

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST  
Form DEF 14A  
July 22, 2011

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

SCHEDULE 14A

INFORMATION REQUIRED IN PROXY STATEMENT  
SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of  
the Securities Exchange Act of 1934

Filed by the Registrant  |

Filed by a Party other than the Registrant  |

Check the appropriate box:

| Preliminary Proxy Statement

| Confidential, for Use of the Commission Only (as permitted by Rule  
14a-6(e) (2))

| Definitive Proxy Statement

| Definitive Additional Materials

| Soliciting Material Pursuant to Rule 14a-12

PIONEER DIVERSIFIED HIGH INCOME TRUST  
PIONEER FLOATING RATE TRUST  
PIONEER HIGH INCOME TRUST  
PIONEER MUNICIPAL HIGH INCOME TRUST  
PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

-----  
(Name of Registrant(s) as Specified In Its Charter)

N/A

-----  
(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

| No fee required.

| Fee computed on table below per Exchange Act Rules 14a-6(i) (1) and 0-11.

(1) Title of each class of securities to which transaction applies:

-----  
(2) Aggregate number of securities to which transaction applies:

-----  
(3) Per unit price or other underlying value of transaction computed  
pursuant to Exchange Act Rule 0-11 (set forth the amount on which  
the filing fee is calculated and state how it was determined):

-----  
(4) Proposed maximum aggregate value of transaction:

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

-----  
(5) Total fee paid:  
-----

| | Fee paid previously with preliminary materials.

| | Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11 (a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:  
-----

(2) Form, Schedule or Registration Statement No.:  
-----

(3) Filing Party:  
-----

(4) Date Filed:  
-----

PIONEER DIVERSIFIED HIGH INCOME TRUST (HNW)  
PIONEER FLOATING RATE TRUST (PHD)  
PIONEER HIGH INCOME TRUST (PHT)  
PIONEER MUNICIPAL HIGH INCOME TRUST (MHI)  
PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST (MAV)  
60 State Street  
Boston, Massachusetts 02109  
1-800-622-3265

NOTICE OF ANNUAL MEETING OF SHAREHOLDERS  
SCHEDULED FOR SEPTEMBER 21, 2011

This is the formal agenda for your fund's annual meeting of shareholders. It tells you the matters upon which you will be asked to vote and the time and place of the meeting, in case you want to attend in person.

To the shareholders of Pioneer Diversified High Income Trust, Pioneer Floating Rate Trust, Pioneer High Income Trust, Pioneer Municipal High Income Trust and Pioneer Municipal High Income Advantage Trust:

The annual meeting of shareholders of each of the above registered investment management companies (each, a "fund" and, collectively, the "funds") will be held at the offices of Bingham McCutchen LLP, One Federal Street, Boston, Massachusetts 02110, on Wednesday, September 21, 2011 at 2:00 p.m. Eastern time, to consider the following:

1. To elect three Trustees of your fund, as named in the attached proxy statement: (i) with respect to each of Pioneer Floating Rate Trust, Pioneer High Income Trust, Pioneer Municipal High Income Trust and Pioneer Municipal High Income Advantage Trust, by the holders of Common and Preferred Shares voting together as a single class and (ii) with respect to Pioneer Diversified High Income Trust, by the holders of Common Shares. Each elected Trustee will serve for a three year term or until a successor is elected.
2. To consider any other business that may properly come before the meeting.

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Each fund will hold a separate meeting. Shareholders of each fund will vote separately.

YOUR TRUSTEES RECOMMEND THAT YOU VOTE IN FAVOR OF ALL PROPOSALS.

Shareholders of record as of the close of business on July 5, 2011 are entitled to vote at the meeting and any adjournment or postponement thereof.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE MEETING TO BE HELD ON SEPTEMBER 21, 2011: This Notice and the Proxy Statement are available on the internet at [www.proxy-direct.com/pio22751](http://www.proxy-direct.com/pio22751).

By Order of each Board of Trustees,

Christopher J. Kelley, Secretary

Boston, Massachusetts  
July 29, 2011

-----

WHETHER OR NOT YOU EXPECT TO ATTEND THE MEETING, PLEASE COMPLETE AND RETURN THE ENCLOSED PROXY.

22246-03-0811

PROXY STATEMENT OF  
PIONEER DIVERSIFIED HIGH INCOME TRUST (HNW)  
PIONEER FLOATING RATE TRUST (PHD)  
PIONEER HIGH INCOME TRUST (PHT)  
PIONEER MUNICIPAL HIGH INCOME TRUST (MHI)  
PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST (MAV)  
60 State Street  
Boston, Massachusetts 02109  
1-800-622-3265

ANNUAL MEETING OF SHAREHOLDERS

This proxy statement contains the information you should know before voting on the proposal summarized below.

Each fund will furnish without charge a copy of its most recent annual report and any more recent semi-annual report to any shareholder upon request. Shareholders who want to obtain a copy of a fund's reports should direct all written requests to the attention of the fund, at the address listed above, or should call Pioneer Investment Management Shareholder Services, Inc. ("PIMSS") at 1-800-622-3265.

INTRODUCTION

This proxy statement is being used by the Board of Trustees of each fund to solicit proxies to be voted at the annual meeting of shareholders of each fund referenced above. Participating in the meeting are holders of common shares of beneficial interest (the "Common Shares") of each fund and the holders of preferred shares of beneficial interest (the "Preferred Shares") of Pioneer Floating Rate Trust, Pioneer High Income Trust, Pioneer Municipal High

## Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Income Trust and Pioneer Municipal High Income Advantage Trust. Each meeting will be held at the offices of Bingham McCutchen LLP, One Federal Street, Boston, Massachusetts 02110, at 2:00 p.m., Eastern time, on Wednesday, September 21, 2011, and at any adjournments or postponements of a meeting to a later date, for the purposes as set forth in the accompanying notice of annual meeting of shareholders. You may call PIMSS at 1-800-622-3265 for information on how to obtain directions to be able to attend the meeting and vote in person.

This proxy statement and the enclosed proxy card are being mailed to shareholders of each fund on or about July 29, 2011. The annual report for each fund for its most recently completed fiscal year previously was mailed to shareholders.

### WHO IS ELIGIBLE TO VOTE

Shareholders of record of each fund as of the close of business on July 5, 2011 (the "record date") are entitled to vote on all of the fund's business at the annual shareholder meeting and any adjournments or postponements thereof. Each whole share shall be entitled to one vote and each fractional share shall be entitled to a proportionate fractional vote. Shares represented by properly executed proxies, unless revoked before or at the

1

meeting, will be voted according to the shareholder's instructions. If you sign a proxy card but do not fill in a vote, your shares will be voted FOR each of the nominees for Trustee in Proposal 1. If any other business properly comes before the annual shareholder meeting, your shares will be voted at the discretion of the persons named as proxies.

Shareholders of each fund will only vote on proposals relating to their fund.

### PROPOSAL 1

#### ELECTION OF BOARD OF TRUSTEES

Shareholders of each fund are being asked to consider the election of three nominees to the Board of Trustees of the fund. All of the nominees for election to each fund's Board currently serve as Trustees of the fund and have served in that capacity continuously since originally elected or appointed. Each Trustee shall be elected to hold office for a three-year term and until his or her successor is elected and qualified. Each nominee has consented to being named in this proxy statement and indicated his or her willingness to serve if elected. In the unanticipated event that any nominee should be unable to serve, the persons named as proxies may vote for such other person as shall be designated by the fund's Board of Trustees. The persons named on the accompanying proxy card intend to vote at the meeting (unless otherwise directed) for the election of the nominees named below as Trustees of each fund.

The Agreement and Declaration of Trust for each fund provides that the Board of Trustees shall consist of Trustees divided into three classes, each class to consist, as nearly as may be possible, of one-third of the total number of trustees constituting the entire Board of Trustees. The Trustees of only one class are elected at each annual meeting so that the regular term of only one class of Trustees will expire annually and any particular Trustee stands for election only once in each three-year period. Each fund's Board of

## Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Trustees is divided into three staggered term classes--Class I, Class II and Class III. Class I Trustees are being submitted to shareholders for election at the meeting for Pioneer Diversified High Income Trust. Class II Trustees are being submitted to shareholders for election at the meeting for each of Pioneer Floating Rate Trust, Pioneer Municipal High Income Trust and Pioneer Municipal High Income Advantage Trust. Class III Trustees are being submitted to shareholders for election at the meeting for Pioneer High Income Trust.

Each fund's Board of Trustees consists of nine members.

### Pioneer Diversified High Income Trust

The terms of the Class I Trustees -- Mr. Friedman, Ms. Graham and Mr. Kingsbury -- expire at the upcoming 2011 annual meeting; the terms of the Class II Trustees -- Ms. Bush, Mr. Perna and Ms. Piret -- expire in 2012; and the terms of the Class III Trustees -- Mr. Cogan, Mr. Bock and Mr. West -- expire in 2013.

2

### Pioneer Floating Rate Trust

The terms of the Class II Trustees -- Mr. Friedman, Ms. Graham and Mr. Kingsbury -- expire at the upcoming 2011 annual meeting; -- the terms of the Class III Trustees -- Ms. Bush, Mr. Perna and Ms. Piret -- expire in 2012; and the terms of the Class I Trustees -- Mr. Cogan, Mr. Bock and Mr. West -- expire in 2013.

### Pioneer Municipal High Income Trust

The terms of the Class II Trustees -- Mr. Friedman, Ms. Graham and Mr. Kingsbury -- expire at the upcoming 2011 annual meeting; the terms of the Class III Trustees -- Ms. Bush, Mr. Perna and Ms. Piret -- expire in 2012; and the terms of the Class I Trustees -- Mr. Cogan, Mr. Bock and Mr. West -- expire in 2013.

### Pioneer Municipal High Income Advantage Trust

The terms of the Class II Trustees -- Mr. Friedman, Ms. Graham and Mr. Kingsbury -- expire at the upcoming 2011 annual meeting; the terms of the Class III Trustees -- Ms. Bush, Mr. Perna and Ms. Piret -- expire in 2012; and the terms of the Class I Trustees -- Mr. Cogan, Mr. Bock and Mr. West -- expire in 2013.

### Pioneer High Income Trust

The terms of the Class III Trustees -- Mr. Friedman, Ms. Graham and Mr. Kingsbury -- expire at the upcoming 2011 annual meeting; the terms of the Class I Trustees -- Ms. Bush, Mr. Perna and Ms. Piret -- expire in 2012; and the terms of the Class II Trustees -- Mr. Cogan, Mr. Bock and Mr. West -- expire in 2013.

Subsequently, for each fund, each class of Trustees will stand for election at the conclusion of its respective three-year term. Such classification may prevent replacement of a majority of the Trustees for up to a two-year period. Holders of the Preferred Shares of each fund that has Preferred Shares outstanding are entitled to elect two trustees of that fund. Mr. Cogan and Ms. Piret have been designated as the Trustees to be elected by the holders of the Preferred Shares of each fund that has issued Preferred Shares. As noted above, neither Mr. Cogan's nor Ms. Piret's term expires at the

## Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

upcoming 2011 annual meeting. Consequently, holders of Preferred Shares of each fund that has Preferred Shares outstanding are not asked to vote as a separate class at the upcoming 2011 annual meeting.

3

The following table sets forth for each nominee and Trustee, his or her position(s) with each fund, age, address, principal occupation during at least the past five years and any other board memberships held during at least the past five years. Trustees who are interested persons of a fund within the meaning of the Investment Company Act of 1940, as amended (the "1940 Act"), are referred to as Interested Trustees. Trustees who are not interested persons of a fund are referred to as Independent Trustees. Each of the Trustees (except Mr. West) serves as a Trustee of each of the 56 U.S. registered investment portfolios for which Pioneer Investment Management, Inc. ("Pioneer") serves as investment adviser (the "Pioneer Funds"). Mr. West serves as Trustee of 44 of the 56 Pioneer Funds. The address for all Trustees and all officers of each fund is 60 State Street, Boston, Massachusetts 02109.

