

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST
Form N-Q
March 01, 2019

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 811-21409

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: December 31, 2018

Form N-Q is to be used by management investment companies, other than small business investment companies registered on Form N-5 (239.24 and 274.5 of this chapter), to file reports with the Commission, not later than 60 days after close of the first and third fiscal quarters, pursuant to Rule 30b1-5 under the Investment Company Act of 1940 (17 CFR 270.30b1-5). The Commission may use the information provided on Form N-Q in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-Q, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-Q 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.

ITEM 1. Schedule of Investments.

File the schedules as of the close of the reporting period as set forth in ss. 210.12-12 – 12-14 of Regulation S-X [17 CFR 210.12-12 – 12-14]. The schedules need not be audited.

Pioneer Municipal High
Income Advantage Trust

NQ | December 31, 2018

Ticker Symbol: MAV

Principal Amount USD (\$)	Value
	UNAFFILIATED ISSUERS - 155.8%
	DEBTOR IN POSSESSION FINANCING - 2.1% of Net Assets
	Building
	Materials - 2.1%
	Texas Pellets, Inc./German
4,432,000^	Pellets Texas \$4,432,000 LLC, 8.0%, 9/30/18 (144A)
	Texas Pellets, Inc./German
1,310,000	Pellets Texas 1,310,000 LLC, 8.0%, 3/29/19 (144A)
	Total Building \$5,742,000 Materials
	TOTAL DEBTOR IN POSSESSION FINANCING (Cost \$5,742,000) \$5,742,000
	TAX EXEMPT OBLIGATIONS - 153.7% of Net Assets (a)
	Alabama - 0.9%
	Alabama Industrial
2,500,000	Development \$2,512,475 Authority, Pine City Fiber Co., 6.45%, 12/1/23
	Total Alabama \$2,512,475
	Arizona - 2.5%
4,000,000(b)	City of Phoenix, \$4,748,680 5.0%, 7/1/27
	City of Phoenix, Industrial
	Development
2,000,000	Authority, 3rd & 2,063,400 Indian School
	Assisted Living Project, 5.4%, 10/1/36
27,000	27,138

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

	County of Pima, Industrial Development Authority, Arizona Charter Schools Project, Series C, 6.75%, 7/1/31	
	Total Arizona	\$6,839,218
	California - 13.6%	
6,990,000	California County Tobacco Securitization Agency, Asset-Backed, Gold County Funding Corp., 5.25%, 6/1/46	\$6,808,260
38,610,000(c)	California County Tobacco Securitization Agency, Capital Appreciation, Stanislaus County, Subordinated, Series A, 6/1/46	6,093,816
1,845,000	California Educational Facilities Authority, Stanford University, 5.25%, 4/1/40	2,407,891
1,550,000	California Enterprise Development Authority, Sunpower Corp., 8.5%, 4/1/31	1,627,020
5,000,000	California Pollution Control Financing Authority, 5.0%, 7/1/37 (144A)	5,032,700
2,975,000(d)	California School Finance Authority, Classical	3,481,166

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

	Academies Project, Series A, 7.375%, 10/1/43 California Statewide Communities Development Authority, Lancer Plaza Project, 5.875%, 11/1/43 California Statewide Communities Development Authority, Microgy Holdings Project, 9.0%, 12/1/38 City of Madera, Irrigation	2,057,156
1,875,000		
757,342(e)		8
1,500,000(d)	Financing Authority, 6.25%, 1/1/31 City of Madera, Irrigation	1,568,085
1,500,000(d)	Financing Authority, 6.5%, 1/1/40 Coast Community College District, Election, Series D, 5.0%, 8/1/31 State of California,	1,571,610
2,695,000(b)	Various Purposes, 5.75%, 4/1/31 Tobacco Securitization Authority of Southern California, Series A-1, 5.125%, 6/1/46	3,235,240
2,425,000(b)		2,447,843
465,000	Total California Colorado - 0.7%	464,991
1,500,000(d)		\$36,795,786
		\$1,893,225

