

PUTNAM MANAGED MUNICIPAL INCOME TRUST
Form DEFA14A
April 11, 2017

PUTNAM CLOSED-END PROXY

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

SCHEDULE 14A
(RULE 14A-101)

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 / X /

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Check the appropriate box:

/ / Preliminary Proxy Statement.

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/ / Definitive Proxy Statement.

/ X / Definitive Additional Materials.

/ / Soliciting Material under § 240.14a-12.

PUTNAM MANAGED MUNICIPAL INCOME TRUST
PUTNAM MUNICIPAL OPPORTUNITIES TRUST

(Name of Registrant as Specified in its Charter)

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Putnam Municipal Opportunities Trust (PMO)
Putnam Managed Municipal Income Trust (PMM)

**Presentation to Institutional
Shareholder
Services (ISS)**

April 10, 2017

Background

¶The annual meeting of shareholders of PMM and PMO (Funds) is scheduled for April 28, 2017.

¶The Trustees of the Funds are soliciting proxies to fix the number of trustees of the Funds at 12 and elect 12 nominees that currently serve as Trustees of the Funds (10 of which will be elected by the common shareholders and preferred shareholders voting together and 2 of which will be elected by the preferred shareholders).

○On March 31, 2017, Bulldog Investors, LLC (Bulldog) filed definitive proxy materials with the SEC in opposition to the solicitation by the Trustees of the Funds. The Bulldog proxy statement includes proposals to:

–nominate Phillip Goldstein and Andrew Dakos, principals of Bulldog, for election by the preferred shareholders of the Funds; and

–request that the Board afford the preferred shareholders of the Funds a means to obtain liquidity for their shares (to be voted on by the common and preferred shareholders, voting together).

| 1

Background (cont'd)

Putnam and the Funds' Trustees recommend that shareholders of the Funds:

vote FOR each Fund's 10 current Trustee nominees voted upon by the common and preferred shareholders voting together.

vote FOR each Fund's 2 Trustee nominees voted upon by the preferred shareholders voting as a separate class.

DO NOT VOTE Bulldog's dissident proxy.

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Putnam believes that the ISS Guidelines are consistent with a recommendation to vote in favor of the Funds' proposals.

The Funds and Putnam are aware that ISS has specific proxy voting guidelines (ISS Guidelines) for U.S. closed end fund ARPS. 2011 U.S. Auction Rate Preferred Securities Closed-End Fund Proxy Voting Guidelines Executive Summary (January 24, 2011).

The ISS Guidelines state that in voting on director nominees in contested elections ISS will make recommendations on a case-by-case basis considering factors including, but not limited to, the following:

measures that the board has taken to address the liquidity issues related to ARPS holders

past shareholder activism

- board activity and votes on related proposals
- strategy of the incumbents versus the dissidents
- independence of directors
- experience and skills of preferred director candidates
- governance profile of the fund
- evidence of management entrenchment

Putnam and the Funds' Trustees believe that the ISS Guidelines are consistent with a recommendation to vote in favor of the Funds' proposals.

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Each Fund has satisfied its obligations to preferred shareholders under both the Fund's Bylaws and the 1940 Act.

Each Fund has paid dividends at the default interest rate set in accordance with the Bylaws.

Each Fund has ensured that the preferred shares continue to be entitled to all voting rights and privileges provided under the Bylaws and the Investment Company Act of 1940 (1940 Act).

Each Fund has continued to meet its asset coverage tests and other maintenance requirements.

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The Funds' Trustees have a demonstrated record of taking actions that have provided liquidity to the Funds' preferred shareholders.

PMO

June 2008-August 2008: PMO redeemed \$59.1M, or 15%, of then-outstanding preferred shares, substituting tender option bonds (TOBs) as an alternative form of leverage.

September 2008: Putnam recommended, and the Trustees approved, the merger of PMO into a comparable open-end Putnam fund, subject to a number of conditions. The merger would have resulted in the complete redemption of all preferred shares.

November 2008-January 2009: PMO redeemed \$156.05M, or approximately 47%, of the remaining preferred shares in preparation for the merger.

While efforts to complete the merger were suspended in January 2009 due to unprecedented market conditions, the foregoing actions resulted in the aggregate redemption of 54.61% (\$215.15M out of \$394M in liquidation preference) of the preferred shares originally outstanding.