Name and Age	Position(s) Held With each Fund	Term of Office and Length of Service	Principal Occupation During At Least the Past Five Years	Other Directorshi Held by Trustee or Nominee During Pas Five Years
<b>Interested Trustees:</b>				
John F. Cogan, Jr. (85)*	Chairman of the Board, Trustee and President	Pioneer Diversified High Income Trust: Class III Trustee since 2007. Term expires in 2013. Pioneer Floating Rate Trust: Class I Trustee since 2003. Term expires in 2013. Elected by Preferred Shares only. Pioneer High Income Trust: Class II Trustee since 2002. Term expires in 2013. Elected by Preferred Shares only.	Non-Executive Chairman and a Director of Pioneer Investment Management USA Inc. ("PIM-USA"); Chairman and a Director of Pioneer; Chairman and Director of Pioneer Institutional Asset Management, Inc. (since 2006); Director of Pioneer Alternative Investment Management Limited (Dublin); President and a Director of Pioneer Alternative Investment Management (Bermuda) Limited and affiliated funds; Deputy Chairman and a Director of Pioneer Global Asset Management S.p.A. ("PGAM") (until April 2010); Director of PIOGLOBAL Real Estate Investment Fund (Russia) (until June 2006); Director of Nano-C, Inc. (since 2003); Director of Cole Management Inc. (since 2004); Director of	None

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Fiduciary Counseling, Inc.;

4

Name and Age	Position(s) Held With each Fund	Term of Office and Length of Service	Principal Occupation During At Least the Past Five Years	Other Director Held Trust or Nom During Five Y
		Pioneer Municipal High Income Trust: Class I Trustee since 2003. Term expires in 2013. Elected by Preferred Shares only. Pioneer Municipal High Income Advantage Trust: Class I Trustee since 2003. Term expires in 2013. Elected by Preferred Shares only.	President and Director of Pioneer Funds Distributor, Inc. ("PFD") (until May 2006); President of all of the Pioneer Funds; and Of Counsel, Wilmer Cutler Pickering Hale and Dorr LLP	
Daniel K. Kingsbury (52)*	Trustee and Executive Vice President	Pioneer Diversified High Income Trust: Class I Trustee since 2007. Term expires in 2011. Pioneer Floating Rate Trust: Class II Trustee since 2007. Term expires in 2011. Pioneer High Income Trust: Class III Trustee since 2007. Term expires in 2011. Pioneer Municipal High Income Trust: Class II Trustee since 2007. Term expires in 2011. Pioneer Municipal High Income Advantage Trust:	Director, CEO and President of PIM-USA (since February 2007); Director and President of Pioneer and Pioneer Institutional Asset Management, Inc. (since February 2007); Executive Vice President of all of the Pioneer Funds (since March 2007); Director of PGAM (2007-2010); Head of New Europe Division, PGAM (2000-2005); Head of New Markets Division, PGAM (2005-2007)	None

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Class II Trustee since 2007. Term expires in 2011.

5

Name and Age	Position(s) Held With each Fund	Term of Office and Length of Service	Principal Occupation During At Least the Past Five Years	Other Directorships Held by Trustee
Independent Trustees: David R. Bock (67)	Trustee	Pioneer Diversified High Income Trust: Class III Trustee since 2007. Term expires in 2013. Pioneer Floating Rate Trust: Class I Trustee since 2005. Term expires in 2013. Pioneer High Income Trust: Class II Trustee since 2005. Term expires in 2013. Pioneer Municipal High Income Trust: Class I Trustee since 2005. Term expires in 2013. Pioneer Municipal High Income Advantage Trust: Class I Trustee since 2005. Term expires in 2013.	Managing Partner, Federal City Capital Advisors (corporate advisory services company) (1997-2004 and 2008-present); Interim Chief Executive Officer, Oxford Analytica, Inc. (privately-held research and consulting company) (2010); Executive Vice President and Chief Financial Officer, I-trax, Inc. (publicly traded health care services company) (2004-2007); and Executive Vice President and Chief Financial Officer, Pedestal Inc. (internet-based mortgage trading company) (2000-2002)	Director of Enterprise Community Investments (private affordable finance) (1985-2008); Director of Analytical Services (2008-present); Director of Swiss Helvetia Fund, Inc. end fund (2010-present); Director of York Mortgage Trust (publicly traded m REIT) (2000-2002)

6

Other Directorships Held by Trustee



Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Name and Age	Position(s) Held With each Fund	Term of Office and Length of Service	Principal Occupation During At Least the Past Five Years	or Nominee During Past Five Years
Mary K. Bush (63)	Trustee	Pioneer Diversified High Income Trust: Class II Trustee since 2007. Term expires in 2012. Pioneer Floating Rate Trust: Class III Trustee since 2003. Term expires in 2012. Pioneer High Income Trust: Class I Trustee since 2002. Term expires in 2012. Pioneer Municipal High Income Trust: Class III Trustee since 2003. Term expires in 2012. Pioneer Municipal High Income Advantage Trust: Class III Trustee since 2003. Term expires in 2012.	Chairman, Bush International, LLC (international financial advisory firm) (1991-present); Senior Managing Director, Brock Capital Group, LLC (strategic business advisors) (2010-present); Managing Director, Federal Housing Finance Board (oversight of Federal Home Loan Bank system) (1989-1991); Vice President and Head of International Finance, Federal National Mortgage Association (1988-1989); U.S. Alternate Executive Director, International Monetary Fund (1984-1988); Executive Assistant to Deputy Secretary of the U.S. Treasury, U.S. Treasury Department (1982-1984); Vice President and Team Leader in Corporate Banking, Bankers Trust Co. (1976-1982)	Director of Marriott International, Inc. (2008-present); Director of Discover Financial Services (credit card issuer and electronic payment services) (2007-present); Former Director of Briggs & Stratton Co. (engine manufacturer) (2004-2009); Former Director of UAL Corporation (airline holding company) (2006-2010); Director of ManTech International Corporation (national security, defense, and intelligence technology firm) (2006-present); Member, Board of Governors, Investment Company Institute (2007-present); Member, Board of Governors, Independent Directors Council (2007-present); Former Director of Brady Corporation (2000-2007); Former Director of Mortgage Guaranty Insurance Corporation (1991-2006);

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Name and Age	Position(s) Held With each Fund	Term of Office and Length of Service	Principal Occupation During At Least the Past Five Years	Held by Trustee or Nomine During Pa Five Year
Benjamin M. Friedman (66)	Trustee	Pioneer Diversified High Income Trust: Class I Trustee since 2008. Term expires in 2011. Pioneer Floating Rate Trust: Class II Trustee since 2008. Term expires in 2011. Pioneer High Income Trust: Class III Trustee since 2008. Term expires in 2011. Pioneer Municipal High Income Trust: Class II Trustee since 2008. Term expires in 2011. Pioneer Municipal High Income Advantage Trust: Class II Trustee since 2008. Term expires in 2011.	William Joseph Maier Professor of Political Economy, Harvard University (1972-present)	Former Direct of Millennium Chemicals, In (commodity chemicals) (2002-2005); Former Direct R.J. Reynolds Tobacco Holdi Inc. (tobacco (1999-2005); Former Direct of Texaco, In (1997-2001)  Trustee, Mell Institutional Investment Tr and Mellon Institutional Master Portfo (oversaw 17 portfolios in fund complex) (1989-2008)

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Name and Age	Position(s) Held With each Fund	Term of Office and Length of Service	Principal Occupation During At Least the Past Five Years	Trustee or Nominee During Past Five Years
Margaret B.W. Graham (64)	Trustee	Pioneer Diversified High Income Trust: Class I Trustee since 2007. Term expires in 2011. Pioneer Floating Rate Trust: Class II Trustee since 2003. Term expires in 2011. Pioneer High Income Trust: Class III Trustee since 2002. Term expires in 2011. Pioneer Municipal High Income Trust: Class II Trustee since 2003. Term expires in 2011. Pioneer Municipal High Income Advantage Trust: Class II Trustee since 2003. Term expires in 2011.	Founding Director, Vice- President and Corporate Secretary, The Winthrop Group, Inc. (consulting firm); and Desautels Faculty of Management, McGill University (1999-present); and Manager of Research Operations and Organizational Learning, Xerox PARC, Xerox's Advance Research Center (1990-1994)	None

9

Name and Age	Position(s) Held With each Fund	Term of Office and Length of Service	Principal Occupation During At Least the Past Five Years	Other Directorship Held by Trustee or Nominee During Past Five Years
Thomas J. Perna (60)	Trustee	Pioneer Diversified High Income Trust: Class II Trustee since 2007. Term expires in 2012. Pioneer Floating Rate Trust: Class III Trustee since 2006. Term	Chairman and Chief Executive Officer, Quadriserv, Inc. (technology products for securities lending industry) (2008-present); Private investor (2004-2008); and Senior Executive Vice President, The Bank of New York	Director, Broadridge Financial Solutio Inc. (investor communications and securities processing provider for financial service industry) (2009-

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

expires in 2012. (financial and securities present); Director  
Pioneer High services) (1986-2004) Quadriserv, Inc.  
Income Trust: (2005-present)  
Class I Trustee  
since 2006. Term  
expires in 2012.  
Pioneer  
Municipal High  
Income Trust:  
Class III Trustee  
since 2006. Term  
expires in 2012.  
Pioneer  
Municipal  
High Income  
Advantage Trust:  
Class III Trustee  
since 2006. Term  
expires in 2012.

10

Name and Age	Position(s) Held With each Fund	Term of Office and Length of Service	Principal Occupation During At Least the Past Five Years	Other Directorships Held by Trustee or Nominee During Past Five Years
Marguerite A. Piret (63)	Trustee	Pioneer Diversified High Income Trust: Class II Trustee since 2007. Term expires in 2012. Pioneer Floating Rate Trust: Class III Trustee since 2003. Term expires in 2012. Elected by Preferred Shares only. Pioneer High Income Trust: Class I Trustee since 2002. Term expires in 2012. Elected by Preferred Shares only. Pioneer Municipal High Income Trust: Class III Trustee	President and Chief Executive Officer, Newbury, Piret & Company, Inc. (investment banking firm) (1981-present)	Director of New America High Income Fund, Inc. (closed-end investment company) (2004-present); Member, Board of Governors, Investment Company Institute (2000-2006)

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

since 2003. Term expires in 2012.  
 Elected by Preferred Shares only.  
 Pioneer Municipal High Income Advantage Trust:  
 Class III Trustee since 2003. Term expires in 2012.  
 Elected by Preferred Shares only.

11

Name and Age	Position(s) Held With each Fund	Term of Office and Length of Service	Principal Occupation During At Least the Past Five Years	Other Directorships Held by Trustee or Nominee During Past Five Years
Stephen K. West (82)	Trustee	Pioneer Diversified High Income Trust: Class III Trustee since 2007. Term expires in 2013. Pioneer Floating Rate Trust: Class I Trustee since 2003. Term expires in 2013. Pioneer High Income Trust: Class II Trustee since 2002. Term expires in 2013. Pioneer Municipal High Income Trust: Class I Trustee since 2003. Term expires in 2013. Pioneer Municipal High Income Advantage Trust: Class I Trustee since 2003. Term expires in 2013.	Senior Counsel, Sullivan & Cromwell LLP (law firm) (1998-present); Partner, Sullivan & Cromwell LLP (prior to 1998)	Director, The Swiss Helvetia Fund, Inc. (closed-end investment company); Director, AMVESCAP, PLC (investment manager) (1997-2005)

-----  
\* Mr. Cogan and Mr. Kingsbury are Interested Trustees because each is an officer or director of each fund's investment adviser and/or certain of its affiliates.