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

	Colorado Educational & Cultural Facilities Authority, Rocky Mountain Classical Academy Project, 8.0%, 9/1/43	
	Total Colorado	\$1,893,225
	Connecticut - 3.9% Mohegan Tribal Finance Authority, 7.0%, 2/1/45 (144A)	\$2,064,996
2,035,000	State of Connecticut, Series E, 4.0%, 9/1/30	7,450,560
7,200,000(b)	Town of Hamden, Whitney Center Project, Series A, 7.75%, 1/1/43	1,025,860
1,000,000	Total Connecticut	\$10,541,416
	District of Columbia - 4.9% District of Columbia Tobacco Settlement	\$2,143,847
1,995,000	Financing Corp., Asset-Backed, 6.5%, 5/15/33 District of Columbia Tobacco Settlement	7,053,023
6,825,000	Financing Corp., Asset-Backed, 6.75%, 5/15/40 District of Columbia, Housing Product Trust Fund, Series A, 4.25%, 6/1/37 (NATL Insured)	3,979,293
3,975,000		\$13,176,163

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

	Total District of Columbia Florida - 9.1%	
	Alachua County Health Facilities Authority, Terraces Bonita Springs Project, Series A, 8.125%, 11/15/41	\$1,637,415
1,500,000		
	Alachua County Health Facilities Authority, Terraces Bonita Springs Project, Series A, 8.125%, 11/15/46	1,633,215
1,500,000		
	County of Miami-Dade, Aviation Revenue, Series B, 5.5%, 10/1/41	2,568,200
2,500,000(d)		
	County of Miami-Dade, Water & Sewer System Revenue, Series A, 4.0%, 10/1/44	5,092,250
5,000,000		
	Florida's Turnpike Enterprise, Department of Transportation, Series A, 4.0%, 7/1/32	5,282,700
5,000,000		
	Hillsborough County Industrial Development Authority, Various Health Facilities, 8.0%, 8/15/32	1,047,390
1,000,000(d)		
	State of Florida, Capital Outlay, Series A, 4.0%, 6/1/38	7,436,276
7,035,000(b)		
	Total Florida Georgia - 6.4%	\$24,697,446

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

5,000,000	City of Atlanta, Water & Wastewater	\$5,850,650
	Revenue, Series A, 5.0%, 11/1/34 DeKalb County Georgia Hospital Authority,	
900,000(d)	DeKalb Medical Center, Inc., Project, 6.0%, 9/1/30	958,500
	DeKalb County Georgia Hospital Authority,	
750,000(d)	DeKalb Medical Center, Inc., Project, 6.125%, 9/1/40	800,272
	Private Colleges & Universities Authority,	
8,750,000	Emory University, Series A, 5.0%, 10/1/43	9,664,813
	Total Georgia	\$17,274,235
	Guam - 0.4%	
	Guam Department of Education, Certificates of Participation,	
1,000,000	John F. Kennedy High School, Series A, 6.625%, 12/1/30	\$1,021,720
	Total Guam	\$1,021,720
Principal Amount USD (\$)		Value
	Idaho - 0.7%	
	Power County Industrial Development Corp., FMC Corp. Project, 6.45%, 8/1/32	
2,000,000	Total Idaho	\$2,007,320
	Illinois - 2.8%	

