000	BB/NR	Massachusetts -- 9.5% Massachusetts Development Finance Agency Revenue, 5.25%, 10/1/18	\$
8,000,000	A/WR	Massachusetts Development Finance Agency Revenue, 5.75%, 1/1/42	
1,845,000	NR/NR	Massachusetts Development Finance Agency Revenue, 7.1%, 7/1/32	
2,195,000	BBB-/Baa3	Massachusetts Health & Educational Facilities Authority Revenue, 5.375%, 7/15/28	
2,000,000	AAA/Aaa	Massachusetts Health & Educational Facilities Authority Revenue, 5.5%, 7/1/32	
1,000,000	NR/Baa2	Massachusetts Health & Educational Facilities Authority Revenue, 6.0%, 10/1/23	

The accompanying notes are an integral part of these financial statements.

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Principal Amount USD (\$)	S&P/Moody's Ratings	Description	Value
\$ 3,420,000 (a)	NR/NR	Massachusetts -- (continued) Massachusetts Health & Educational Facilities Authority Revenue, 6.5%, 1/15/38	\$
10,760,000	AA-/Aa3	Massachusetts Housing Finance Agency Revenue, 5.35%, 12/1/45	\$
2,000,000	NR/Ba1	Michigan -- 1.7% Flint Michigan Hospital Building Authority Revenue, 7.375%, 7/1/35	\$
2,235,000	BB+/NR	Kent Hospital Finance Authority Revenue, 6.25%, 7/1/40	
725,000	NR/NR	Michigan Public Educational Facilities Authority Revenue, 7.0%, 10/1/36	\$
1,000,000	NR/NR	Minnesota -- 0.4% Port Authority of the City of Bloomington, Minnesota Recovery Zone Facility Revenue, 9.0%, 12/1/35	\$
1,000,000	NR/NR	Missouri -- 1.1% Kansas City Tax Increment Financing Commission Tax Increment Revenue, 6.5%, 6/1/25	\$
1,500,000 (a) (d)	NR/Ca	St. Louis Industrial Development Authority Revenue, 7.2%, 12/15/28	
6,640,000 (a) (d)	NR/Ca	St. Louis Industrial Development Authority Revenue, 7.25%, 12/15/35	



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Principal Amount USD (\$)	S&P/Moody's Ratings	Description	Value
2,445,000 (e)	NR/NR	Montana -- 0.7% Hardin Increment Industrial Infrastructure Development Revenue, 0.0%, 9/1/31	\$
1,000,000 (a) (d)	NR/NR	Two Rivers Authority Inc., Project Revenue, 7.375%, 11/1/27	\$
1,600,000 (a) (d)	NR/NR	Nevada -- 1.5% Director of the State of Nevada Department of Business & Industry Transportation Revenue, 7.25%, 1/1/23	\$
1,000,000 (a)	NR/NR	Director of the State of Nevada Department of Business & Industry Transportation Revenue, 7.375%, 1/1/30	\$
1,320,000 (a) (d)	NR/NR	Director of the State of Nevada Department of Business & Industry Transportation Revenue, 7.375%, 1/1/40	\$
4,500,000	A-/A3	Reno Nevada Hospital Revenue, 5.25%, 6/1/41	\$

The accompanying notes are an integral part of these financial statements.

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Schedule of Investments | 9/30/12 (unaudited) (continued)

Principal Amount USD (\$)	S&P/Moody's Ratings	Description	Value
\$ 1,125,000	NR/NR	New Hampshire -- 0.4% New Hampshire Health & Education Facilities Authority Revenue, 5.875%, 7/1/34	\$
2,500,000	NR/NR	New Jersey -- 12.0% Burlington County New Jersey Bridge Commission Revenue, 5.625%, 1/1/38	\$
1,500,000	NR/NR	New Jersey Economic Development Authority Revenue, 10.5%, 6/1/32 (144A)	\$
7,500,000	B-/B3	New Jersey Economic Development Authority Revenue, 5.75%, 9/15/27	\$
3,500,000 (d)	AA-/WR	New Jersey State Turnpike Authority Transportation Revenue, RIB, 13.555%, 7/1/23 (144A)	\$
15,375,000 (e)	AA+/Aa1	New Jersey Transportation Trust Fund Authority Revenue, 0.0%, 12/15/27	\$
2,000,000	B-/B1	Tobacco Settlement Financing Corp., Revenue, 4.625%, 6/1/26	\$
1,000,000 (b)	AA+/Aaa	Tobacco Settlement Financing Corp., Revenue, 6.25%, 6/1/43	\$
3,250,000 (b)	AA+/Aaa	Tobacco Settlement Financing Corp., Revenue, 6.75%, 6/1/39	\$