Responsibilities of the Board of Trustees

The Board of Trustees is responsible for overseeing each fund's management and operations. The Chairman of the Board is the principal executive officer of each fund and an Interested Trustee. Independent Trustees constitute more than 75% of the Board. The Board currently does not have a lead Independent Trustee.

For Pioneer High Income Trust and Pioneer Municipal High Income Advantage Trust, during each fund's most recent fiscal year, the Board of Trustees held 8 meetings. For Pioneer Diversified High Income Trust and Pioneer Municipal High Income Trust, during each fund's most recent fiscal year, the Board of Trustees held 7 meetings. For Pioneer Floating Rate Trust, during the fund's most recent fiscal year, the Board of Trustees held

12

9 meetings. All of the current Trustees and committee members of each fund then serving attended at least 75% of the meetings of the Board of Trustees and applicable committees, if any, held during that fund's fiscal year.

The funds do not have a policy on Trustee attendance at the annual meeting of shareholders. For each fund, one Trustee attended the 2010 annual meeting of shareholders.

The Trustees were selected to join the Board based upon the following as to each Board member: such person's character and integrity; such person's willingness and ability to commit the time necessary to perform the duties of a Trustee; as to each Independent Trustee, his or her status as not being an "interested person" as defined under the 1940 Act; and, as to each of Mr. Cogan and Mr. Kingsbury, his association with Pioneer. Each of the Independent Trustees also was selected to join the Board based on the criteria and principles set forth in the Nominating Committee Charter. In addition to individual attributes, the value of diversity is considered. In evaluating a Trustee's prospective service on the Board, the Trustee's experience in, and ongoing contributions toward, overseeing the fund's business as a Trustee also are considered. In addition, the following specific experience, qualifications, attributes and/or skills apply as to each Trustee: Mr. Bock, accounting, financial, business and public company experience as a chief financial officer and an executive officer and experience as a board member of other organizations; Ms. Bush, banking, financial, governmental, international and entrepreneurial experience as an executive and experience as a board member of other organizations; Mr. Friedman, academic leadership, economic and finance experience and investment company board experience; Ms. Graham, academic leadership, experience in business, finance and management consulting; Mr. Perna, accounting, financial, and business experience as an executive officer and experience as a board member of other organizations; Ms. Piret, accounting, financial and entrepreneurial experience as an executive, valuation experience and investment company board experience; Mr. West, legal experience and securities and board experience; and each of Mr. Cogan and Mr. Kingsbury, investment management experience as an executive and leadership roles with Pioneer and its affiliates. However, in its periodic assessment of the effectiveness of the Board, the Board considers the complementary skills and experience of individual Trustees primarily in the broader context of the

## Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Board's overall composition so that the Board, as a body, possesses the appropriate (and appropriately diverse) skills and experience to oversee the business of the funds.

Each fund's Agreement and Declaration of Trust provides that the appointment, designation (including in any proxy or registration statement or other document) of a Trustee as an expert on any topic or in any area, or as having experience, attributes or skills in any area, or any other appointment, designation or identification, shall not impose on that person any standard of care or liability that is greater than that imposed on that person as a Trustee in the absence of the appointment, designation or identification, and no Trustee who has special attributes, skills, experience or expertise, or is appointed, designated, or identified as aforesaid, shall be held to a higher standard of care by virtue thereof.

13

### Board Committees

The Board of Trustees has five standing committees: the Governance Committee, the Audit Committee, the Nominating Committee, the Policy Administration Committee and the Valuation Committee. Each committee is chaired by an Independent Trustee and all members of each committee are Independent Trustees.

The Chairs of the committees work with the Chairman of the Board and fund management in setting the agendas for Board meetings. The Chairs of the committees set the agendas for committee meetings with input from fund management. As noted below, through the committees, the Independent Trustees consider and address important matters involving the funds, including those presenting conflicts or potential conflicts of interest for management. The Independent Trustees also regularly meet without the presence of management and are advised by independent legal counsel. The Board has determined that delegation to the committees of specified oversight responsibilities helps ensure that the fund has effective and independent governance and oversight. The Board further has determined that its leadership structure is appropriate given Pioneer's role with respect to the funds' investment and business operations. The Board also believes that its leadership structure, as aided by the Chairman's experience and capabilities, serves to facilitate the orderly and efficient flow of information to the Independent Trustees from management and otherwise enhance the Board's oversight role.

During the most recent fiscal year for each fund, the Audit, Governance, Nominating, Policy Administration and Valuation Committees of each fund held the following meetings:

	Pioneer Diversified High Income Trust	Pioneer Floating Rate Trust	Pioneer High Income Trust	Pioneer Municipal High Income Trust	Pioneer Municipal High Income Trust
Audit Committee .....	9	9	9	9	9
Governance Committee .....	15	14	14	15	14
Nominating Committee .....	0	0	0	0	0

## Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Policy Administration Committee .....	5	5	5	5	5
Valuation Committee .....	5	5	5	5	5

Audit Committee: David R. Bock (Chair), Benjamin M. Friedman and Marguerite A. Piret.

Each fund's Audit Committee is comprised of only Independent Trustees who are "independent" as defined in the applicable New York Stock Exchange ("NYSE") and NYSE Amex listing standards relating to closed-end funds. The Board of Trustees of each fund has adopted a charter for the Audit Committee. In accordance with its charter, the purposes of the Audit Committee are to:

- o Assist the Board of Trustees' oversight and monitoring of: (i) the integrity of the fund's financial statements; (ii) the fund's compliance with legal and regulatory

14

requirements; (iii) the independent registered public accounting firm's qualifications, performance and independence; and (iv) the performance of the fund's internal audit function; and

- o Prepare the disclosure required by Item 407(d) (3) (i) of Regulation S-K to be included in the fund's annual proxy statement and other filings.

The Audit Committee charter is available on Pioneer's website: [www.pioneerinvestments.com](http://www.pioneerinvestments.com). You also can obtain a copy by sending a written request to your fund at the address listed on this proxy statement.

Each fund's Board of Trustees has determined that the fund has at least one audit committee financial expert serving on its Audit Committee. Ms. Piret, an Independent Trustee, serves on each Audit Committee and has been determined to be an audit committee financial expert.

### Audit Committee Report

The Audit Committee reports that it has (1) reviewed and discussed each fund's audited financial statements with management; (2) discussed with the independent registered public accounting firm the matters required to be discussed with the independent auditors by the Statement of Auditing Standards No. 61, as amended, as adopted by the Public Company Accounting Oversight Board in Rule 3200 T; and (3) received written disclosures and an independence letter from the independent registered public accounting firm required by Independence Standards Board Standard No. 1, as adopted by the Public Company Accounting Oversight Board in Rule 3600 T, and discussed with the independent registered public accounting firm that firm's independence. Based upon the review and discussions referred to above, the Audit Committee recommended to the Board of Trustees that the audited financial statements be included in the Annual Report for Pioneer Floating Rate Trust for the fiscal year ended November 30, 2010, the Annual Reports for Pioneer High Income Trust and Pioneer Municipal High Income Advantage Trust for the fiscal year ended March 31, 2011 and in the Annual Reports for Pioneer Diversified High Income Trust and Pioneer Municipal High Income Trust for the fiscal year ended April 30, 2011.

The members of each fund's Audit Committee are:

David R. Bock (Chair)  
Benjamin M. Friedman  
Marguerite Piret



## Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Nominating Committee: Mary K. Bush (Chair), Benjamin M. Friedman, Margaret B.W. Graham and Marguerite Piret.

All members of the Nominating Committee are independent under the applicable NYSE and NYSE Amex listing standards relating to closed-end funds, and are not "interested persons," as defined in the 1940 Act, of the fund. The Board of each fund has adopted a written charter for the Nominating Committee, which is available on Pioneer's website: [www.pioneerinvestments.com](http://www.pioneerinvestments.com). You also can obtain a copy by sending a written request to your fund at the address listed on this proxy statement. The Nominating Committee reviews the qualifications of persons being considered as candidates for

15

Independent Trustee and makes recommendations regarding the qualifications of such persons to the Governance Committee. The Governance Committee then evaluates any candidate and determines whether to nominate him or her for election. The Trustees who are not Independent Trustees and the officers of each fund are nominated and selected by the Board.

The Nominating Committee's charter provides for certain criteria to be used in evaluating candidates for Independent Trustee. In reviewing a potential nominee, the Nominating Committee applies the following criteria: (i) the nominee's reputation for integrity, honesty and adherence to high ethical standards, (ii) the nominee's business acumen and ability to exercise sound judgments, (iii) a commitment to attend and participate in meetings of the Board and its committees, (iv) the ability to understand potential conflicts of interest in managing a fund and to act in the interests of all shareholders, (v) the absence of a real or apparent conflict of interest that would impair the nominee's ability to represent the interests of all the shareholders and to fulfill the responsibilities of an Independent Trustee, and (vi) consideration of the value of diversity on the Board. The Nominating Committee does not necessarily place the same emphasis on each criterion. The Nomination Committee does not have a formal procedure for the implementation, or for assessing the effectiveness, of its policy with regard to the consideration of the value of diversity on the Board in reviewing potential nominees for Independent Trustee. However, as noted above, in its periodic assessment of the effectiveness of the Board, the Board considers the complementary skills and experience of individual Trustees in the context of the Board's overall composition so that the Board, as a body, possesses the appropriate (and appropriately diverse) skills and experience to oversee the business of the funds. In addition, the Nomination Committee Charter provides that nominees shall not be discriminated against on the basis of race, religion, national origin, sex, sexual orientation, disability or any other basis proscribed by law.

As long as an existing Independent Trustee continues, in the opinion of the other Independent Trustees, to satisfy these criteria and continues to make positive contributions to the Board, each fund anticipates that Independent Trustees of the fund would favor the re-nomination of an existing Trustee rather than a new candidate. Consequently, while the Nominating Committee will evaluate the qualifications of nominees recommended by shareholders to serve as Trustee, the Independent Trustees might act upon the Nominating Committee's evaluation only if there is a vacancy on the Board. In the event that a vacancy arises or a change in Board membership is determined to be advisable, the Nominating Committee will, in addition to any shareholder recommendations, evaluate candidates identified by other means, including candidates proposed by Independent Trustees or management. While it has not done so in the past, the Nominating Committee may retain a consultant to assist the Committee in a search for a qualified candidate.

## Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Any shareholder recommendation must be submitted in compliance with all of the pertinent provisions of Regulation 14A under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the Agreement and Declaration of Trust and By laws of the fund to be considered by the Nominating Committee. In evaluating a nominee recommended by a shareholder, the Nominating Committee, in addition to the criteria

16

discussed above, may consider the objectives of the shareholder in submitting that nomination and whether such objectives are consistent with the interests of all shareholders. If the Board determines to include a shareholder's candidate among the slate of nominees, the candidate's name will be placed on the fund's proxy card. If the Nominating Committee, the Independent Trustees or the Board determines not to include such candidate among the Board's designated nominees and the shareholder has satisfied the requirements of Rule 14a-8 under the Exchange Act, the shareholder's candidate will be treated as a nominee of the shareholder who originally nominated the candidate.

The Nominating Committee initiated the recommendation of each of the nominees to serve as Independent Trustee.

Shareholders may communicate with the members of the Board as a group or individually. Any such communication should be sent to the Board or an individual Trustee c/o the Secretary of the fund at the address on the notice of this meeting. The Secretary may determine not to forward any communication to members of the Board that does not relate to the business of a fund.