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The Funds' Trustees have a demonstrated record of taking actions that have provided liquidity to the Funds' preferred shareholders.

(cont'd)

PMM

• August 2008-September 2008: PMM redeemed \$22.0M, or 10%, of then-outstanding preferred shares, substituting tender option bonds (TOBs) as an alternative form of leverage.

• September 2008: Putnam recommended, and the Trustees approved, the merger of PMM into a comparable open-end Putnam fund, subject to a number of conditions. The merger would have resulted in the complete redemption of all preferred shares.

• December 2008-January 2009: PMO redeemed \$74.5M, or approximately 38%, of the then remaining preferred shares in preparation for the merger.

• While efforts to complete the merger were suspended in January 2009 due to unprecedented market conditions, the foregoing actions resulted in the aggregate redemption of 43.86% (\$96.5M out of \$220M in liquidation preference) of the preferred shares originally outstanding.

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The cost and terms of the Funds' preferred shares are highly advantageous to the Funds' common shareholders and continue to add to common shareholders' monthly yield.

• Leverage is used in the Funds to amplify returns.

• The vast majority of national municipal closed end funds employ leverage.

• 65 of 80 (81%) of national closed end funds employ >25% leverage.

• Not employing leverage would be, under many market conditions, a sizable headwind to return.

• Historically, upwardly sloping municipal yield curve allows for borrowing short (“ARPS”) and investing “out the yield curve” to add incremental return.

• The municipal AAA reference curve has never inverted.

• The current cost of maintaining leverage through the preferred shares is highly favorable to the Funds. Dividend rates for PMM’s Series A and C preferred shares were 0.89% and 0.69%, respectively at 2/27/17. Dividend rates for PMO’s Series B and Series C preferred shares were, respectively 1.05% as of 2/27/17 and 1.07% as of 2/16/17.

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The cost and terms of the Funds’ preferred shares are highly advantageous to the Funds’ common shareholders and continue to add to common shareholders’ monthly yield. (cont’d)

• The terms of the Funds’ preferred shares are also highly favorable to the Fund’s common shareholders given that the preferred shares are perpetual with no stated maturity date, are callable at any time at the option of each Fund and lack

put rights that would permit preferred shareholders to put the shares back to the Fund.

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Since 2009, Putnam and the Funds' Trustees have monitored the marketplace for alternative financing sources for the Funds that would result in additional liquidity for preferred shareholders while being consistent with the interests of the Funds' common shareholders.

†n 2011 Putnam conducted a thorough evaluation of alternative financing solutions with respect to PMO and determined that alternatives were more costly and had less favorable terms than the preferred shares.

Since 2011, Putnam has continued to monitor the marketplace for alternative financing sources for the Funds.

†ax exempt closed-end funds have fewer options for alternative leverage than taxable funds.

†n March 2017, Putnam completed a review of financing alternatives for PMM and PMO that included an evaluation of potential alternative sources of leverage, such as variable rate demand preferred securities (VRDPs), variable municipal term preferred securities (VMTP), institutional municipal term preferred (iMTP), or tender option bonds (TOBs).

Since 2009, Putnam and the Funds' Trustees have monitored the marketplace for alternative financing sources for the Funds that would result in additional liquidity for preferred shareholders while being consistent with the interests of the Funds' common shareholders. (cont'd)

Putnam determined that the alternatives remain more costly and have less favorable terms than the preferred shares:

Variable Rate Demand Preferred Securities (VRDPs)

Interest rate determined through weekly remarketing process

Spread to the SIFMA Swap Index (SIFMA), a 7-day high grade market index comprised of high grade variable rate demand obligations with certain characteristics.

Dividends paid monthly

Liquidity facility (generally renewable every 1 or 2 years) provided by a highly rated 3rd party (typically a bank or broker)

Sold to money market funds

"Put" option back to fund Liquidity provider cannot remarket (segregated liquidity account)

Since 2009, Putnam and the Funds' Trustees have monitored the marketplace for alternative financing sources for the Funds that would result in additional liquidity for preferred shareholders while being consistent with the interests of the Funds' common shareholders. (cont'd)

Putnam determined that the alternatives remain more costly and have less favorable terms than the preferred shares (cont'd):

VMTP (Variable Municipal Term Preferred)

Spread to SIFMA (could be fixed or floating rate)