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5,000,000 (b)	AA+/Aaa	Tobacco Settlement Financing Corp., Revenue, 7.0%, 6/1/41	----- \$
-----			
1,730,000	NR/NR	New York -- 8.2% Dutchess County Industrial Development Agency Revenue, 7.5%, 3/1/29	\$
7,000,000	BB/B2	New York City Industrial Development Agency Revenue, 5.25%, 12/1/32	
3,950,000	BB/B2	New York City Industrial Development Agency Revenue, 7.625%, 12/1/32	
5,000,000	AAA/Aaa	New York State Dormitory Authority Revenue, 5.0%, 10/1/41	
2,000,000	NR/Ba1	New York State Dormitory Authority Revenue, 6.125%, 12/1/29	
5,000,000	AAA/Aaa	New York State Environmental Facilities Corp. Water Revenue, 5.0%, 6/15/33	----- \$
-----			
5,010,000	NR/NR	North Carolina -- 1.6% Charlotte North Carolina Special Facilities Revenue, 7.75%, 2/1/28	\$
-----			
1,500,000	NR/NR	Ohio -- 1.8% Adams County Hospital Facilities Revenue, 6.5%, 9/1/36	\$
5,000,000	B-/B3	Buckeye Tobacco Settlement Financing Authority Revenue, 6.5%, 6/1/47	----- \$

The accompanying notes are an integral part of these financial statements.

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Principal Amount USD (\$)	S&P/Moody's Ratings		Value
\$ 2,220,000 (a)	NR/WR	Oklahoma -- 1.8% Tulsa Municipal Airport Trust Revenue, 6.25%, 6/1/20	\$
3,000,000 (a) (c)	NR/WR	Tulsa Municipal Airport Trust Revenue, 7.75%, 6/1/35	----- \$
-----			
2,000,000	A-/NR	Oregon -- 0.7% Oregon State Facilities Authority Revenue, 5.25%, 10/1/40	\$
-----			
2,000,000	BBB-/Ba1	Pennsylvania -- 4.1% Pennsylvania Economic Development Financing	

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1,000,000	BB/NR	Authority Revenue, 4.625%, 12/1/18 Pennsylvania Economic Development Financing Authority Revenue, 5.125%, 6/1/18	\$
5,000,000	B-/Caa2	Pennsylvania Economic Development Financing Authority Solid Waste Disposal Revenue, 6.0%, 6/1/31	
5,000,000	BBB-/Ba1	Philadelphia Hospitals & Higher Education Facilities Authority Revenue, 5.0%, 7/1/34	
			----- \$
-----			
1,385,000 (d)	NR/NR	Rhode Island -- 3.6% Central Falls Rhode Island Detention Facility Corp. Revenue, 7.25%, 7/15/35	\$
1,500,000	NR/NR	Rhode Island Health & Educational Building Corp., Revenue, 8.375%, 1/1/46	
8,285,000	BB/Ba1	Tobacco Settlement Financing Corp. Revenue, 6.25%, 6/1/42	
			----- \$
-----			
8,000,000 (b)	BBB+/Baa1	South Carolina -- 4.7% South Carolina Jobs Economic Development Authority Revenue, 6.375%, 8/1/34	\$
4,400,000 (f)	BBB/WR	Tobacco Settlement Revenue Management Authority, 6.375%, 5/15/30	
			----- \$
-----			
5,000,000	BBB+/Baa1	Tennessee -- 2.9% Johnson City Health & Educational Facilities Board Hospital Revenue, 6.5%, 7/1/38	\$
3,000,000	BBB+/NR	Sullivan County Health, Educational & Housing Facilities Board Revenue, 5.25%, 9/1/36	
			----- \$
-----			
2,400,000	BB+/Ba1	Texas -- 15.0% Central Texas Regional Mobility Authority Revenue, 6.75%, 1/1/41	\$

The accompanying notes are an integral part of these financial statements.

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Schedule of Investments | 9/30/12 (unaudited) (continued)

Principal Amount USD (\$)	S&P/Moody's Ratings		Value
-----			
\$ 2,663,453 (a) (d)	NR/NR	Texas -- (continued) Gulf Coast Industrial Development Authority Revenue, 7.0%, 12/1/36	\$
10,000,000	B-/B3	Houston Texas Airport System Special Facilities Revenue, 6.75%, 7/1/29	