Valuation Committee: David R. Bock, Benjamin M. Friedman and Marguerite A. Piret (Chair).

The Valuation Committee, among other things, determines with Pioneer the value of securities under certain circumstances and considers other matters with respect to the valuation of securities, in each case in accordance with each fund's valuation procedures.

Policy Administration Committee: Mary K. Bush, Margaret B.W. Graham, Thomas J. Perna (Chair) and Stephen K. West.

The Policy Administration Committee, among other things, monitors each fund's compliance with legal and regulatory requirements that are not directly related to financial reporting, internal financial controls, independent audits or the performance of the fund's internal audit function. The Policy Administration Committee also oversees the adoption and implementation of certain of the funds' policies and procedures.

Governance Committee: David R. Bock, Mary K. Bush, Benjamin M. Friedman, Margaret B.W. Graham, Thomas J. Perna, Marguerite A. Piret and Stephen K. West (Chair).

The Governance Committee is comprised of all of the Independent Trustees. The Governance Committee serves as the forum for consideration of a number of issues required to be considered separately by the Independent Trustees under the 1940 Act, including the assessment and review of each fund's advisory agreement and other related party contracts. The Governance Committee also considers issues that the Independent Trustees believe it is advisable for them to consider separately from the Interested Trustees.

From time to time, the Governance Committee considers the composition and number of Trustees appropriate to be carrying out their responsibilities. When

the Governance Committee determines that the Board should consider an additional Trustee or Trustees, the Nominating Committee is charged with identifying and evaluating potential Independent Trustee candidates with experience, qualifications, attributes and skills contemplated by the Nominating Committee Charter. From time to time, the Governance

17

Committee also has added as specific criteria experience or skills that the Governance Committee believed, based on the then current composition and skills of the Independent Trustees and experience or skills that may be appropriate in light of anticipated retirements, changing business conditions and regulatory or other developments, would maintain or enhance the effectiveness of the Independent Trustees' oversight of each fund's affairs.

#### Oversight of Risk Management

Consistent with its responsibility for oversight of each fund in the interests of shareholders, the Board of Trustees oversees risk management of each fund's investment management and business operations. In performing this oversight function, the Board considers various risks and risk management practices relating to the funds. The Board has delegated certain aspects of its risk oversight responsibilities to the committees.

Each fund faces a number of risks, such as investment risk, counterparty risk, valuation risk, enterprise risk, reputational risk, risk of operational failure or lack of business continuity, and legal, compliance and regulatory risk. The goal of risk management is to identify and address risks, i.e., events or circumstances that could have material adverse effects on the business, operations, shareholder services, investment performance or reputation of a fund.

Most of the funds' investment management and business operations are carried out by or through Pioneer, its affiliates, and other service providers, each of which has an independent interest in risk management but whose policies and the methods by which one or more risk management functions are carried out may differ from each fund's and each other's in the setting of priorities, the resources available or the effectiveness of relevant controls.

Under the overall supervision of the Board or the applicable committee of the Board, each fund, or Pioneer and the affiliates of Pioneer or other service providers to each fund employ a variety of processes, procedures and controls in an effort to identify, address and mitigate risks. Different processes, procedures and controls are employed with respect to different types of risks. Various personnel, including the funds' and Pioneer's chief compliance officer and Pioneer's chief risk officer and director of internal audit, as well as various personnel of the other service providers such as the funds' independent registered public accounting firm, make periodic reports to the applicable committee or to the Board with respect to various aspects of risk management. The reports received by the Trustees related to risks typically are summaries of relevant information. During the course of the most recent fiscal year, the Trustees oversaw the development of portfolio risk metrics designed to evaluate the relative risk levels in the funds versus those in an appropriate index. These metrics are intended as a basis for risk assessment and may be used by the portfolio manager of a fund in determining investment strategies for the fund. These metrics will not, however, be effective in identifying all known or unanticipated risks which could result in a decline in value of a fund.

The Trustees recognize that not all risks that may affect a fund can be identified, that it may not be practical or cost-effective to eliminate or

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

mitigate certain risks, that it may be necessary to bear certain risks (such as investment-related risks) to achieve each fund's goals, that the processes, procedures and controls employed to address certain risks may be limited in their effectiveness, and that some risks are simply beyond the control of the

funds or Pioneer and its affiliates or other service providers. As a result of the foregoing and other factors, each fund's ability to manage risk is subject to substantial limitations.

In addition, it is important to note that each fund is designed for investors that are prepared to accept investment risk, including the possibility that as yet unforeseen risks may emerge in the future.

The following table indicates the value of shares that each Trustee or nominee beneficially owned in each fund and Pioneer Funds in the aggregate as of May 31, 2011. Beneficial ownership is determined in accordance with the Securities and Exchange Commission ("SEC") rules. The share value of any closed-end Pioneer fund is based on its closing market price on May 31, 2011. The share value of any open-end Pioneer fund is based on the net asset value of the class of shares on May 31, 2011. The dollar ranges in this table are in accordance with SEC requirements.

Name of Trustee or Nominee	Dollar Range of Equity Securities in each Fund	Aggregate Dollar Range of Equity Securities in All Pioneer Funds Overseen or to be Overseen by Trustee or Nominee
-----		
INTERESTED TRUSTEE or NOMINEE		
John F. Cogan, Jr. ....	Over \$100,000 (1) \$0 (2) \$0 (3) \$0 (4)	Over \$100,000
Daniel K. Kingsbury .....	Over \$100,000 (5) \$0 (1) \$0 (2) \$0 (3) \$0 (4) \$0 (5)	Over \$100,000
INDEPENDENT TRUSTEE or NOMINEE		
David R. Bock .....	\$0 (1) \$0 (2) \$0 (3) \$0 (4) \$0 (5)	Over \$100,000
Mary K. Bush .....	\$0 (1) \$0 (2) \$0 (3) \$0 (4) \$0 (5)	Over \$100,000
Benjamin M. Friedman .....	\$0 (1) \$0 (2)	Over \$100,000

\$0 (3)  
 \$0 (4)  
 \$0 (5)

Name of Trustee or Nominee	Dollar Range of Equity Securities in each Fund	Aggregate Dollar Range of Equity Securities in All Pioneer Funds Overseen or to be Overseen by Trustee or Nominee
Margaret B. W. Graham .....	\$10,001 to \$50,000 (1) \$0 (2) \$0 (3) \$0 (4) \$0 (5)	Over \$100,000
Thomas J. Perna .....	\$0 (1) \$0 (2) \$0 (3) \$0 (4) \$0 (5)	Over \$100,000
Marguerite A. Piret .....	\$0 (1) \$0 (2) \$0 (3) \$0 (4) \$0 (5)	Over \$100,000
Stephen K. West .....	\$1 to \$10,000 (1) \$0 (2) \$0 (3) \$10,001 to \$50,000 (4) \$10,001 to \$50,000 (5)	Over \$100,000

-----

- 1 Shares held in Pioneer High Income Trust
- 2 Shares held in Pioneer Municipal High Income Trust
- 3 Shares held in Pioneer Municipal High Income Advantage Trust
- 4 Shares held in Pioneer Floating Rate Trust
- 5 Shares held in Pioneer Diversified High Income Trust

As of December 31, 2010, the Trustees, any nominee for election as a Trustee and the officers of each fund owned beneficially in the aggregate less than 1% of the outstanding shares of each fund.

For each of the funds, during the most recent fiscal year, none of the Trustees or any nominee for election as a Trustee engaged in the purchase or sale of securities of Pioneer, UniCredit S.p.A. or any other entity in a control relationship to Pioneer or PFD.

Material Relationships of the Independent Trustees

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Mr. West, an Independent Trustee, is Senior Counsel to Sullivan & Cromwell, which acts as counsel to the Independent Trustees and the Independent Trustees of the other Pioneer Funds. The aggregate compensation paid to Sullivan & Cromwell by the fund and the other Pioneer Funds was approximately \$419,689 and \$313,129 in each of 2009 and 2010.

Compliance with Section 16(a) Reporting Requirements

Section 16(a) of the Exchange Act requires each fund's executive officers, Trustees and persons who own more than ten percent of a fund's shares ("10% Shareholders") to file reports of ownership and changes in ownership with the SEC. Executive officers, Trustees and 10% Shareholders are required by SEC regulations to furnish the fund with copies of all Section 16(a) forms they file. Section 30(h) of the 1940 Act extends the reporting requirements under Section 16(a) of the Exchange Act to certain officers of the fund's investment adviser. Based solely on a review of the copies of these reports furnished to each of the funds and representations that no other reports were required to be filed, each fund believes that during the past fiscal year all filing requirements applicable to such persons were met.

Other executive officers

In addition to Mr. Cogan and Mr. Kingsbury, who serve as President and Executive Vice President, respectively, of each fund, the following table provides information with respect to the other executive officers of the funds. Each executive officer is elected by the Board of Trustees and serves until his or her successor is chosen and qualified or until his or her resignation or removal by the Board. The business address of all officers of the funds is 60 State Street, Boston, Massachusetts 02109.

Name, age and position with each fund	Principal occupation(s)
Christopher J. Kelley (46) Secretary	Vice President and Associate General Counsel of Pioneer since January 2008 and Secretary of all of the Pioneer Funds since June 2010 (Assistant Secretary from September 2003 to May 2010); Vice President and Senior Counsel of Pioneer from July 2002 to December 2007

Name, age and position with each fund	Principal occupation(s)
Carol B. Hannigan (50) Assistant Secretary	Fund Governance Director of Pioneer since December 2006 and Assistant Secretary of all the Pioneer Funds since June 2010; Manager-Fund Governance of Pioneer from December 2003 to November 2006; Senior Paralegal of Pioneer from January 2000 to November 2003
Thomas Reyes (48) Assistant Secretary	Counsel of Pioneer since June 2007 and Assistant Secretary of all the Pioneer Funds since June

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

2010; Vice President and Counsel at State Street Bank from October 2004 to June 2007

<p>Mark E. Bradley (51) Treasurer</p>	<p>Vice President -- Fund Accounting, Administration and Controllership Services of Pioneer; and Treasurer of all of the Pioneer Funds since March 2008; Deputy Treasurer of Pioneer from March 2004 to February 2008; Assistant Treasurer of all of the Pioneer Funds from March 2004 to February 2008; and Treasurer and Senior Vice President, CDC IXIS Asset Management Services from 2002 to 2003</p>
<p>Luis I. Presutti (46) Assistant Treasurer</p>	<p>Assistant Vice President -- Fund Accounting, Administration and Controllership Services of Pioneer; and Assistant Treasurer of all of the Pioneer Funds</p>
<p>Gary Sullivan (53) Assistant Treasurer</p>	<p>Fund Accounting Manager -- Fund Accounting, Administration and Controllership Services of Pioneer; and Assistant Treasurer of all of the Pioneer Funds</p>
<p>David F. Johnson (31) Assistant Treasurer</p>	<p>Fund Administration Manager -- Fund Accounting, and Controllership Services since November 2008 and Assistant Treasurer of all of the Pioneer Funds since January 2009; Client Service Manager -- Institutional Investor Services at State Street Bank from March 2003 to March 2007</p>
<p>Jean M. Bradley (58) Chief Compliance Officer</p>	<p>Chief Compliance Officer of Pioneer and of all the Pioneer Funds since March 2010; Director of Adviser and Portfolio Compliance at Pioneer since October 2005; Senior Compliance Officer for Columbia Management Advisers, Inc. from October 2003 to October 2005</p>

Compensation of Trustees and officers

The following table sets forth certain information with respect to the compensation of each Trustee of Pioneer High Income Trust and Pioneer Municipal High Income Advantage Trust for the fiscal year ended March 31, 2011. The amounts paid to the Trustees by each fund differ due to (i) membership on or chairing certain committees of the Board of Trustees and (ii) attendance at meetings. The fund does not pay any salary or other compensation to its officers.