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

1,000,000(b)	Chicago Board of Education, Series A, 7.0%, 12/1/46 (144A) Illinois Finance Authority, Clare	\$1,160,290
417,400(f)	Oaks Project, Series B, 4.0%, 11/15/52 Illinois Finance Authority, Clare	359,724
261,000(c)	Oaks Project, Series C-1, 11/15/52 Illinois Finance Authority, Clare	7,217
52,200	Oaks Project, Series C-2, 4.0%, 11/15/52 Illinois Finance Authority, Clare	15,203
52,200	Oaks Project, Series C-3, 11/15/52 Illinois Finance Authority,	8,821
1,450,000	Memorial Health System, 5.5%, 4/1/39 Illinois Finance Authority, Northwestern	1,461,701
2,000,000(d)	Memorial Hospital, Series A, 6.0%, 8/15/39 Illinois Finance Authority,	2,051,240
280,000(d)	Swedish Covenant, Series A, 6.0%, 8/15/38 Metropolitan Pier & Exposition Authority,	292,586
1,000,000	McCormick Place, Series B, 5.0%, 6/15/52 (ST APPROP Insured)	1,012,920

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

1,210,000	Southwestern Illinois Development Authority, Village of Sauget Project, 5.625%, 11/1/26	1,140,062
	Total Illinois	\$7,509,764
	Indiana - 0.9%	
250,000	City of Carmel, Barrington Carmel Project, Series A, 7.0%, 11/15/32	\$236,635
750,000	City of Carmel, Barrington Carmel Project, Series A, 7.125%, 11/15/42	679,748
500,000	City of Carmel, Barrington Carmel Project, Series A, 7.125%, 11/15/47	447,855
1,000,000	Indiana Finance Authority, Educational Facilities, 5.125%, 7/1/37	954,580
	Total Indiana	\$2,318,818
	Kansas - 0.4%	
1,000,000(d)	Kansas Development Finance Authority, Hayes Medical Center, Inc., Series Q, 5.0%, 5/15/35	\$1,011,760
	Total Kansas	\$1,011,760
	Louisiana - 2.7%	
7,000,000	Jefferson Parish Hospital Service District No. 2, East Jefferson General Hospital, 6.375%, 7/1/41	\$6,671,770

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

750,000	Opelousas Louisiana General Hospital Authority, Opelousas	751,103
	General Health System Project, 5.75%, 10/1/23	
	Total Louisiana	\$7,422,873
	Maine - 2.0%	
1,500,000	Maine Health & Higher Educational Facilities Authority,	\$1,645,890
	Maine General Medical Center, 7.5%, 7/1/32	
3,500,000	Maine Turnpike Authority, Series A, 5.0%, 7/1/42	3,774,015
	Total Maine	\$5,419,905
	Maryland - 3.9%	
2,000,000(d)	Maryland Health & Higher Educational Facilities Authority,	\$2,167,420
	Charlestown Community, 6.25%, 1/1/45	
2,090,000	Maryland Health & Higher Educational Facilities Authority, City Neighbors, Series A, 6.75%, 7/1/44	2,228,672
1,250,000(d)	Maryland Health & Higher Educational Facilities Authority, Doctor's Community Hospital, 5.75%, 7/1/38	1,321,525
4,500,000	Maryland Health & Higher	4,818,060

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

	Educational Facilities Authority, Maryland University Medical System, Series A, 5.0%, 7/1/43	
	Total Maryland	\$10,535,677
	Massachusetts - 9.8%	
	Massachusetts Bay	
7,000,000(c)	Transportation Authority, Series A, 7/1/28 Massachusetts Development	\$5,172,300
2,575,000(d)	Finance Agency, Broad Institute, Inc., Series A, 5.25%, 4/1/37 Massachusetts Development	2,768,897
2,200,000	Finance Agency, Partner's Healthcare System, Series M-4, 5.0%, 7/1/39 Massachusetts Development	2,365,506
8,000,000	Finance Agency, WGBH Foundation, Series A, 5.75%, 1/1/42 (AMBAC Insured) Massachusetts Health & Educational Facilities Authority, Massachusetts Institute of Technology, Series K, 5.5%, 7/1/32	10,578,640
4,325,000	Total Massachusetts Michigan - 3.0%	5,733,177
	Total	\$26,618,520