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595,000	NR/NR	IAH Public Facility Corp., Facilities Revenue, Series 2006, 6.0%, 5/1/16
1,000,000	NR/NR	IAH Public Facility Corp., Facilities Revenue, Series 2006, 6.0%, 5/1/21
1,350,000	NR/NR	IAH Public Facility Corp., Facilities Revenue, Series 2006, 6.125%, 5/1/26
3,000,000	NR/NR	Jefferson County Industrial Development Corp., Revenue, 8.25%, 7/1/32
2,240,000	AA-/Aa3	Lower Colorado River Authority Power Revenue, 5.0%, 5/15/31
845,000	NR/NR	Lubbock Health Facilities Development Corp., Nursing Home Revenue, 6.5%, 7/1/26
2,000,000	NR/NR	Lubbock Health Facilities Development Corp., Nursing Home Revenue, 6.625%, 7/1/36
9,750,000	BBB+/A3	North Texas Tollway Authority Revenue, 5.75%, 1/1/33
1,711,000	NR/Aaa	Panhandle Regional Housing Finance Corp., Multifamily Housing Revenue, 6.6%, 7/20/31
1,500,000	NR/NR	Red River Health Facilities Development Corp., Revenue, 8.0%, 11/15/41
1,000,000	A+/A1	Richardson Hospital Authority Revenue, 6.0%, 12/1/34
3,000,000	NR/NR	Sanger Industrial Development Corp., Revenue, 8.0%, 7/1/38
1,000,000	NR/NR	Tarrant County Cultural Education Facilities Finance Corp., Revenue, 8.125%, 11/15/39
1,500,000	NR/NR	Tarrant County Cultural Education Facilities Finance Corp., Revenue, 8.25%, 11/15/44
1,000,000 (a) (d)	D/NR	Texas Midwest Public Facility Corp., Revenue, 9.0%, 10/1/30
2,500,000	NR/NR	Travis County Health Facilities Development Corp. Revenue, 7.125%, 1/1/46

-----  
\$

2,000,000	BBB+/Baa1	Virginia -- 0.8% Washington County Industrial Development Authority Revenue, 7.75%, 7/1/38	\$
1,125,000	BBB/A3	Washington -- 3.8% Tobacco Settlement Authority Revenue, 6.5%, 6/1/26	\$
1,500,000	NR/Baa3	Washington State Health Care Facilities Authority Revenue, 5.5%, 12/1/39	

The accompanying notes are an integral part of these financial statements.

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Principal Amount USD (\$)	S&P/Moody's Ratings		Value
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\$ 2,000,000	BBB/Baa2	Washington -- (continued) Washington State Health Care Facilities Authority Revenue, 6.125%, 8/15/37	\$
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2,000,000	BBB/Baa2	Washington State Health Care Facilities Authority Revenue, 6.25%, 8/15/42	
5,000,000	NR/NR	Washington State Housing Finance Committee Nonprofit Revenue, 5.625%, 1/1/27	
			\$
-----			
750,000	NR/NR	West Virginia -- 0.3% West Virginia Hospital Finance Authority Hospital Revenue Bonds, 9.125%, 10/1/41	\$
-----			
2,900,000 (g)	NR/NR	Wisconsin -- 3.1% Aztalan Township, 7.5%, 5/1/18	\$
2,500,000	NR/NR	Wisconsin Public Finance Authority Continuing Care Retirement Community Revenue, 8.25%, 6/1/46	
1,000,000 (b)	NR/NR	Wisconsin State Health & Educational Facilities Authority Revenue, 6.125%, 4/1/24	
1,000,000 (b)	NR/NR	Wisconsin State Health & Educational Facilities Authority Revenue, 6.25%, 4/1/34	
1,500,000	A+/A1	Wisconsin State Health & Educational Facilities Authority Revenue, 6.625%, 2/15/39	
1,500,000	NR/NR	Wisconsin State Public Finance Authority Revenue, 8.375%, 6/1/20	
1,500,000	NR/NR	Wisconsin State Public Finance Authority Revenue, 8.625%, 6/1/47	
			\$
-----			
TOTAL TAX EXEMPT OBLIGATIONS (Cost \$397,566,309)			\$
-----			
13,000,000 (c) (d)	NR/NR	MUNICIPAL COLLATERALIZED DEBT OBLIGATION -- 2.6% of Net Assets Non-Profit Preferred Funding Trust I, 6.75%, 9/15/37 (144A)	\$
-----			
TOTAL MUNICIPAL COLLATERALIZED DEBT OBLIGATION (Cost \$13,000,000)			\$
-----			
2,600,000	NR/NR	TAX EXEMPT MONEY MARKET MUTUAL FUND -- 0.8% of Net Assets BlackRock Liquidity Funds MuniFund Portfolio	\$
-----			
TOTAL TAX EXEMPT MONEY MARKET MUTUAL FUND (Cost \$2,600,000)			\$
-----			

The accompanying notes are an integral part of these financial statements.

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Schedule of Investments | 9/30/12 (unaudited) (continued)

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Principal Amount USD (\$)	S&P/Moody's Ratings		Value
		TOTAL INVESTMENTS IN SECURITIES -- 142.6% (Cost \$413,166,309) (h) (i)	\$
		OTHER ASSETS AND LIABILITIES -- 4.7%	\$
		PREFERRED SHARES AT REDEMPTION VALUE, INCLUDING DIVIDENDS PAYABLE -- (47.3)%	\$
		NET ASSETS APPLICABLE TO COMMON SHAREOWNERS --100.0%	\$

NR Security not rated by S&P or Moody's.