Pioneer High Income Trust and Pioneer Municipal High Income Advantage Trust:

Name of Trustee	Aggregate Compensation from each Fund	Pension or Retirement Benefits Accrued as Part of Fund Expenses	Total Compensation from the Fund and Other Pioneer Funds (2)
Interested Trustees:			
John F. Cogan, Jr. (1) .....	\$ 500.00*		
	\$ 500.00**	\$0.00	\$ 26,400.00
Daniel K. Kingsbury (1) .....	\$ 0.00*		

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

	\$	0.00**	\$0.00	\$	0.00
Independent Trustees:					
David R. Bock .....	\$	2,390.04*			
		\$1,959.33**	\$0.00		\$200,200.00
Mary K. Bush .....	\$	2,030.29*			
		\$1,710.63**	\$0.00		\$163,200.00
Benjamin M. Friedman .....	\$	2,207.06*			
		\$1,833.58**	\$0.00		\$181,500.00
Margaret B.W. Graham .....	\$	2,028.52*			
		\$1,708.36**	\$0.00		\$163,200.00
Thomas J. Perna .....	\$	2,108.17*			
		\$1,763.84**	\$0.00		\$171,300.00
Marguerite A. Piret .....	\$	2,208.98*			
		\$1,833.88**	\$0.00		\$181,800.02
Stephen K. West .....	\$	2,077.84*			
		\$1,741.89**	\$0.00		\$ 98,180.12

-----  
 (1) Under the management contract, Pioneer reimburses each fund for any Interested Trustees fees paid by the fund.

(2) There are 56 U.S. registered investment portfolios in the Pioneer Funds.

\* Aggregate compensation from Pioneer High Income Trust.

\*\* Aggregate compensation from Pioneer Municipal High Income Advantage Trust.

The following table sets forth certain information with respect to the compensation of each Trustee of Pioneer Diversified High Income Trust and Pioneer Municipal High Income Trust for the fiscal year ended April 30, 2011. The amounts paid to the Trustees differ due to (i) membership on or chairing certain committees of the boards of Trustees and (ii) attendance at meetings. The fund does not pay any salary or other compensation to its officers.

Pioneer Diversified High Income Trust and Pioneer Municipal High Income Trust:

Name of Trustee	Aggregate Compensation from each Fund	Pension or Retirement Benefits Accrued as Part of Fund Expenses	Total Compensation from the Fund and Other Pioneer Funds(2)
-----			
Interested Trustees:			
John F. Cogan, Jr.(1) .....	\$ 500.00*		
	\$ 500.00**	\$0.00	\$ 26,400.00
Daniel K. Kingsbury(1) .....	\$ 0.00*		
	\$ 0.00**	\$0.00	\$ 0.00
Independent Trustees:			
David R. Bock .....	\$1,000.00*		
	\$1,829.00**	\$0.00	\$200,200.00
Mary K. Bush .....	\$1,000.00*		
	\$1,614.13**	\$0.00	\$163,200.00
Benjamin M. Friedman .....	\$1,000.00*		
	\$1,720.42**	\$0.00	\$181,500.00



Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Margaret B.W. Graham .....	\$1,000.00*		
	\$1,612.57**	\$0.00	\$163,200.00
Thomas J. Perna .....	\$1,000.00*		
	\$1,660.31**	\$0.00	\$171,300.00
Marguerite A. Piret .....	\$1,000.00*		
	\$1,720.96**	\$0.00	\$181,800.02
Stephen K. West .....	\$1,000.00*		
	\$1,641.65**	\$0.00	\$ 98,180.12

-----  
 (1) Under the management contract, Pioneer reimburses each fund for any Interested Trustees fees paid by the fund.

(2) There are 56 U.S. registered investment portfolios in the Pioneer Funds.

\* Aggregate compensation from Pioneer Diversified High Income Trust.

\*\* Aggregate compensation from Pioneer Municipal High Income Trust.

24

The following table sets forth certain information with respect to the compensation of each Trustee of Pioneer Floating Rate Trust for the fiscal year ended November 30, 2010. The amounts paid to the Trustees differ due to (i) membership on or chairing certain committees of the boards of Trustees and (ii) attendance at meetings. The fund does not pay any salary or other compensation to its officers.

Pioneer Floating Rate Trust:

Name of Trustee	Aggregate Compensation from Fund	Pension or Retirement Benefits Accrued as Part of Fund Expenses	Total Compensation from the Fund and Other Pioneer Funds(2)
-----			
Interested Trustees:			
John F. Cogan, Jr.(1) .....	\$ 500.00	\$0.00	\$ 26,400.00
Daniel K. Kingsbury(1) .....	\$ 0.00	\$0.00	\$ 0.00
Independent Trustees:			
David R. Bock .....	\$2,101.54	\$0.00	\$186,700.00
Mary K. Bush .....	\$1,821.70	\$0.00	\$154,200.00
Benjamin M. Friedman .....	\$1,927.64	\$0.00	\$166,500.00
Margaret B.W. Graham .....	\$1,808.78	\$0.00	\$152,700.00
Thomas J. Perna .....	\$1,878.52	\$0.00	\$160,800.00
Marguerite A. Piret .....	\$1,930.21	\$0.00	\$166,800.02
Stephen K. West .....	\$1,852.68	\$0.00	\$ 91,812.12

-----  
 (1) Under the management contract, Pioneer reimburses each fund for any Interested Trustees fees paid by the fund.

(2) There are 56 U.S. registered investment portfolios in the Pioneer Funds.

Investment adviser and administrator

Pioneer, whose executive offices are located at 60 State Street, Boston,

## Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Massachusetts 02109, serves as investment adviser and administrator to each fund.

### Required vote

In accordance with the Agreement and Declaration of Trust for Pioneer Diversified High Income Trust, the affirmative vote of a plurality of the Common Shares of the fund present in person or by proxy at the meeting at which a quorum exists is required to elect each nominee for Trustee. Mr. Friedman, Ms. Graham and Mr. Kingsbury are the current nominees for election to the fund's Board of Trustees. This means that the three nominees receiving the greatest number of votes will be elected as Class I Trustees to the Board of Pioneer Diversified High Income Trust.

In accordance with the Agreement and Declaration of Trust for each of Pioneer Floating Rate Trust, Pioneer High Income Trust, Pioneer Municipal High Income Trust and Pioneer Municipal High Income Advantage Trust, the holders of Common Shares and Preferred Shares of each fund will vote on the respective nominees. Mr. Friedman, Ms. Graham and Mr. Kingsbury are the current nominees for election to each fund's Board of Trustees. The affirmative vote of a plurality of the Common and Preferred Shares for

25

each fund present in person or by proxy at the meeting at which a quorum exists, voting together as a single class, is required to elect each nominee for Trustee. This means that the three nominees receiving the greatest number of votes will be elected as Class II Trustees to the Board of each of Pioneer Floating Rate Trust, Pioneer Municipal High Income Trust and Pioneer Municipal High Income Advantage Trust and Class III Trustees to the Board of Pioneer High Income Trust.

### Recommendation

For the reasons set forth above, the Trustees of your fund unanimously recommend that shareholders vote FOR each of Mr. Friedman, Ms. Graham and Mr. Kingsbury.

26

## AUDITOR INFORMATION

Each fund's Board of Trustees has selected Ernst & Young LLP as the independent registered public accounting firm for the fund.

### Audit fees

The following are aggregate fees billed for professional services rendered by Ernst & Young LLP for its audit of each fund's annual financial statements and fees related to services that are normally provided by Ernst & Young LLP in connection with statutory and regulatory filings for the two most recent fiscal years. All of these services were pre-approved by the audit Committee of each fund pursuant to Regulation S-X.

For the fiscal year  
ended 3/31/2011

For the fiscal  
ended 3/31/2011

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

---

Pioneer High Income Trust .....	\$60,028.00	\$60,028.00
Pioneer Municipal High Income Advantage Trust .....	\$60,028.00	\$60,028.00

For the fiscal year  
ended 4/30/2011

For the fiscal  
ended 4/30/2

---

Pioneer Diversified High Income Trust .....	\$50,376.00	\$50,376.00
Pioneer Municipal High Income Trust .....	\$60,028.00	\$60,028.00

For the fiscal year  
ended 11/30/2010

For the fiscal  
ended 11/30/2

---

Pioneer Floating Rate Trust .....	\$92,428.00	\$92,428.00
-----------------------------------	-------------	-------------

Audit-related fees

The following are aggregate fees billed for assurance and related services by Ernst & Young LLP to each fund that are related to agreed upon procedures related to the ratings of each fund's Preferred Shares (if any) for the two most recent fiscal years. All of these services were approved by the Audit Committee of each fund pursuant to Regulation S-X.

For the fiscal year  
ended 3/31/2011

For the fiscal  
ended 3/31/2

---

Pioneer High Income Trust .....	\$9,652.00	\$9,652.00
Pioneer Municipal High Income Advantage Trust .....	\$9,652.00	\$9,652.00

For the fiscal year  
ended 4/30/2011

For the fiscal  
ended 4/30/2

---

Pioneer Diversified High Income Trust .....	\$ 0.00	\$ 0.00
Pioneer Municipal High Income Trust .....	\$9,652.00	\$9,652.00

For the fiscal year  
ended 11/30/2010

For the fiscal  
ended 11/30/

---

Pioneer Floating Rate Trust .....	\$9,652.00	\$9,652.00
-----------------------------------	------------	------------

Tax fees

The following are aggregate fees billed for professional services, primarily for tax returns, rendered by Ernst & Young LLP for tax compliance, tax advice and tax planning to each fund for the two most recent fiscal years. All of these services were pre-approved by the Audit Committee of each fund pursuant to Regulation S-X.

	For the fiscal year ended 3/31/2011	For the fiscal ended 3/31/2010
Pioneer High Income Trust .....	\$8,290.00	\$8,290.00
Pioneer Municipal High Income Advantage Trust .....	\$8,290.00	\$8,290.00

	For the fiscal year ended 4/30/2011	For the fiscal ended 4/30/2010
Pioneer Diversified High Income Trust .....	\$8,290.00	\$8,290.00
Pioneer Municipal High Income Trust .....	\$8,290.00	\$8,290.00

	For the fiscal year ended 11/30/2010	For the fiscal ended 11/30/2009
Pioneer Floating Rate Trust .....	\$8,290.00	\$8,290.00

All other fees

There were no fees billed for other services rendered by Ernst & Young LLP to the funds.

Affiliates' Fees for Non-Audit Services Required to be Pre-Approved

Each fund's Audit Committee is required to pre-approve services to affiliates as defined by SEC rules to the extent that the services relate directly to the operations or financial reporting of the fund. Affiliates include the fund's investment adviser and any entity controlling, controlled by, or under common control with the adviser that provides ongoing services to the fund (hereinafter referred to as "affiliates" of the fund). For the fiscal years ended March 31, 2011 and 2010, for Pioneer High Income Trust and Pioneer Municipal High Income Advantage Trust, there were no services provided to an affiliate that required the fund's audit committee pre-approval. For the fiscal years ended April 30, 2011 and 2010, for Pioneer Municipal High Income Trust, there were no services provided to an affiliate that required the fund's Audit Committee pre-approval. For the fiscal year ended April 30, 2011 and 2010, for Pioneer Diversified High Income Trust, there were no services provided to an affiliate that required the fund's audit committee pre-approval. For the fiscal

## Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

years ended November 30, 2010 and 2009, for Pioneer Floating Rate Trust, there were no services provided to an affiliate that required the fund's audit committee pre-approval.

