

FORM 4**UNITED STATES SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

OMB APPROVAL

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STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934
 or Section 30(h) of the Investment Company Act of 1940

☐ Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

☐ Check this box to indicate that a transaction was made pursuant to a contract, instruction or written plan for the purchase or sale of equity securities of the issuer that is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c). See Instruction 10.

1. Name and Address of Reporting Person* <u>BANK OF AMERICA CORP /DE/</u>	2. Issuer Name and Ticker or Trading Symbol <u>PIONEER MUNICIPAL HIGH INCOME ADVANTAGE FUND, INC. [MAV]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director ☒ 10% Owner Officer (give title below) Other (specify below)
(Last) (First) (Middle) <u>BANK OF AMERICA CORPORATE CENTER</u> <u>100 N. TRYON STREET</u>	3. Date of Earliest Transaction (Month/Day/Year) <u>03/29/2012</u>	
(Street) <u>CHARLOTTE NC 28255</u>	4. If Amendment, Date of Original Filed (Month/Day/Year)	6. Individual or Joint/Group Filing (Check Applicable Line) Form filed by One Reporting Person ☒ Form filed by More than One Reporting Person
(City) (State) (Zip)		

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/29/2012		P		100	A	\$14.72	100	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/29/2012		S		100	D	\$14.7189	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	04/27/2012		P		40	A	\$15.24	40	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	05/08/2012		S		40	D	\$15.62	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	01/30/2013		P		108	A	\$16.1433	108	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	01/31/2013		S		108	D	\$16.1243	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/08/2013		S		2,000	D	\$16.0426	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/11/2013		P		1,330	A	\$16.04	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/11/2013		P		670	A	\$16.0066	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/11/2013		S		2,000	D	\$16.0054	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/19/2013		P		200	A	\$15.6	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/19/2013		P		400	A	\$15.59	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/19/2013		P		1,400	A	\$15.6573	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/21/2013		S		2,000	D	\$15.654	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/21/2013		P		1,500	A	\$15.6344	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/21/2013		P		300	A	\$15.64	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/21/2013		P		100	A	\$15.619	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	03/21/2013		P		100	A	\$15.64	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	11/15/2016		S		200	D	\$11.9725	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	11/18/2016		P		200	A	\$11.7924	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	09/06/2017		P		1,350	A	\$11.683	1,350	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	09/06/2017		S		1,350	D	\$11.631	0	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	06/05/2023		P		675	A	\$7.74	675	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	06/05/2023		S		40	D	\$7.75	635	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	06/05/2023		S		20	D	\$7.75	615	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	06/05/2023		S		51	D	\$7.75	564	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	06/05/2023		S		26	D	\$7.74	538	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	06/05/2023		S		200	D	\$7.745	338	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	06/05/2023		S		47	D	\$7.74	291	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾
Common Stock ⁽¹⁾⁽²⁾⁽³⁾	06/05/2023		S		51	D	\$7.74	240	I	See Footnotes ⁽¹⁾⁽²⁾⁽³⁾

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)		8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
1. Name and Address of Reporting Person* BANK OF AMERICA CORP /DE/ (Last) (First) (Middle) BANK OF AMERICA CORPORATE CENTER 100 N. TRYON STREET (Street) CHARLOTTE NC 28255 (City) (State) (Zip)															

Explanation of Responses:

1. This statement is jointly filed by Bank of America Corporation, Merrill Lynch, Pierce, Fenner & Smith Incorporated ("Merrill Lynch"), and BofA Securities, Inc ("BofA Securities") (collectively, the "Reporting Persons"). Bank of America Corporation holds an indirect interest in the securities listed in this Report by virtue of its 100% ownership of its subsidiaries Merrill Lynch and BofA Securities. Each Reporting Person disclaims beneficial ownership of the securities reported herein except to the extent of its pecuniary interest therein, if any, and this report shall not be deemed an admission that any such Reporting Person is the beneficial owner of, or has any pecuniary interest in, such securities for purposes of Securities Exchange Act of 1934 (the "Exchange Act"), or for any other purpose.

2. Each Reporting Person declares that neither the filing of this statement nor anything herein shall be construed as an admission that such person is, for the purposes of Section 13(d) of the Exchange Act or any other purpose, (i) acting (or has agreed or is agreeing to act together with any other person) as a partnership, limited partnership, syndicate or other group for the purpose of acquiring, holding or disposing of securities of the Issuer or otherwise with respect to the Issuer or any securities of the Issuer or (ii) a member of any group with respect to the Issuer or any securities of the Issuer.

3. Without conceding its status as a greater than 10% beneficial owner or that the reported transactions are subject to disclosure under Section 16(a) of the Exchange Act or short-swing profit recovery under Section 16(b) of the Exchange Act, the amount of profit potentially recoverable by the Issuer from the reported transactions in the event that the Reporting Persons were greater than 10% beneficial owners and the transactions were subject to Section 16(b) has been or will be remitted to the Issuer.

Balance of trades included in attached schedule. (See Exhibit 99.1) Exhibits Index Exhibit 99.2 - Joint Filing Agreement.