WR Rating withdrawn by either S&P or Moody's.

(144A) Security is exempt from registration under Rule 144A of the Securities Act of 1933. Such securities may be resold normally to qualified institutional buyers in a transaction exempt from registration. At September 30, 2012, the value of these securities amounted to \$30,250,775, or 9.5% of total net assets applicable to common shareowners.

RIB Residual Interest Bonds. The interest rate is subject to change periodically and inversely based upon prevailing market rates. The interest rate shown is the rate September 30, 2012.

(a) Security is in default and is non-income producing.

(b) Prerefunded bonds have been collateralized by U.S. Treasury or U.S. Government Agency securities which are held in escrow to pay interest and principal on the tax exempt issue and to retire the bonds in full at the earliest refunding date.

(c) The interest rate is subject to change periodically. The interest is shown is the rate at September 30, 2012.

(d) Indicates a security that has been deemed as illiquid. The aggregate cost of illiquid securities is \$29,084,559. The aggregate fair value of \$12,425,114 represents 3.9% of total net assets applicable to common shareowners.

(e) Security issued with a zero coupon. Income is recognized through accretion of discount.

(f) Escrow to maturity.

(g) Security is valued using fair value methods.

The accompanying notes are an integral part of these financial statements.

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(h) The concentration of investments by type of obligation/ market sector

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is as follows:

Insured	
FSA	6.1%
FSA-CR	2.3
AMBAC GO OF INSTN	2.3
BHAC-CR MBIA	1.9
AMBAC	1.0
GO OF INSTN	0.6
AGM	0.5
XLCA	0.5
GNMA COLL	0.4
ASSURED GTY	0.4
NATL-RE	0.2
Revenue Bonds:	
Health Revenue	20.7
Tobacco Revenue	13.7
Facilities Revenue	12.6
Development Revenue	9.4
Other Revenue	8.6
Airport Revenue	6.1
Education Revenue	4.5
Pollution Control Revenue	3.8
Transportation Revenue	2.4
Water Revenue	1.9
Utilities Revenue	0.1
	-----
	100.0%
	=====

- (i) At September 30, 2012, the net unrealized gain on investments based on cost for federal tax purposes of \$412,818,326 was as follows:

Aggregate gross unrealized gain for all investments in which there is an excess of value over tax cost	\$ 60,685,7
Aggregate gross unrealized loss for all investments in which there is an excess of tax cost over value	(21,267,1
	-----
Net unrealized gain	\$ 39,418,6
	=====

For financial reporting purposes net unrealized gain on investments was \$39,150,672 and cost of investments aggregated \$413,166,309.

Purchases and sales of securities (excluding temporary cash investments) for the six months ended September 30, 2012 aggregated \$28,076,435 and \$12,280,594, respectively.

Principal amounts are denominated in U.S. dollars unless otherwise noted.

The accompanying notes are an integral part of these financial statements.

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Schedule of Investments | 9/30/12 (unaudited) (continued)

Various inputs are used in determining the value of the Trust's investments. These inputs are summarized in the three broad levels below.

- Level 1 - quoted prices in active markets for identical securities
- Level 2 - other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds credit risks, etc.)
- Level 3 - significant unobservable inputs (including the Trust's own assumptions in determining fair value of investments)

Generally, equity securities are categorized as Level 1, fixed income securities and senior loans are categorized as Level 2, and securities valued using fair value methods (other than prices supplied by independent pricing services) are categorized as Level 3. See Notes to Financial Statements -- Note 1A

The following is a summary of the inputs used as of September 30, 2012, in valuing the Trust's investments.

	Level 1	Level 2	Level 3	Total
Tax exempt obligations	\$ --	\$ 441,506,831	\$ --	\$ 441,506,831
Municipal collateralized debt obligation	--	8,210,150	--	8,210,150
Tax exempt money market mutual fund	2,600,000	--	--	2,600,000
<b>Total</b>	<b>\$ 2,600,000</b>	<b>\$ 449,716,981</b>	<b>\$ --</b>	<b>\$ 452,316,981</b>

The following is a reconciliation of assets valued using significant unobservable inputs (level 3):

	Balance as of 3/31/12	Realized gain (loss)	Change in Unrealized appreciation (depreciation)	Purchases	Sales	Accrued discounts/premiums	Transfers in to Level 3*
Tax exempt obligations	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --
<b>Total</b>	<b>\$ --</b>	<b>\$ --</b>	<b>\$ --</b>	<b>\$ --</b>	<b>\$ --</b>	<b>\$ --</b>	<b>\$ --</b>

\* Transfers are calculated on the end of period value.

\*\* Azatlan Township is fair valued at \$0.