### General Audit Committee Approval Policy

- o For all projects, each of the officers of the funds and the funds' independent registered public accounting firm will make an assessment to determine that any proposed projects will not impair independence.

28

- o Potential services will be classified into the four non-restricted service categories and the "Approval of Audit, Audit-Related, Tax and Other Services" Policy will be applied. Any services outside the specific pre-approved service subcategories set forth above must specifically be approved by the Audit Committee.
- o At least quarterly, the Audit Committee shall review a report summarizing the services by service category, including fees, provided by the independent registered public accounting firm as set forth in the above policy.

The charter of each Audit Committee requires that the Audit Committee shall approve (a) all audit and non-audit services to be provided to each fund and (b) all non-audit services to be provided by the fund's independent public accounting firm to Pioneer and any entity controlling, controlled by or under common control with the investment adviser that provides ongoing services to the fund ("Covered Service Providers") if the engagement relates directly to the operations and financial reporting of the fund. The Audit Committee may delegate, to the extent permitted by law, pre-approval responsibilities to one or more members of the Audit Committee who shall report to the full Audit Committee.

No Audit Committee may approve non-audit services that the Audit Committee believes may impair the independence of the independent registered public accounting firm. Permissible non-audit services include any professional services (including tax services) that are not prohibited services as described below provided to the fund by the independent registered public accounting firm, other than those provided to a fund in connection with an audit or a review of the financial statements of the fund. Permissible non-audit services may not include (a) bookkeeping or other services related to the accounting records or financial statements of the fund; (b) financial information systems design and implementation; (c) appraisal or valuation services, fairness opinions or contribution-in-kind reports; (d) actuarial services; (e) internal audit outsourcing services; (f) management functions or human resources; (g) broker or dealer, investment adviser or investment banking services; (h) legal services and expert services unrelated to the audit; and (i) any other service the Public Company Accounting Oversight Board determines, by regulation, is impermissible.

Pre-approval by the Audit Committee of any permissible non-audit services is not required so long as: (a) the aggregate amount of all such permissible non-audit services provided to a fund, Pioneer and any Covered Service Provider constitutes not more than 5% of the total amount of revenues paid to the independent registered public accounting firm during the fiscal year in which the permissible non-audit services are provided to (i) the fund, (ii) Pioneer and (iii) any Covered Service Provider during the fiscal year in which services are provided that would not have to be approved by the Audit Committee; (b) the permissible non-audit services were not recognized by the fund at the time of

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

the engagement to be non-audit services; and (c) such services are promptly brought to the attention of the Audit Committee and approved by the Audit Committee (or its delegate(s)) prior to completion of the audit.

Aggregate Non-Audit Fees

The aggregate non-audit fees billed by Ernst & Young LLP for services rendered to each fund and its affiliates, as previously defined, were as follows.

	For the fiscal year ended 3/31/2011	For the fiscal ended 3/31/2010
Pioneer High Income Trust .....	\$17,942.00	\$17,942.00
Pioneer Municipal High Income Advantage Trust .....	\$17,942.00	\$17,942.00

	For the fiscal year ended 4/30/2011	For the fiscal ended 4/30/2010
Pioneer Diversified High Income Trust .....	\$ 8,290.00	\$ 8,290.00
Pioneer Municipal High Income Trust .....	\$17,942.00	\$17,942.00

	For the fiscal year ended 11/30/2010	For the fiscal ended 11/30/2009
Pioneer Floating Rate Trust .....	\$17,942.00	\$17,942.00

The Audit Committee of the Board of each fund has considered whether the provision of services, other than audit services, by Ernst & Young LLP to each fund and its affiliates is compatible with maintaining Ernst & Young LLP's independence in performing audit services.

Representatives of Ernst & Young LLP will be available at the shareholder meeting (either in person or via telephone), will have the opportunity to make a statement should they desire to do so, and will be available to answer questions.

INFORMATION CONCERNING THE MEETINGS

Outstanding shares

As of the record date, July 5, 2011, the following Common and Preferred Shares of beneficial interest were outstanding for each fund:

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

	Common Shares	Preferred Shares
Pioneer Diversified High Income Trust .....	8,236,773	None
Pioneer Floating Rate Trust .....	24,601,755	Series M7 2,434 Series W7 2,432 Series TH7 2,432
Pioneer High Income Trust .....	28,064,756	Series M 2,020 Series W 2,020 Series TH 2,000
Pioneer Municipal High Income Advantage Trust .....	23,170,241	Series A 3,000 Series B 3,000
Pioneer Municipal High Income Trust .....	22,406,476	Series A 2,000 Series B 2,040

Only shareholders of record as of the record date are entitled to notice of and to vote at the meeting. The holders of one-third of the outstanding shares of each fund entitled to vote in person or by proxy, counted together, shall constitute a quorum for the transaction of business with respect to such fund.

31

Ownership of shares of the funds

To the knowledge of each fund, as of the record date, July 5, 2011, the following persons owned of record or beneficially 5% or more of a class of the outstanding shares of each class of a fund:

Pioneer Diversified High Income Trust

Record Holder	Share Class	Number of Shares	% of Class
Cede & Co (Fast Account) P.O. Box 20 Bowling Green Station New York, NY 10004	Common	8,224,331	99.85%

Pioneer Floating Rate Trust

Record Holder	Share Class	Number of Shares	% of Class
Cede & Co (Fast Account) P.O. Box 20 Bowling Green Station New York, NY 10004	Common	24,587,340	99.94%
UBS Securities, LLC 1285 Avenue of the Americas, 15th Floor	Series M7	464	19.06%

# Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

New York, NY 10019

	Series W7	745	30.63%
	Series TH7	394	16.20%
Merrill Lynch 4804 Deer Lake Drive East 4th Floor Jacksonville, FL 32232-5286	Series M7	1,516	62.28%
	Series W7	1,308	53.78%
	Series TH7	1,439	59.17%
Citigroup Global Markets, Inc. 333 West 34th Street 3rd Floor New York, NY 10001-2402	Series TH7	201	8.26%
Oppenheimer/Fahnestock 125 Broad Street 16th Floor New York, NY 10004-2464	Series M	348	14.30%
	Series W7	282	11.60%
	Series TH7	398	16.37%

32

Pioneer High Income Trust

Record Holder	Share Class	Number of Shares	% of Class
Cede & Co (Fast Account) P.O. Box 20 Bowling Green Station New York, NY 10004	Common	27,976,947	99.69%
UBS Securities, LLC 1285 Avenue of the Americas, 15th Floor New York, NY 10019	Series M	267	13.22%
	Series W	390	19.31%
Credit Suisse First Boston 11 Madison Avenue New York, NY 10010-3629	Series W	110	5.45%
Merrill Lynch 4804 Deer Lake Drive East 4th Floor Jacksonville, FL 32232-5286	Series M	789	39.06%



Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

	Series W	749	37.08%
	Series TH	704	35.20%
Citigroup Global Markets, Inc. 333 West 34th Street 3rd Floor New York, NY 10001-2402	Series M	182	9.01%
	Series W	163	8.07%
Oppenheimer/Fahnestock 125 Broad Street 16th Floor New York, NY 10004-2464	Series M	233	11.53%
	Series W	300	14.85%
	Series TH	459	22.95%
Morgan Stanley Inc. 1585 Broadway, 3rd Floor New York, NY 10036	Series M	523	25.89%
	Series W	292	14.46%
	Series TH	618	30.90%

33

Pioneer Municipal High Income Advantage Trust

Record Holder	Share Class	Number of Shares	% of Class
Cede & Co (Fast Account) P.O. Box 20 Bowling Green Station New York, NY 10004	Common	23,110,577	99.74%
UBS Securities, LLC 1285 Avenue of the Americas, 15th Floor New York, NY 10019	Series A	859	28.63%
	Series B	1,285	42.83%
Merrill Lynch 4804 Deer Lake Drive East, 4th Floor Jacksonville, FL 32232-5286	Series A	414	13.80%
	Series B	252	8.40%
Wells Fargo Advisors, LLC One North Jefferson St. Louis, MO 63103	Series A	429	14.30%
	Series B	560	18.67%

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Oppenheimer/Fahnestock 125 Broad Street 16th Floor New York, NY 10004-2464	Series A	768	25.60%
	Series B	697	23.23%
Morgan Keegan 50 North Front Street Memphis, TN 38103-2126	Series A	302	10.07%

34

Pioneer Municipal High Income Trust

Record Holder	Share Class	Number of Shares	% of Class
Cede & Co (Fast Account) (Fast Account) P.O. Box 20 Bowling Green Station New York, NY 10004	Common	22,377,683	99.87%
UBS Securities, LLC 1285 Avenue of the Americas, 15th Floor New York, NY 10019	Series A	902	45.10%
	Series B	559	27.40%
Oppenheimer/Fahnestock 125 Broad Street, 16th Floor New York, NY 10004-2464	Series A	342	17.10%
	Series B	560	27.45%
Merrill Lynch 4804 Deer Lake Drive East, 4th Floor Jacksonville, FL 32232-5286	Series A	174	8.70%
	Series B	155	7.60%
Morgan Keegan 50 North Front Street Memphis, TN 38103-2126	Series A	196	9.80%
	Series B	227	11.13%
Wells Fargo Advisors, LLC One North Jefferson St. Louis, MO 63103	Series A	314	15.70%
	Series B	176	8.63%
Jeffries & Company Inc. Harborside Financial Center	Series B	207	10.15%

## Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

Plaza III, Suite 705  
Jersey City, NJ 07311-0000

---

Morgan Stanley Inc. 1585 Broadway, 3rd Floor New York, NY 10036	Series B	139	6.81%
---	----------	-----	-------

---

35

### Shareholder proposals

Under Rule 14a-8 of the Exchange Act (relating to shareholder proposals), any shareholder proposal that may properly be included in your fund's proxy statement for the 2012 annual meeting, must be received by the Secretary of the fund at the fund's principal offices at 60 State Street, Boston, Massachusetts 02109 at least 120 calendar days prior to the anniversary of the date of mailing of the fund's proxy statement for the 2011 annual meeting, or on or before March 31, 2012. A proposal that is not to be included in a fund's proxy statement may be made at the 2012 annual meeting for such fund only if it is received by the Secretary of the fund at the fund's principal offices at 60 State Street, Boston, Massachusetts 02109 not more than 120 days and at least 90 days before the anniversary date of the mailing of the fund's proxy materials for the 2011 annual meeting provided, however, that in the event that the date of the mailing of the notice for the 2012 annual meeting for a fund is advanced or delayed by more than thirty (30) days from the anniversary date of the mailing of the notice for the 2011 annual meeting, notice by a shareholder to be timely must be so delivered not earlier than the close of business on the 120th day prior to the date of mailing of the notice for the 2012 annual meeting and not later than the close of business on the later of the 90th day prior to the date of mailing of the notice for the 2012 annual meeting or the 10th day following the day on which public announcement of the date of mailing of the notice for the 2012 meeting is first made by the fund. The fund's By-laws require that certain information must be provided by the shareholder to the fund when notice of a nominee for election as a Trustee or proposal is submitted to the fund.

The submission by a shareholder of a proposal for inclusion in a proxy statement does not guarantee that it will be included. Each of Pioneer Diversified High Income Trust, Pioneer Floating Rate Trust, Pioneer High Income Trust, Pioneer Municipal High Income Trust and Pioneer Municipal High Income Advantage Trust currently expect to hold the next annual shareholders' meeting on or about September 21, 2012, which date is subject to change. Shareholder proposals are subject to certain regulations under the federal securities laws.