BANK OF AMERICA CORP./DE/
Andres Ortiz By:Its Authorized 12/13/2024
Signatory Andres Ortiz

BOFA SECURITIES, INC. Andres
Ortiz By:Its Authorized Signatory. 12/13/2024
Andres Ortiz

MERRILL LYNCH, PIERCE,
FENNER & SMITH INC. Andres
Ortiz By:Its Authorized Signatory. 12/13/2024
Andres Ortiz

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.

TABLE I -NON-DERIVATIVE SECURITIES ACQUIRED, DISPOSED OF, OR BENEFICIALLY OWNED

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock ^{(1) (2) (3)}	06/05/2023		S		37	D	\$7.74	203	I	See Footnotes ^{(1) (2) (3)}
Common Stock ^{(1) (2) (3)}	06/05/2023		S		45	D	\$7.74	158	I	See Footnotes ^{(1) (2) (3)}
Common Stock ^{(1) (2) (3)}	06/05/2023		S		2	D	\$7.74	156	I	See Footnotes ^{(1) (2) (3)}
Common Stock ^{(1) (2) (3)}	06/05/2023		S		1	D	\$7.74	155	I	See Footnotes ^{(1) (2) (3)}
Common Stock ^{(1) (2) (3)}	06/05/2023		S		5	D	\$7.745	150	I	See Footnotes ^{(1) (2) (3)}
Common Stock ^{(1) (2) (3)}	06/05/2023		S		14	D	\$7.745	136	I	See Footnotes ^{(1) (2) (3)}
Common Stock ^{(1) (2) (3)}	06/05/2023		S		35	D	\$7.74	101	I	See Footnotes ^{(1) (2) (3)}
Common Stock ^{(1) (2) (3)}	06/05/2023		S		35	D	\$7.75	66	I	See Footnotes ^{(1) (2) (3)}
Common Stock ^{(1) (2) (3)}	06/05/2023		S		66	D	\$7.75	0	I	See Footnotes ^{(1) (2) (3)}

Explanation of Responses:

1. This statement is jointly filed by Bank of America Corporation, Merrill Lynch, Pierce, Fenner & Smith Incorporated (“Merrill Lynch”), and BofA Securities, Inc (“BofA Securities”) (collectively, the “Reporting Persons”). Bank of America Corporation holds an indirect interest in the securities listed in this Report by virtue of its 100% ownership of its subsidiaries Merrill Lynch and BofA Securities. Each Reporting Person disclaims beneficial ownership of the securities reported herein except to the extent of its pecuniary interest therein, if any, and this report shall not be deemed an admission that any such Reporting Person is the beneficial owner of, or has any pecuniary interest in, such securities for purposes of Securities Exchange Act of 1934 (the “Exchange Act”), or for any other purpose.

2. Each Reporting Person declares that neither the filing of this statement nor anything herein shall be construed as an admission that such person is, for the purposes of Section 13(d) of the

Exchange Act or any other purpose, (i) acting (or has agreed or is agreeing to act together with any other person) as a partnership, limited partnership, syndicate or other group for the purpose of acquiring, holding or disposing of securities of the Issuer or otherwise with respect to the Issuer or any securities of the Issuer or (ii) a member of any group with respect to the Issuer or any securities of the Issuer.

3. Without conceding its status as a greater than 10% beneficial owner or that the reported transactions are subject to disclosure under Section 16(a) of the Exchange Act or short-swing profit

recovery under Section 16(b) of the Exchange Act, the amount of profit potentially recoverable by the Issuer from the reported transactions in the event that the Reporting Persons were greater than 10% beneficial owners and the transactions were subject to Section 16(b) has been or will be remitted to the Issuer.

**Intentional misstatements or omissions of facts constitute Federal Criminal Violations.

See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

JOINT FILING AGREEMENT

Pursuant to and in accordance with the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"), and the rules and regulations thereunder, each party hereto hereby agrees to the joint filing, on behalf of each of them, of any filing required by such party under Section 13 or Section 16 of the Exchange Act or any rule or regulation thereunder (including any amendment, restatement, supplement, and/or exhibit thereto) with the Securities and Exchange Commission (and, if such security is registered on a national securities exchange, also with the exchange), and further agrees to the filing, furnishing, and/or incorporation by reference of this agreement as an exhibit thereto. This agreement shall remain in full force and effect until revoked by any party hereto in a signed writing provided to each other party hereto, and then only with respect to such revoking party.

IN WITNESS WHEREOF, each party hereto, being duly authorized, has caused this agreement to be executed and effective as of the date set forth below.

Date: December 13, 2024

BANK OF AMERICA CORPORATION

By: /s/ Andres Ortiz

Name: Andres Ortiz

Title: Authorized Signatory

BOFA SECURITIES, INC.

By: /s/ Andres Ortiz

Name: Andres Ortiz

Title: Authorized Signatory

MERRILL LYNCH, PIERCE, FENNER & SMITH INC.

By: /s/ Andres Ortiz

Name: Andres Ortiz

Title: Authorized Signatory