The accompanying notes are an integral part of these financial statements.

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Statement of Assets and Liabilities | 9/30/12 (unaudited)

## ASSETS:

Investments in securities, at value (cost \$413,166,309)	\$ 452,316
Cash	2,243
Receivables for --	
Investment securities sold	3,000
Interest receivable	8,437
Reinvestment of distributions	158
Prepaid expenses	22
Other assets	1,524

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Total assets	\$ 467,702
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## LIABILITIES:

Due to affiliates	\$ 220
Administration fee	73
Accrued expenses	192
Other liabilities	4

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Total liabilities	\$ 492
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## PREFERRED SHARES AT REDEMPTION VALUE:

\$25,000 liquidation value per share applicable to 6,000 shares, including dividends payable of \$8,301	\$ 150,008
--	------------

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## NET ASSETS APPLICABLE TO COMMON SHAREOWNERS:

Paid-in capital	\$ 331,728
Undistributed net investment income	6,526
Accumulated net realized loss on investments	(60,203)
Net unrealized gain on investments	39,150

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Net assets applicable to common shareowners	\$ 317,202
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## NET ASSET VALUE PER COMMON SHARE:

No par value (unlimited number of shares authorized)	
Based on \$317,202,037/23,345,818 common shares	\$ 1

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The accompanying notes are an integral part of these financial statements.

Pioneer Municipal High Income Advantage Trust | Semiannual Report | 9/30/12 25

Statement of Operations (unaudited)

For the Six Months Ended 9/30/12

## INVESTMENT INCOME:

Interest	\$ 12,944
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## EXPENSES:

Management fees	\$ 1,382,372
Administration fees	100,227
Transfer agent fees and expenses	9,174

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Shareowner communication expenses	7,236	
Auction agent fees	186,536	
Custodian fees	4,147	
Registration fees	12,180	
Professional fees	167,996	
Printing expenses	14,219	
Trustees' fees	8,464	
Pricing fees	15,105	
Miscellaneous	39,142	
<hr/>		
Total expenses		\$ 1,946
<hr/>		
Net investment income		\$ 10,997
<hr/>		
REALIZED AND UNREALIZED GAIN (LOSS) ON INVESTMENTS:		
Net realized gain from investments	\$ 572,608	
Change in net unrealized gain from investments	\$ 18,240,160	
<hr/>		
Net gain on investments		\$ 18,812
<hr/>		
DISTRIBUTIONS TO PREFERRED SHAREOWNERS FROM NET INVESTMENT INCOME:		
		\$ (242)
<hr/>		
Net increase in net assets applicable to common shareowners resulting from operations		\$ 29,567
<hr/>		

The accompanying notes are an integral part of these financial statements.

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### Statements of Changes in Net Assets

	Six Months Ended 9/30/12 (unaudited)	Year Ended 3/31/12
<hr/>		
FROM OPERATIONS:		
Net investment income	\$ 10,997,891	\$ 25,127
Net realized gain (loss) on investments	572,608	(5,391)
Change in net unrealized gain (loss) on investments	18,240,160	41,794
Distributions to preferred shareowners from net investment income	(242,936)	(417)
<hr/>		
Net increase in net assets applicable to common shareowners resulting from operations	\$ 29,567,723	\$ 61,114
<hr/>		
DISTRIBUTIONS TO COMMON SHAREOWNERS:		
Net investment income (\$0.57 and \$1.31 per share, respectively)	\$ (13,285,744)	\$ (30,307)
<hr/>		
Total distributions to common shareowners	\$ (13,285,744)	\$ (30,307)
<hr/>		
FROM TRUST SHARE TRANSACTIONS:		
Conversion	\$ 351,771	\$
Reinvestment of distributions	\$ 931,061	\$ 1,961

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Net increase in net assets applicable to common shareowners from Trust share transactions	\$ 1,282,832	\$ 1,961
Net increase in net assets applicable to common shareowners	\$ 17,564,811	\$ 32,767
NET ASSETS APPLICABLE TO COMMON SHAREOWNERS:		
Beginning of period	299,637,226	266,869
End of period	\$ 317,202,037	\$ 299,637
Undistributed net investment income	\$ 6,526,374	\$ 9,057

The accompanying notes are an integral part of these financial statements.