### Proxies, quorum and voting at the meeting

Any shareholder who has given his or her proxy to someone generally has the power to revoke that proxy at any time prior to its exercise by executing a superseding proxy or by submitting a notice of revocation to the Secretary of the fund. In addition, although mere attendance at the meeting will not revoke a proxy, a shareholder present at the meeting may withdraw his or her proxy and vote in person. All properly executed and unrevoked proxies received in time for the meeting will be voted in accordance with the instructions contained in the proxies. If no instruction is given, the persons named as proxies will vote the shares represented thereby in favor of Proposal 1, as described above, and will use their best judgment in connection with the transaction of such other business as may properly come before the meeting or any adjournment or

postponement thereof.

Only shareholders of record as of the record date are entitled to notice of and to vote at the meeting.

36

For Pioneer Diversified High Income Trust: one-third of the outstanding shares of the fund entitled to vote, present in person or represented by proxy, constitutes a quorum for the transaction of business at the meeting.

For each of Pioneer Floating Rate Trust, Pioneer High Income Trust, Pioneer Municipal High Income Trust and Pioneer Municipal High Income Advantage Trust, one-third of the outstanding Common and Preferred Shares of the fund entitled to vote, present in person or represented by proxy, counted together, constitutes a quorum for the transaction of business at the meeting.

Abstentions and "broker non-votes" will be treated as present for purposes of determining a quorum. "Broker non-votes" occur when a broker or nominee holding shares in "street name" indicates on the proxy card that it does not have discretionary authority to vote on a proposal and has not received instructions from the beneficial owner.

In the event that at the time any session of the meeting is called to order a quorum is not present in person or by proxy, the persons named as proxies may vote those proxies that have been received to adjourn the shareholder meeting to a later date and the meeting may be held as adjourned without further notice. In the event that a quorum is present but sufficient votes in favor of the proposal have not been received, the persons named as proxies may propose one or more adjournments of the shareholder meeting to permit further solicitation of proxies with respect to such proposal and the meeting may be held as adjourned without further notice. Any such adjournment will require the affirmative vote of more than one half of the shares of the fund present in person or by proxy at the session of the meeting to be adjourned. The persons named as proxies will vote those proxies which they are entitled to vote in favor of any such proposal in favor of such an adjournment and will vote those proxies required to be voted against any such proposal against any such adjournment. A shareholder vote may be taken on one or more of the proposals in the proxy statement prior to such adjournment if sufficient votes for its approval have been received and it is otherwise appropriate. Such vote will be considered final regardless of whether the meeting is adjourned to permit additional solicitation with respect to any other proposal. If the meeting is postponed, the funds will give notice of the postponed meeting to shareholders.

On any matter submitted to a vote of shareholders each whole share shall be entitled to one vote as to any matter on which it is entitled to vote and each fractional share shall be entitled to a proportionate fractional vote.

As discussed more fully under Proposal 1 above, nominees must be elected by a plurality of the votes cast in person or by proxy at the meeting at which a quorum exists. Abstentions and "broker non-votes" are not considered "votes cast" and, therefore, do not constitute a vote "FOR" a proposal. Thus, abstentions and "broker non-votes" will have no effect on the voting for the election of Trustees in Proposal 1, because only votes "FOR" are considered in a plurality voting requirement.

37

Other business

While the meeting has been called to transact any business that may properly come before it, the only matters that the Trustees intend to present are those matters stated in the attached notice of annual meeting of shareholders. However, if any additional matters properly come before the meeting, and on all matters incidental to the conduct of the meeting, it is the intention of the persons named in the enclosed proxy to vote the proxy in accordance with their judgment on such matters unless instructed to the contrary.

Method of solicitation and expenses

The cost of preparing, printing and mailing the enclosed proxy statement, accompanying notice of annual meeting of shareholders and the accompanying proxy card for each fund will be borne by that fund. In addition to soliciting proxies by mail, Pioneer may, at the fund's expense, have one or more of the fund's officers, representatives or compensated third-party agents, including Pioneer, PIMSS and PFD, aid in the solicitation of proxies by personal interview or telephone and may request brokerage houses and other custodians, nominees and fiduciaries to forward proxy soliciting material to the beneficial owners of the shares held of record by such persons. Each fund has retained Computershare Fund Services to assist in the proxy solicitation. The cost of their services is estimated at approximately \$85,000.

Each fund may also arrange to have votes recorded by telephone, the internet or other electronic means. The voting procedures used in connection with such voting methods are designed to authenticate shareholders' identities, to allow shareholders to authorize the voting of their shares in accordance with their instructions and to confirm that their instructions have been properly recorded. If these procedures were subject to a successful legal challenge, such votes would not be counted at the shareholder meeting. Each fund is unaware of any such challenge at this time. In the case of telephone voting, shareholders would be called at the phone number the sub-transfer agent, American Stock Transfer & Trust Company, has in its records for their accounts, and would be asked for their Social Security number or other identifying information. The shareholders would then be given an opportunity to authorize proxies to vote their shares at the meeting in accordance with their instructions. In the case of automated telephone and internet voting, shareholders would be required to provide their Social Security number or other identifying information and would receive a confirmation of their instructions.

Persons holding shares as nominees will be reimbursed by the fund, upon request, for the reasonable expenses of mailing soliciting materials to the principals of the accounts.

July 29, 2011

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

THE ENCLOSED PROXY CARD PROMPTLY.

Please detach at perforation before mailing.

PROXY PIONEER FLOATING RATE TRUST PROXY
ANNUAL MEETING OF SHAREHOLDERS
TO BE HELD ON SEPTEMBER 21, 2011

This proxy is solicited on behalf of the Board of Trustees of Pioneer Floating Rate Trust. I (we), the undersigned holder(s) of shares of beneficial interest, having received notice of the meeting and management's proxy statement therefor, and revoking all prior proxies, hereby appoint John F. Cogan, Jr., Christopher J. Kelley and Thomas Reyes, and each of them, my (our) attorneys (with full power of substitution in them and each of them) for and in my (our) name(s) to attend the Annual Meeting of Shareholders of Pioneer Floating Rate Trust to be held on September 21, 2011, at 2:00 p.m. (Eastern time) at the offices of Bingham McCutchen LLP, One Federal Street, Boston, Massachusetts 02110, and any adjourned or postponed session or sessions thereof, and to vote and act upon the following matters (as more fully described in the accompanying proxy statement) in respect of shares of beneficial interest of Pioneer Floating Rate Trust which I (we) will be entitled to vote or act upon, with all the powers I (we) would possess if personally present.

IN THEIR DISCRETION, THE PROXIES ARE AUTHORIZED TO VOTE UPON SUCH OTHER BUSINESS AS MAY PROPERLY COME BEFORE THE MEETING. THE SHARES REPRESENTED BY THIS PROXY WILL BE VOTED AS DIRECTED BY THE UNDERSIGNED.

-----
999 99999 999 999
-----

Note: In signing, please write name(s) exactly as they appear on this proxy. When signing as attorney, executor, administrator or other fiduciary, please give your full title as such. Joint owners should each sign personally.

-----
Signature(s) [Title(s) if applicable]
-----

-----
Signature of joint owner, if any
-----

-----
Date 22751\_072011\_FRT
-----

YOUR VOTE IS VERY IMPORTANT.
PLEASE COMPLETE, SIGN, DATE AND RETURN
THE ENCLOSED PROXY CARD PROMPTLY.

Important Notice Regarding the Availability of Proxy Materials for the Shareholder Meeting to Be Held on September 21, 2011.
The proxy statement is available at: https://www.proxy-direct.com/pio22751

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

PLEASE SIGN, DATE AND RETURN YOUR  
PROXY TODAY

Please detach at perforation before mailing.

THE SHARES OF BENEFICIAL INTEREST REPRESENTED BY THIS PROXY WILL BE VOTED AS DIRECTED BY THE UNDERSIGNED.

IF THE PROXY IS SIGNED BUT NO DIRECTION IS GIVEN, THIS PROXY WILL BE VOTED FOR THE PROPOSAL.

THIS PROXY IS SOLICITED BY THE BOARD OF TRUSTEES OF PIONEER FLOATING RATE TRUST AND SHOULD BE RETURNED AS SOON AS POSSIBLE IN THE ENVELOPE PROVIDED. THE BOARD RECOMMENDS THAT YOU VOTE IN FAVOR OF THE FOLLOWING PROPOSAL:

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK: [X]

- |    |   |            |                 |                   |
|----|---|------------|-----------------|-------------------|
| 1. | To elect three Class II trustees of Pioneer Floating Rate Trust, as named in the attached proxy statement, to serve on the Board of Trustees until their successors have been duly elected and qualified. The nominees for trustee are: | FOR<br>ALL | WITHHOLD<br>ALL | FOR ALL<br>EXCEPT |
|    | 01. Benjamin M. Friedman  |            |                 |                   |
|    | 02. Margaret B.W. Graham  |            |                 |                   |
|    | 03. Daniel K. Kingsbury   | [ ]        | [ ]             | [ ]               |

To withhold authority to vote "FOR" any individual nominee, mark the "FOR ALL EXCEPT" box and write the nominee's number(s) on the line provided below.

-----

PLEASE SIGN, DATE AND RETURN THIS PROXY CARD  
22751\_072011\_FRT

YOUR VOTE IS VERY IMPORTANT.  
PLEASE COMPLETE, SIGN, DATE AND RETURN  
THE ENCLOSED PROXY CARD PROMPTLY.

Please detach at perforation before mailing.

PROXY

PIONEER HIGH INCOME TRUST  
ANNUAL MEETING OF SHAREHOLDERS  
TO BE HELD ON SEPTEMBER 21, 2011

PROXY

This proxy is solicited on behalf of the Board of Trustees of Pioneer High Income Trust. I (we), the undersigned holder(s) of shares of beneficial

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

interest, having received notice of the meeting and management's proxy statement therefor, and revoking all prior proxies, hereby appoint John F. Cogan, Jr., Christopher J. Kelley and Thomas Reyes, and each of them, my (our) attorneys (with full power of substitution in them and each of them) for and in my (our) name(s) to attend the Annual Meeting of Shareholders of Pioneer High Income Trust to be held on September 21, 2011, at 2:00 p.m. (Eastern time) at the offices of Bingham McCutchen LLP, One Federal Street, Boston, Massachusetts 02110, and any adjourned or postponed session or sessions thereof, and to vote and act upon the following matters (as more fully described in the accompanying proxy statement) in respect of shares of beneficial interest of Pioneer High Income Trust which I (we) will be entitled to vote or act upon, with all the powers I (we) would possess if personally present.

IN THEIR DISCRETION, THE PROXIES ARE AUTHORIZED TO VOTE UPON SUCH OTHER BUSINESS AS MAY PROPERLY COME BEFORE THE MEETING. THE SHARES REPRESENTED BY THIS PROXY WILL BE VOTED AS DIRECTED BY THE UNDERSIGNED.

-----  
999 99999 999 999  
-----

Note: In signing, please write name(s) exactly as they appear on this proxy. When signing as attorney, executor, administrator or other fiduciary, please give your full title as such. Joint owners should each sign personally.

-----  
Signature(s) [Title(s) if applicable]  
-----

Signature of joint owner, if any

-----  
Date 22751\_072011\_HIT  
-----

YOUR VOTE IS VERY IMPORTANT.  
PLEASE COMPLETE, SIGN, DATE AND RETURN  
THE ENCLOSED PROXY CARD PROMPTLY.

Important Notice Regarding the Availability of Proxy Materials for the  
Shareholder Meeting to Be Held on September 21, 2011.  
The proxy statement is available at: <https://www.proxy-direct.com/pio22751>  
-----

PLEASE SIGN, DATE AND RETURN YOUR  
PROXY TODAY

Please detach at perforation before mailing.