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

2,000,000	Flint Michigan Hospital Building Authority,	\$2,116,080
	Hurley Medical Center, 7.375%, 7/1/35	
560,000	Michigan Public Educational Facilities Authority,	560,224
	Crescent Academy, 7.0%, 10/1/36	
5,000,000	Michigan State University, Series A, 5.0%, 8/15/41	5,427,950
	Total Michigan	\$8,104,254
	Minnesota - 2.7%	
2,000,000	Bloomington Port Authority, Radisson Blu Mall of	\$2,173,620
	America, 9.0%, 12/1/35	
1,000,000	City of Ham Lake, DaVinci Academy, Series A, 5.0%, 7/1/47	960,400
3,755,000(b)	State of Minnesota, Series B, 4.0%, 8/1/27	4,202,070
	Total Minnesota	\$7,336,090
	Montana - 0.1%	
2,445,000(e)	City of Hardin, Tax Allocation, Rocky Mountain Power, Inc.,	\$317,850
	Project, 6.25%, 9/1/31	
1,000,000(e)	Two Rivers Authority, Inc.,	42,000
	7.375%, 11/1/27	
	Total Montana	\$359,850
	Nevada - 0.7%	
2,000,000	County of Washoe, Fuel Tax, 5.0%,	\$2,005,140

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

	2/1/43	
	Total Nevada	\$2,005,140
	New Hampshire	
	- 0.7%	
	New Hampshire	
	Health &	
	Education	
2,000,000	Facilities	\$1,950,920
	Authority Act,	
	Catholic	
	Medical Centre,	
	3.75%, 7/1/40	
	Total New	\$1,950,920
	Hampshire	
Principal		
Amount		
USD (\$)		Value
	New Jersey -	
	9.8%	
	New Jersey	
	Economic	
	Development	
7,500,000	Authority,	\$8,214,075
	Continental	
	Airlines, 5.75%,	
	9/15/27	
	New Jersey	
	Economic	
	Development	
	Authority,	
1,000,000	Marion P.	960,960
	Thomas Charter	
	School, Inc.,	
	Project, 5.375%,	
	10/1/50 (144A)	
	New Jersey State	
	Turnpike	
3,500,000(f)	Authority, RIB,	5,696,705
	10.729%, 1/1/28	
	(144A) (AGM	
	Insured)	
	New Jersey	
	Transportation	
	Trust Fund	
15,375,000(c)	Authority,	11,746,961
	12/15/27	
	(BHAC-CR	
	MBIA Insured)	
	Total New Jersey	\$26,618,701
	New York - 9.1%	

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

5,000,000	New York State Dormitory Authority, Columbia University, 5.0%, 10/1/41	\$5,287,850
7,500,000	New York State Dormitory Authority, Series A, 4.0%, 7/1/37	7,862,550
7,500,000	New York State Dormitory Authority, Series C, 5.0%, 3/15/39	8,316,000
1,500,000	New York State Dormitory Authority, Trustees of Columbia University, 5.0%, 10/1/45	1,953,825
1,308,828	Westchester County Healthcare Corp., Series A, 5.0%, 11/1/44	1,393,274
500,000	Total New York North Carolina - 0.7% City of Charlotte, Airport Revenue, Series A, 5.0%, 7/1/42	\$24,813,499
1,250,000	City of Charlotte, Airport Revenue, Series A, 5.0%, 7/1/47	\$568,870
3,000,000(d)	Total North Carolina Ohio - 6.7% Akron Bath Copley Joint Township Hospital District, Akron General Health System, 5.0%, 1/1/31	\$1,987,058
2,500,000	Buckeye Tobacco Settlement Financing	\$3,246,660
		2,371,850