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### Financial Highlights

	Six Months Ended 9/30/12 (unaudited)	Year Ended 3/31/12	Year Ended 3/31/11	Year Ended 3/31/10
Per Share Operating Performance				
Net asset value, beginning of period	\$12.87	\$11.54	\$ 12.24	\$ 9.00
Increase (decrease) from investment operations:(a)				
Net investment income	\$ 0.47	\$ 1.08	\$ 1.18	\$ 1.00
Net realized and unrealized gain (loss) on investments and interests rate swaps	0.83	1.58	(0.79)	2.00
Distributions to preferred shareowners from:				
Net investment income	(0.01)	(0.02)	(0.03)	(0.00)
Net increase (decrease) from investment operations	\$ 1.29	\$ 2.64	\$ 0.36	\$ 3.00
Distributions to common shareowners from:				
Net investment income	(0.57)	(1.31)	(1.06)	(0.00)
Net increase (decrease) in net asset value	\$ 0.72	\$ 1.33	\$ (0.70)	\$ 3.00
Net asset value, end of period(b)	\$13.59	\$12.87	\$ 11.54	\$12.00
Market value, end of period(b)	\$15.99	\$14.72	\$ 12.64	\$13.00
Total return at market value(c)	12.69%	28.48%	4.97%	57.00%
Ratios to average net assets of common shareowners:				
Net expenses (d)	1.25%(e)	1.36%	1.35%	1.00%
Net investment income before preferred share distributions	7.09%(e)	8.73%	9.54%	10.00%
Preferred share distributions	0.16%(e)	0.15%	0.25%	0.00%
Net investment income available to common shareowners	6.93%(e)	8.58%	9.29%	10.00%
Portfolio turnover	3%	15%	10%	

The accompanying notes are an integral part of these financial statements.

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	Six Months Ended 9/30/12 (unaudited)	Year Ended 3/31/12	Year Ended 3/31/11
Net assets of common shareowners, end of period (in thousands)	\$317,202	\$299,637	\$266,870
Preferred shares outstanding (in thousands)	\$150,008	\$150,000	\$150,000
Asset coverage per preferred share, end of period	\$ 77,870	\$ 74,941	\$ 69,479
Average market value per preferred share (f)	\$ 25,001	\$ 25,000	\$ 25,000
Liquidation value, including dividends payable, per preferred share	\$ 25,003	\$ 25,001	\$ 25,001
Ratios to average net assets of common shareowners before waivers and reimbursement of expenses			
Net expenses (d)	1.25% (e)	1.36%	1.35%
Net investment income before preferred share distributions	7.09% (e)	8.73%	9.54%
Preferred share distributions	0.16% (e)	0.15%	0.25%
Net investment income available to common shareowners	6.93% (e)	8.58%	9.29%

- (a) The per common share data presented above is based upon the average common shares outstanding for the periods presented.
- (b) Net asset value and market value are published in Barron's on Saturday, The Wall Street Journal on Monday and The New York Times on Monday and Saturday.
- (c) Total investment return is calculated assuming a purchase of common shares at the current market value on the first day and a sale at the current market value on the last day of the periods reported. Dividends and distributions, if any, are assumed for purposes of this calculation to be reinvested at prices obtained under the Trust's dividend reinvestment plan. Total investment return does not reflect brokerage commissions. Past performance is not a guarantee of future results.
- (d) Expense ratios do not reflect the effect of distribution payments to preferred shareowners.
- (e) Annualized.
- (f) Market value is redemption value without an active market.

The information above represents the audited operating performance data for a share of common stock outstanding, total investment return, ratios to average net assets and other supplemental data for the periods indicated. This information has been determined based upon financial information provided in the financial statements and market value data for the Trust's common shares.

The accompanying notes are an integral part of these financial statements.

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Notes to Financial Statements | 9/30/12 (unaudited)

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### 1. Organization and Significant Accounting Policies

Pioneer Municipal High Income Advantage Trust (the Trust) was organized as a Delaware statutory trust on August 6, 2003. Prior to commencing operations on October 20, 2003, the Trust had no operations other than matters relating to its organization and registration as a diversified, closed-end management investment company under the Investment Company Act of 1940, as amended. The investment objective of the Trust is to seek a high level of current income exempt from regular federal income tax, and the Trust may, as a secondary objective, also seek capital appreciation to the extent that it is consistent with its primary investment objective.

The Trust's financial statements have been prepared in conformity with U.S. generally accepted accounting principles that require the management of the Trust to, among other things, make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of income, expenses and gain or loss on investments during the reporting period. Actual results could differ from those estimates.

The following is a summary of significant accounting policies followed by the Trust in the preparation of its financial statements, which are consistent with those policies generally accepted in the investment company industry:

#### A. Security Valuation

Security transactions are recorded as of trade date. Fixed income securities with remaining maturity of more than sixty days are valued at prices supplied by independent pricing services, which consider such factors as market prices, market events, quotations from one or more brokers, Treasury spreads, yields, maturities and ratings. Valuations may be supplemented by dealers and other sources, as required. The values of interest rate swaps are determined by obtaining dealer quotations. Equity securities that have traded on an exchange are valued at the last sale price on the principal exchange where they are traded. Equity securities that have not traded on the date of valuation, or securities for which sale prices are not available, generally are valued using the mean between the last bid and asked prices. Short-term fixed income securities with remaining maturities of sixty days or less generally are valued at amortized cost. Money market mutual funds are valued at net asset value.