Dividends paid monthly

No liquidity facility

Fixed maturity (generally 3-5 year terms)

Private placement; held on Bank balance sheet (direct purchase)

iMTP (Institutional Municipal Term Preferred)

Typical term (3-5 years)

Tax Exempt bond funds; QIBs; 144a

No liquidity facility; callable after 1 yr

Nuveen has been only firm which has issued iMTP

Spread to SIFMA

Since 2009, Putnam and the Funds' Trustees have monitored the marketplace for alternative financing sources for the Funds that would result in additional liquidity for preferred shareholders while being consistent with the interests of the Funds' common shareholders. (cont'd)

Putnam determined that the alternatives remain more costly and have less favorable terms than the preferred shares (cont'd):

TOB (Tender Option Bond)

The Funds currently utilize TOBs.

Fixed rate municipal bonds are deposited into a Trust (partnership for federal tax purposes)

Generally high quality municipal bonds needed ("AA" rated or higher; some lower rated)

Trust issues 2 series: TOB & Floater

Floater: has liquidity facility, interest rate is spread off SIFMA, paid semi-annually

TOB: coupon rate floats inversely to floater coupon

Term is generally 80% of the maturity until the first call date (for example, 8 years if bond is callable by the issuer in 10 years)

TOTEs – Tender Option Termination Events (events which cause TOB Trust to terminate)

Since 2009, Putnam and the Funds' Trustees have monitored the marketplace for alternative financing sources for the Funds that would result in additional liquidity for preferred shareholders while being consistent with the interests of the Funds' common shareholders. (cont'd)

Putnam continues to believe that the ARPS represent the best combination of interest cost and structural attributes that exist in today's market and are preferable to the available alternatives.

The ARPS are perpetual with no refinancing risk while the other options have specified terms. In evaluating refinancing risk, Putnam considers the ability to obtain financing (i.e. the market appetite for the instrument), the availability of liquidity facilities (i.e. the level of fees and regulatory capital treatment); the structure and terms of the financing; and the costs/fees of the refinancing.

Certain of the replacement options have liquidity support agreements that add incremental risk as the availability of liquidity support in the future depends on multiple factors.

Some of the replacement options also have "put" features which allow holders to redeem under certain (possibly adverse) market conditions.

Since 2009, Putnam and the Funds' Trustees have monitored the marketplace for alternative financing sources for the Funds that would result in additional liquidity for preferred shareholders while being consistent with the interests of the Funds' common shareholders. (cont'd)

Putnam commits to continue to monitor the marketplace for alternative financing options for the ARPS and will conduct an analysis of financing alternatives for the Funds at least annually for each of the next 5 years and will the report results of the analysis to the Trustees.

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Beyond providing liquidity to the preferred shareholders and exploring financing alternatives, the Putnam Funds' Trustees and Putnam have a demonstrated record of actively addressing the particular concerns of closed-end fund shareholders.

The Trustees meet regularly with Putnam regarding closed-end funds, and they carefully monitor the funds' performance, the trading prices (including any discounts or premiums) of fund shares, and the expressed views of shareholders in the funds.

Putnam and the Trustees have taken significant actions when circumstances indicate that such actions would benefit the long-term best interests of shareholders.

They have instituted a share repurchase program for the common shareholders. In 2005, the Trustees approved a share repurchase program and have renewed it ever since. PMM has repurchased more than 8,000,000 shares under the program and PMO has repurchased more than 7,800,000 shares. To date, the program has made a meaningful contribution to investment return.

They have merged closed-end funds. The Trustees have approved mergers of closed end funds, including two in 2005 and two in 2008. The Trustees have also approved mergers of closed-end funds into open-end funds, one in 2006 and two in 2008.

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Beyond providing liquidity to the preferred shareholders and exploring financing alternatives, the Putnam Funds' Trustees and Putnam have a demonstrated record of actively addressing the particular concerns of closed-end fund shareholders. (cont'd)

Putnam and the Trustees have taken significant actions when circumstances indicate that such actions would benefit the long-term best interests of shareholders. (cont'd)

They have initiated tender offers. In 2007, tender offers were conducted to purchase up to 10% of the outstanding common shares of each of 8 closed-end funds (including PMO and PMM) at a price per share equal to 98% of NAV. In 2008, a tender offer for another fund was conducted to purchase up to 15% of its outstanding common shares at a price per share equal to 99% of NAV.