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

	Authority, Asset-Backed, Series A-2, 5.875%, 6/1/47 Buckeye Tobacco Settlement Financing	9,920,237
9,945,000	Authority, Asset-Backed, Series A-2, 6.5%, 6/1/47 State of Ohio, Common Schools, Series B, 5.0%, 6/15/29	2,754,950
2,500,000(b)(d)	Total Ohio Oregon - 1.2% Oregon Health & Science University, Series A, 5.0%, 7/1/42	\$18,293,697
1,000,000	Oregon State Facilities Authority, Samaritan Health Services, Series A, 5.25%, 10/1/40	\$1,133,750
2,000,000	Total Oregon Pennsylvania - 8.6% Chester County Industrial Development Authority, Collegium Charter School, Series A, 5.25%, 10/15/47	\$3,214,090
1,000,000	Pennsylvania Economic Development Financing Authority, US Airways Group, Series B, 8.0%, 5/1/29	\$1,005,920
1,965,000	Pennsylvania Economic Development	2,095,810
5,000,000		5,000,150

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

	Financing Authority, USG Corp. Project, 6.0%, 6/1/31 Pennsylvania Turnpike	
1,555,000(d)	Commission, Series D, 5.3%, 12/1/41 Pennsylvania Turnpike	1,602,365
3,445,000(d)	Commission, Series D, 5.3%, 12/1/41 Philadelphia Authority for Industrial Development, Greater Philadelphia Health Action, Inc., Project, Series A, 6.625%, 6/1/50 Philadelphia Authority for Industrial Development, Nueva Esperanze, Inc., 8.2%, 12/1/43 Philadelphia Authority for Industrial Development, Performing Arts Charter School Project, 6.5%, 6/15/33 (144A) Philadelphia Authority for Industrial Development, Performing Arts Charter School Project, 6.75%, 6/15/43 (144A)	3,553,104
500,000	Philadelphia Authority for Industrial Development, Greater Philadelphia Health Action, Inc., Project, Series A, 6.625%, 6/1/50 Philadelphia Authority for Industrial Development, Nueva Esperanze, Inc., 8.2%, 12/1/43 Philadelphia Authority for Industrial Development, Performing Arts Charter School Project, 6.5%, 6/15/33 (144A) Philadelphia Authority for Industrial Development, Performing Arts Charter School Project, 6.75%, 6/15/43 (144A)	512,125
6,000,000	Philadelphia Authority for Industrial Development, Performing Arts Charter School Project, 6.5%, 6/15/33 (144A) Philadelphia Authority for Industrial Development, Performing Arts Charter School Project, 6.75%, 6/15/43 (144A)	6,551,400
1,000,000	Philadelphia Authority for Industrial Development, Performing Arts Charter School Project, 6.5%, 6/15/33 (144A) Philadelphia Authority for Industrial Development, Performing Arts Charter School Project, 6.75%, 6/15/43 (144A)	1,033,140
2,000,000	Philadelphia Authority for Industrial Development, Performing Arts Charter School Project, 6.75%, 6/15/43 (144A)	2,064,400
	Total Pennsylvania Puerto Rico - 1.3%	\$23,418,414

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form N-Q

6,500,000(b)(e)	Commonwealth of Puerto Rico, Series A, 8.0%, 7/1/35	\$3,493,750
	Total Puerto Rico	\$3,493,750
	Rhode Island - 1.9%	
	Central Falls Detention Facility Corp., 7.25%, 7/15/35	\$243,900
1,355,000(e)	Rhode Island Health & Educational Building Corp., Brown University, Series A, 4.0%, 9/1/37	3,152,370
3,000,000	Rhode Island Health & Educational Building Corp., Tockwatten Home Issue, 8.375%, 1/1/46	1,687,620
1,500,000(d)	Total Rhode Island	\$5,083,890
	South Carolina - 2.2%	
	Tobacco Settlement Revenue Management Authority, Series B, 6.375%, 5/15/30	\$5,852,132
4,400,000(g)	Total South Carolina	\$5,852,132
	South Dakota - 1.5%	
	South Dakota Health & Educational Facilities Authority, Sanford Health, Series B, 4.0%, 11/1/44	\$4,016,360
4,000,000		