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Securities for which independent pricing services are unable to supply prices or for which market prices and/or quotations are not readily available or are considered to be unreliable are valued using fair value methods pursuant to procedures adopted by the Board of Trustees. The Trust may use fair value methods if it is determined that a significant event has occurred after the close of the exchange or market on which the security trades and prior to the determination of the Trust's net asset value. Examples of a significant event might include political or economic news, corporate restructurings, natural disasters, terrorist activity or trading halts. Thus, the valuation of the Trust's securities may differ from exchange prices.

At September 30, 2012, one security was valued using fair value methods (in addition to securities valued using prices supplied by independent pricing services) representing 0.0% of net assets. Inputs used when applying fair value methods to value a security may include credit ratings, the financial condition of the company, current market conditions and comparable securities.

Discount and premium on debt securities are accreted or amortized, respectively, daily into interest income on a yield-to-maturity basis with a corresponding increase or decrease in the cost basis of the security. Interest income, including interest on income bearing cash accounts, is recorded on an accrual basis.

Dividend income is recorded on the ex-dividend date, except that certain dividends from foreign securities where the ex-dividend date may have passed are recorded as soon as the Trust becomes aware of the ex-dividend data in the exercise of reasonable diligence.

Gains and losses on sales of investments are calculated on the identified cost method for both financial reporting and federal income tax purposes.

B. Federal Income Taxes

It is the Trust's policy to comply with the requirements of the Internal Revenue Code applicable to regulated investment companies and to distribute all of its taxable income and net realized capital gains, if any, to its shareowners. Therefore, no federal income tax provision is required. Tax years for the prior three fiscal years remain subject to examination by federal and state tax authorities.

The amounts and characterizations of distributions to shareowners for financial reporting purposes are determined in accordance with federal income tax rules. Therefore, the sources of the Trust's distributions may be shown in the accompanying financial statements as from or in excess of net investment income or as from net realized gain (loss) on investment transactions, or as from paid-in capital, depending on the type of book/tax differences that may exist.

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The tax character of current year distributions payable to common and preferred shareowners will be determined at the end of the current taxable year. The tax character of distributions paid during the year ended March 31, 2012 was as follows:

-----		2012
-----		
Distribution paid from:		
Tax exempt income	\$	26,664,988
Ordinary income		4,060,404
-----		
Total taxable distribution	\$	30,725,392
=====		

The following shows the components of distributable earnings (losses) on a federal income tax basis at March 31, 2012:

-----		2012
-----		

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Distributable earnings:	
Undistributed tax-exempt income	\$ 9,047,860
Undistributed ordinary income	960,017
Capital loss carryforward	(55,783,255)
Post-October loss deferred	(6,203,339)
Dividends payable	(7,736)
Unrealized appreciation	21,178,495
-----	
Total	\$ (30,807,958)
=====	

The difference between book-basis and tax-basis unrealized appreciation is primarily attributable to the difference between book and tax amortization methods for premiums and discounts on fixed income securities, the difference between book and tax accounting for swap agreements, book/tax difference in accrual of income on securities in default, and other temporary differences.

### C. Automatic Dividend Reinvestment Plan

All common shareowners whose shares are registered in their own names automatically participate in the Automatic Dividend Reinvestment Plan (the Plan), under which participants receive all dividends and capital gain distributions (collectively, dividends) in full and fractional common shares of the Trust in lieu of cash. Shareowners may elect not to participate in the Plan. Shareowners not participating in the Plan receive all dividends and capital gain distributions in cash. Participation in the Plan is completely voluntary and may be terminated or resumed at any time without penalty by notifying American Stock Transfer & Trust Company, the agent for shareowners in administering the Plan (the Plan Agent), in writing prior to any dividend record date; otherwise such termination or resumption will be effective with respect to any subsequently declared dividend or other distribution.

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If a shareowner's shares are held in the name of a brokerage firm, bank or other nominee, the shareowner can ask the firm or nominee to participate in the Plan on the shareowner's behalf. If the firm or nominee does not offer the Plan, dividends will be paid in cash to the shareowner of record. A firm or nominee may reinvest a shareowner's cash dividends in common shares of the Trust on terms that differ from the terms of the Plan.