They reduced management fees for the closed-end funds, effective January 1, 2006. Each Fund's management fee decreased by 15%, from 65 basis points to 55 basis points.

They have monitored the incremental earnings associated with preferred share leverage by requiring Putnam to forego a management fee on assets attributable to preferred shares should the incremental earnings become negative.

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Preferred share Trustees are obligated as a legal matter to act as a fiduciary to each Fund as a whole.

Under the 1940 Act, two trustees are required to be elected exclusively by the preferred shareholders.

The 1940 Act provides exclusive voting rights to preferred shareholders to ensure that their economic entitlements (e.g., dividends and liquidation preference) are appropriately honored.

¶The 1940 Act does **not** accord any other fiduciary priority to preferred shareholders or otherwise suggest a “balancing” of interests between preferred and common shareholders where those interests diverge.

¶The fiduciary duties of corporate directors/Trustees are defined by state law.

¶Under state law and each Fund’s organizational documents, all of the Fund’s Trustees owe the same duties to the Fund regardless of which shareholders elected them.

¶Mass. Business Corporation Act, Ch. 156D, Sec. 8.30: “[A] director shall discharge his duties as a director in a manner the director reasonably believes to be in the best interests of the **corporation.**”

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Preferred share Trustees are obligated as a legal matter to act as a fiduciary to each Fund as a whole. (cont’d)

¶Each Fund’s Declaration of Trust: The Trustees will hold assets “in trust . . . for the benefit of the holders . . . of shares.” Trustees are entitled to indemnification when acting in “in good faith in the reasonable belief that [their actions are] in the best interests of [the Fund],” subject to certain 1940 Act limitations.

¶Each Trustee thus is a “fiduciary” of each Fund as a whole, and no Trustee is exclusively a fiduciary with respect to only common or preferred shareholders.

As a legal matter, PMO's Trustees owe their primary duty to common shareholders where the interests of common and preferred shareholders diverge.

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The Funds' nominees and the other Trustees of the Funds are independent, experienced and highly qualified fiduciaries with strong fund governance practices.

Demonstrated Independence

The Trustees have an independent Chairman, Jameson Baxter. Ms. Baxter is the Chairman of the Mutual Fund Directors Forum (MFDF). The MFDF is an independent, non-profit organization that serves independent directors of U.S. mutual funds. The MFDF enhances the governance of mutual funds by educating independent directors and providing them with a voice in the key policy issues affecting mutual funds and their shareholders. Ms. Baxter was recently awarded a Lifetime Achievement Award at the 24th annual Mutual Fund Industry Awards.

11 of 12 Trustees are Independent Trustees and not "interested persons" of the Funds or Putnam.

The Independent Trustees are assisted by an independent administrative staff and by auditors and legal counsel selected by the Independent Trustees and independent of Putnam.

The Funds' nominees and the other Trustees of the Funds are independent, experienced and highly qualified fiduciaries with strong fund governance practices.

Highly Qualified Board with Significant Experience (For complete biographies, please see [Appendix A.](#))

• The Trustees are highly accomplished business and investment professionals with extensive leadership experience and deep backgrounds in mutual fund governance.

• The Funds' nominees for election by the preferred shareholders, George Putnam, III and Robert E. Patterson have extensive skills and experience:

- Robert E. Patterson has served on the Board of Trustees of the Funds for 33 years. Mr. Patterson has training and experience as an attorney and as president of a New York Stock Exchange company.

- George Putnam, III has served on the Board of Trustees for 33 years. He has training and experience as an attorney, experience as the founder and Chief Executive Officer of an investment management firm and is the author of various publications on the subject of investments.

The Funds' nominees and the other Trustees of the Funds are independent, experienced and highly qualified fiduciaries with strong fund governance practices.

Strong Fund Governance Practices

• An independent Trustee serves as Chairman of the Board.

• A combination of long-tenured and newer members bring diverse perspectives to fund oversight. The nominees include two newly appointed Trustees:

• Catherine Bond Hill, who has education and experience as an economist and as president and provost of colleges in the United States.

• Manoj P. Singh, who has experience as chief operating officer and global managing director of a professional services organization that provides accounting, consulting, tax, risk management and financial advisory services.