THE SHARES OF BENEFICIAL INTEREST REPRESENTED BY THIS PROXY WILL BE VOTED AS DIRECTED BY THE UNDERSIGNED.

IF THE PROXY IS SIGNED BUT NO DIRECTION IS GIVEN, THIS PROXY WILL BE VOTED FOR



Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

THE PROPOSAL.

THIS PROXY IS SOLICITED BY THE BOARD OF TRUSTEES OF PIONEER HIGH INCOME TRUST AND SHOULD BE RETURNED AS SOON AS POSSIBLE IN THE ENVELOPE PROVIDED. THE BOARD RECOMMENDS THAT YOU VOTE IN FAVOR OF THE FOLLOWING PROPOSAL:

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK: [X]

1.	To elect three Class III trustees of Pioneer High Income Trust, as named in the attached proxy statement, to serve on the Board of Trustees until their successors have been duly elected and qualified. The nominees for A trustee are:	FOR ALL	WITHHOLD ALL	FOR ALL EXCEPT
----	--	------------	-----------------	-------------------

- 01. Benjamin M. Friedman
- 02. Margaret B.W. Graham
- 03. Daniel K. Kingsbury

[ ] [ ] [ ]

To withhold authority to vote "FOR" any individual nominee, mark the "FOR ALL EXCEPT" box and write the nominee's number(s) on the line provided below.

-----  
PLEASE SIGN, DATE AND RETURN THIS PROXY CARD  
22751\_072011\_HIT

YOUR VOTE IS VERY IMPORTANT.  
PLEASE COMPLETE, SIGN, DATE AND RETURN  
THE ENCLOSED PROXY CARD PROMPTLY.

Please detach at perforation before mailing.

PROXY	PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST ANNUAL MEETING OF SHAREHOLDERS TO BE HELD ON SEPTEMBER 21, 2011	PROXY
-------	---	-------

This proxy is solicited on behalf of the Board of Trustees of Pioneer Municipal High Income Advantage Trust. I (we), the undersigned holder(s) of shares of beneficial interest, having received notice of the meeting and management's proxy statement therefor, and revoking all prior proxies, hereby appoint John F. Cogan, Jr., Christopher J. Kelley and Thomas Reyes, and each of them, my (our) attorneys (with full power of substitution in them and each of them) for and in my (our) name(s) to attend the Annual Meeting of Shareholders of Pioneer Municipal High Income Advantage Trust to be held on September 21, 2011, at 2:00 p.m. (Eastern time) at the offices of Bingham McCutchen LLP, One Federal Street, Boston, Massachusetts 02110, and any adjourned or postponed session or sessions thereof, and to vote and act upon the following matters (as more fully described in the accompanying proxy statement) in respect of shares of beneficial interest of Pioneer Municipal High Income Advantage Trust which I (we) will be entitled to vote or act upon, with all the powers I (we) would possess if personally present.

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

IN THEIR DISCRETION, THE PROXIES ARE AUTHORIZED TO VOTE UPON SUCH OTHER BUSINESS AS MAY PROPERLY COME BEFORE THE MEETING. THE SHARES REPRESENTED BY THIS PROXY WILL BE VOTED AS DIRECTED BY THE UNDERSIGNED.

-----  
999 99999 999 999  
-----

Note: In signing, please write name(s) exactly as they appear on this proxy. When signing as attorney, executor, administrator or other fiduciary, please give your full title as such. Joint owners should each sign personally.

-----  
Signature(s) [Title(s) if applicable]  
-----

-----  
Signature of joint owner, if any  
-----

-----  
Date 22751\_072011\_MHIAT  
-----

YOUR VOTE IS VERY IMPORTANT.  
PLEASE COMPLETE, SIGN, DATE AND RETURN  
THE ENCLOSED PROXY CARD PROMPTLY.

Important Notice Regarding the Availability of Proxy Materials for the  
Shareholder Meeting to Be Held on September 21, 2011.  
The proxy statement is available at: <https://www.proxy-direct.com/pio22751>  
-----

PLEASE SIGN, DATE AND RETURN YOUR  
PROXY TODAY

Please detach at perforation before mailing.

THE SHARES OF BENEFICIAL INTEREST REPRESENTED BY THIS PROXY WILL BE VOTED AS DIRECTED BY THE UNDERSIGNED.

IF THE PROXY IS SIGNED BUT NO DIRECTION IS GIVEN, THIS PROXY WILL BE VOTED FOR THE PROPOSAL.

THIS PROXY IS SOLICITED BY THE BOARD OF TRUSTEES OF PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST AND SHOULD BE RETURNED AS SOON AS POSSIBLE IN THE ENVELOPE PROVIDED. THE BOARD RECOMMENDS THAT YOU VOTE IN FAVOR OF THE FOLLOWING PROPOSAL:

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK: [X]

- |    |  |            |                 |                   |
|----|--|------------|-----------------|-------------------|
| 1. | To elect three Class II trustees of Pioneer Municipal High Income AdvantageTrust, as named in the attached proxy statement, to | FOR<br>ALL | WITHHOLD<br>ALL | FOR ALL<br>EXCEPT |
|----|--|------------|-----------------|-------------------|

Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

serve on the Board of Trustees until their successors have been duly elected and qualified. The nominees for trustee are:

- 01. Benjamin M. Friedman
- 02. Margaret B.W. Graham
- 03. Daniel K. Kingsbury [ ] [ ] [ ]

To withhold authority to vote "FOR" any individual nominee, mark the "FOR ALL EXCEPT" box and write the nominee's number(s) on the line provided below.

-----  
PLEASE SIGN, DATE AND RETURN THIS PROXY CARD  
22751\_072011\_MHIAT

YOUR VOTE IS VERY IMPORTANT.  
PLEASE COMPLETE, SIGN, DATE AND RETURN  
THE ENCLOSED PROXY CARD PROMPTLY.

Please detach at perforation before mailing.

PROXY PIONEER MUNICIPAL HIGH INCOME TRUST PROXY  
ANNUAL MEETING OF SHAREHOLDERS  
TO BE HELD ON SEPTEMBER 21, 2011

This proxy is solicited on behalf of the Board of Trustees of Pioneer Municipal High Income Trust. I (we), the undersigned holder(s) of shares of beneficial interest, having received notice of the meeting and management's proxy statement therefor, and revoking all prior proxies, hereby appoint John F. Cogan, Jr., Christopher J. Kelley and Thomas Reyes, and each of them, my (our) attorneys (with full power of substitution in them and each of them) for and in my (our) name(s) to attend the Annual Meeting of Shareholders of Pioneer Municipal High Income Trust to be held on September 21, 2011, at 2:00 p.m. (Eastern time) at the offices of Bingham McCutchen LLP, One Federal Street, Boston, Massachusetts 02110, and any adjourned or postponed session or sessions thereof, and to vote and act upon the following matters (as more fully described in the accompanying proxy statement) in respect of shares of beneficial interest of Pioneer Municipal High Income Trust which I (we) will be entitled to vote or act upon, with all the powers I (we) would possess if personally present.

IN THEIR DISCRETION, THE PROXIES ARE AUTHORIZED TO VOTE UPON SUCH OTHER BUSINESS AS MAY PROPERLY COME BEFORE THE MEETING. THE SHARES REPRESENTED BY THIS PROXY WILL BE VOTED AS DIRECTED BY THE UNDERSIGNED.

-----  
999 99999 999 999  
-----

Note: In signing, please write name(s) exactly as they appear on this proxy. When signing as attorney, executor, administrator or other fiduciary, please give your full title as such. Joint owners should each sign personally.

-----  
Signature(s) [Title(s) if applicable]

-----  
Signature of joint owner, if any

-----  
Date 22751\_072011\_MHIT

YOUR VOTE IS VERY IMPORTANT.  
PLEASE COMPLETE, SIGN, DATE AND RETURN  
THE ENCLOSED PROXY CARD PROMPTLY.

Important Notice Regarding the Availability of Proxy Materials for the  
Shareholder Meeting to Be Held on September 21, 2011.  
The proxy statement is available at: <https://www.proxy-direct.com/pio22751>  
-----

PLEASE SIGN, DATE AND RETURN YOUR  
PROXY TODAY

Please detach at perforation before mailing.

THE SHARES OF BENEFICIAL INTEREST REPRESENTED BY THIS PROXY WILL BE VOTED AS  
DIRECTED BY THE UNDERSIGNED.

IF THE PROXY IS SIGNED BUT NO DIRECTION IS GIVEN, THIS PROXY WILL BE VOTED FOR  
THE PROPOSAL.

THIS PROXY IS SOLICITED BY THE BOARD OF TRUSTEES OF PIONEER MUNICIPAL HIGH  
INCOME TRUST AND SHOULD BE RETURNED AS SOON AS POSSIBLE IN THE ENVELOPE  
PROVIDED. THE BOARD RECOMMENDS THAT YOU VOTE IN FAVOR OF THE FOLLOWING PROPOSAL:

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK: [X]

1.	To elect three Class II trustees of Pioneer Municipal High Income Trust, as named in the attached proxy statement, to serve on the Board of Trustees until their successors have been duly elected and qualified. The nominees for trustee are:	FOR ALL	WITHHOLD ALL	FOR ALL EXCEPT
----	---	------------	-----------------	-------------------

- 01. Benjamin M. Friedman
- 02. Margaret B.W. Graham
- 03. Daniel K. Kingsbury

[ ] [ ] [ ]

To withhold authority to vote "FOR" any individual nominee, mark the "FOR ALL EXCEPT" box and write the nominee's number(s) on the line provided below.



Edgar Filing: PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST - Form DEF 14A

YOUR VOTE IS VERY IMPORTANT.  
PLEASE COMPLETE, SIGN, DATE AND RETURN  
THE ENCLOSED PROXY CARD PROMPTLY.

Important Notice Regarding the Availability of Proxy Materials for the  
Shareholder Meeting to Be Held on September 21, 2011.  
The proxy statement is available at: <https://www.proxy-direct.com/pio22751>  
-----

PLEASE SIGN, DATE AND RETURN YOUR  
PROXY TODAY

Please detach at perforation before mailing.

THE SHARES OF BENEFICIAL INTEREST REPRESENTED BY THIS PROXY WILL BE VOTED AS  
DIRECTED BY THE UNDERSIGNED.

IF THE PROXY IS SIGNED BUT NO DIRECTION IS GIVEN, THIS PROXY WILL BE VOTED FOR  
THE PROPOSAL.

THIS PROXY IS SOLICITED BY THE BOARD OF TRUSTEES OF PIONEER DIVERSIFIED HIGH  
INCOME TRUST AND SHOULD BE RETURNED AS SOON AS POSSIBLE IN THE ENVELOPE  
PROVIDED. THE BOARD RECOMMENDS THAT YOU VOTE IN FAVOR OF THE FOLLOWING PROPOSAL:

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK: [X]

1.	To elect three Class I trustees of Pioneer Diversified High Income Trust, as named in the attached proxy statement, to serve on the Board of Trustees until their successors have been duly elected and qualified. The nominees for trustee are:	FOR ALL	WITHHOLD ALL	FOR ALL EXCEPT
----	---	------------	-----------------	-------------------

- 01. Benjamin M. Friedman
- 02. Margaret B.W. Graham
- 03. Daniel K. Kingsbury

[ ] [ ] [ ]

To withhold authority to vote "FOR" any individual nominee, mark the "FOR  
ALL EXCEPT" box and write the nominee's number(s) on the line provided  
below.

-----  
PLEASE SIGN, DATE AND RETURN THIS PROXY CARD  
22751\_072011\_DHIT