Whenever the Trust declares a dividend on common shares payable in cash, participants in the Plan will receive the equivalent in common shares acquired by the Plan Agent either (i) through receipt of additional unissued but authorized common shares from the Trust or (ii) by purchase of outstanding common shares on the New York Stock Exchange or elsewhere. If, on the payment date for any dividend, the net asset value per common share is equal to or less than the market price per share plus estimated brokerage trading fees (market premium), the Plan Agent will invest the dividend amount in newly issued common shares. The number of newly issued common shares to be credited to each account will be determined by dividing the dollar amount of the dividend by the net asset value per common share on the date the shares are issued, provided that the maximum discount from the then current market price per share on the date of issuance does not exceed 5%. If, on the payment date for any dividend, the net asset value per common share is greater than the market value (market discount), the Plan Agent will invest the dividend amount in common shares acquired in open-market

purchases. There are no brokerage charges with respect to newly issued common shares. However, each participant will pay a pro rata share of brokerage trading fees incurred with respect to the Plan Agent's open-market purchases. Participating in the Plan does not relieve shareowners from any federal, state or local taxes which may be due on dividends paid in any taxable year. Shareowners holding Plan shares in a brokerage account may not be able to transfer the shares to another broker and continue to participate in the Plan.

D. Risks

At times, the Trust's investments may represent industries or industry sectors that are interrelated or have common risks, making the Trust more susceptible to any economic, political, or regulatory developments or other risks affecting those industries and sectors. Information regarding the Trust's principal risks is contained in the Trust's original offering prospectus, with additional information included in the Trust's shareowner reports issued from time to time. Please refer to those documents when considering the Trust's principal risks.

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The Trust may invest in both investment grade and below investment grade (high-yield) municipal securities with a broad range of maturities and credit ratings. Debt securities rated below investment grade are commonly referred to as "junk bonds" and are considered speculative. These securities involve greater risk of loss, are subject to greater price volatility, and are less liquid, especially during periods of economic uncertainty or change, than higher rated debt securities.

2. Management Agreement

Pioneer Investment Management, Inc. (PIM), the Trust's investment adviser, a wholly owned indirect subsidiary of UniCredit S.p.A. (UniCredit), manages the Trust's portfolio. Management fees payable under the Trust's Advisory Agreement with PIM are calculated daily at the annual rate of 0.60% of the Trust's average daily managed assets. "Managed assets" means (a) the total assets of the Trust, including any form of investment leverage, minus (b) all accrued liabilities incurred in the normal course of operations, which shall not include any liabilities or obligations attributable to investment leverage obtained through (i) indebtedness of any type (including, without limitation, borrowing through a credit facility of the issuance of debt securities), (ii) the issuance of preferred stock or other similar preference securities, and/or (iii) any other means. For the period ended September 30, 2012, the net management fee was 0.60% of the Trust's average daily managed assets, which was equivalent to 0.91% of the Trust's average daily net assets attributable to the common shareowners.

In addition, under PIM's management and administration agreements, certain other services and costs are paid by PIM and reimbursed by the Trust. At September 30, 2012, \$294,349 was payable to PIM related to management costs, administrative costs and certain other reimbursements and is included in "Due to affiliates" and "Administration fee" on the Statement of Assets and Liabilities.

Effective April 1, 2012, PIM has retained Brown Brothers Harriman & Co. (BBH) to provide certain administrative and accounting services to the Trust on its behalf. For such services, PIM pays BBH a monthly fee at an annual rate of 0.025% of the Trust's average daily managed assets subject to a minimum monthly fee of \$6,250. Previously, PIM had retained State Street Bank and Trust Company (State Street) to provide such services. PIM paid State Street a monthly fee at an annual rate of 0.07% of the Trust's average daily managed assets in excess up to \$500 million, subject to a minimum monthly fee of \$10,000. Neither BBH nor



State Street received compensation directly from the Trust for providing such services.

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### 3. Transfer Agents

Pioneer Investment Management Shareholder Services, Inc. (PIMSS), a wholly owned indirect subsidiary of UniCredit, through a sub-transfer agency agreement with American Stock Transfer & Trust Company, provides substantially all transfer agent and shareowner services related to the Trust's common shares at negotiated rates. Deutsche Bank Trust Company Americas (Deutsche Bank) is the transfer agent, registrar, dividend paying agent and auction agent with respect to the Trust's Auction Preferred Shares (APS). The Trust pays Deutsche Bank an annual fee, as is agreed to from time to time by the Trust and Deutsche Bank, for providing such services.

In addition, the Trust reimburses PIMSS for out-of-pocket expenses incurred by PIMSS related to shareowner communications activities such as proxy and statement mailings and outgoing phone calls.

### 4. Expense Offset Agreements

The Trust has entered into an arrangement with its custodian whereby credits realized as a result of uninvested cash balances are used to reduce a portion of the Trust's custodian expenses. For the six months ended September 30, 2012, the Trust expenses were not reduced under such arrangement.

### 5. Interest Rate Swaps

The Trust may enter into interest rate swap transactions to attempt to protect itself from increasing dividend or interest expense on its leverage resulting from increasing short-term interest rates. The cost of leverage may rise with an increase in interest rates, generally having the effect of lower yields and potentially lower dividends to common shareowners. Interest rate swaps can be used to "lock in" the cost of leverage and reduce the negative impact that rising short-term interest rates would have on the Trust's leveraging costs.

An interest rat