• There is no staggered board or other takeover defenses. Every Trustee stands for election each year.

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Bulldog's recent actions suggest that its Trustee nominees would pursue Bulldog's short-term interests and not the interests of shareholders as a whole despite a fiduciary obligation to all Fund shareholders.

In Bulldog's proxy materials, Bulldog bemoans the lack of a liquid market in the Funds' preferred shares.

Yet, Bulldog very recently **added** to its preferred share holdings of PMM and PMO.

At the time Bulldog provided notice of its intention to propose Trustee nominees, Bulldog only held 74 preferred shares of PMM. On March 16, 2017, Bulldog purchased an additional 74 shares of PMM, doubling its preferred share holdings, at a price of 81.2% of liquidation preference.

At the time Bulldog provided notice of its intention to propose Trustee nominees for PMO, Bulldog only held 78 shares of PMO. On March 16, 2017, Bulldog purchased an additional 656 shares of PMO, increasing its holdings by over 800%, at a price of 81.2% of liquidation preference.

Bulldog now advocates for an ISS recommendation for its dissident nominees, which it can then use to pressure the Funds for a liquidity event at a redemption price that would generate a profit, regardless of the impact of the liquidity event on other shareholders of the Funds.

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Bulldog's recent actions suggest that its Trustee nominees would pursue Bulldog's short-term interests and not the interests of shareholders as a whole despite a fiduciary obligation to all Fund shareholders. (cont'd)

Bulldog's interests are not aligned with those of common shareholders who invested in the fund in order to benefit from its closed-end, leveraged structure over the longer term.

Bulldog's actions appear to be an arbitrage play using fund governance tools as a weapon, an unfortunate industry trend. According to Fitch Ratings, most ARPS redemptions in 2015 resulted from pressure from activist investors. "Much of the current (ARPS) redemption activity is due to activist investors who have purchased ARPS on the secondary market. These activist investors use board-voting privileges conferred by owning the APRS to apply pressure on the funds to redeem." Fitch Ratings July 2015 Special Report- "ARPS Discounts Widen As Investor Base Shifts"

If elected, Bulldog's nominees would disrupt the orderly governance of the Funds and result in inefficiencies.

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Bulldog's recent actions suggest that its Trustee nominees would pursue Bulldog's short-term interests and not the interests of shareholders as a whole despite a fiduciary obligation to all Fund shareholders. (cont'd)

If elected, Bulldog's nominees would disrupt the orderly governance of the Funds and result in inefficiencies. (cont'd)

The election of 2 Bulldog nominees would disrupt the orderly governance of the Funds by likely resulting in the holding of

separate meetings for the Funds' board from the meetings for the board of other Putnam Funds.

Currently, the Funds' board meets eight times a year in combined meetings for all of the

Putnam Funds. As a result, the Funds would incur additional legal and administrative costs due to the loss of efficiencies associated with the combined meetings.

If elected, the 2 Bulldog nominees would have no power to force the Funds' board to take any particular action relating to the preferred shares and, consistent with their obligations to protect the interests of all shareholders, could not advocate for any action that would benefit the preferred shareholders at the expense of the common shareholders in any event.

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Appendices

Appendix A: Trustees' biographies

Appendix B: Portfolio managers' biographies

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Appendix A

Liaquat Ahamed (Born 1952)
Trustee since 2012

Mr. Ahamed is the Pulitzer Prize-winning author of *Lords of Finance: The Bankers Who Broke the World*. His articles on economics have appeared in the New York Times, Foreign Affairs, and the Financial Times.

Mr. Ahamed serves as a director of Aspen Insurance Co., a New York Stock Exchange company, and is the Chair of the Aspen Board's Investment Committee. He is a Trustee of the Brookings Institution (a nonprofit public policy organization). He is also a director of the Rohatyn Group, an emerging-market fund complex that manages money for institutions. Mr. Ahamed was previously the Chief Executive Officer of Fischer Francis Trees & Watts, Inc., a fixed income investment management subsidiary of BNP Paribas. He was formerly the head of the investment division at the World Bank.

Mr. Ahamed holds a B.A. in economics from Trinity College, Cambridge University and an M.A. in economics from Harvard University.

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Appendix A

Ravi Akhouri (Born 1947)
Trustee since 2009

Mr. Akhoury serves as a Trustee of the Rubin Museum, serving on the Investment Committee, and of the American India Foundation. Mr. Akhoury is also a Director of RAGE Frameworks, Inc. and English Helper, Inc. (each a private software company).

Previously, Mr. Akhoury served as a Director of Jacob Ballas Capital India (a non-banking finance company focused on private equity advisory services) and a member of its Compensation Committee. He was also a Director and on the Compensation Committee of MaxIndia/New York Life Insurance Company in India. He was also Vice President and Investment Policy Committee member of Fischer Francis Trees & Watts, a fixed income investment management subsidiary of BNP Paribas. He has also served on the Board of Bharti Telecom (an Indian telecommunications company), serving as a member of its Audit and Compensation Committees, and as a Director and member of the Audit Committee on the Board of Thompson Press (a publishing company). From 1992 to 2007, he was Chairman and CEO of MacKay Shields, a multi-product investment management firm.

Mr. Akhoury graduated from the Indian Institute of Technology with a B.S. in Engineering and obtained an M.S. in Quantitative Methods from SUNY at Stony Brook.

Appendix A

Barbara M. Baumann (Born 1955)
Trustee since 2010

Ms. Baumann is President and Owner of Cross Creek Energy Corporation, a strategic consultant to domestic energy firms and direct investor in energy projects.

Ms. Baumann currently serves as a Director of Buckeye Partners, L.P. (a publicly traded master limited partnership focused on pipeline transport, storage and distribution of petroleum products) and Devon Energy Corporation (a leading independent natural gas and oil exploration and production company). Ms. Baumann is the Chair of the Board of Trustees of Mount Holyoke College, serves on the Board of The Denver Foundation, is a former Chair of the Board and a current Board member of Girls Inc. of Metro Denver (a nonprofit organization benefitting young women), and serves on the Finance Committee of the Children's Hospital of Colorado.

Until September 2014, Ms. Baumann was a director of UNS Energy Corporation (a publicly held electric and gas utility in Arizona). Until May 2014, Ms. Baumann was a Director of SM Energy Corporation (a publicly held U.S. exploration and production company). Until May 2012, Ms. Baumann was a Director of CVR Energy, Inc. (a publicly held petroleum refiner and fertilizer manufacturer). Prior to 2003, Ms. Baumann was Executive Vice President of Associated Energy Managers, LLC (a domestic private equity firm). From 1981 until 2000, she held a variety of financial and operational management positions with the global energy company Amoco Corporation and its successor, BP.

Ms. Baumann holds an M.B.A. from The Wharton School of

the University of Pennsylvania and a B.A. from Mount Holyoke College.

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Appendix A

Jameson A. Baxter (Born 1943) Trustee since 1994, Vice Chair from 2005 to 2011 and Chair since 2011

Ms. Baxter is the President of Baxter Associates, Inc., a private investment firm.

Ms. Baxter serves as Chair of the Mutual Fund Directors Forum, Director of the Adirondack Land

Trust and Trustee of the Nature Conservancy's Adirondack Chapter. Until 2011, Ms. Baxter was a director of ASHTA Chemicals, Inc. Until 2007, she was a Director of Banta Corporation (a printing and supply chain management company), Ryerson, Inc. (a metals service company), and Advocate Health Care. She has also served as a director on a number of other boards, including BoardSource (formerly the National Center for Nonprofit Boards), Intermatic Corporation (a manufacturer of energy control products), and MB Financial. She is Chair Emeritus of the Board of Trustees of Mount Holyoke College, having served as Chair for five years.

Ms. Baxter has held various positions in investment banking and corporate finance, including Vice President of and

Consultant to First Boston Corporation and Vice President and Principal of the Regency Group. She is a graduate of Mount Holyoke College.

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Appendix A

Katinka Domotorffy (Born 1975) Trustee since 2012

Ms. Domotorffy is a voting member of the Investment Committees of the Anne Ray Charitable Trust and Margaret A. Cargill Foundation, part of the Margaret A. Cargill Philanthropies. She also serves as a Director of Reach Out and Read of Greater New York, an organization dedicated to promoting childhood literacy, of the Great Lakes Science Center, and of College Now Greater Cleveland.

Until December 2011, Ms. Domotorffy was Partner, Chief Investment Officer, and Global Head of Quantitative Investment Strategies at Goldman Sachs Asset Management.

Ms. Domotorffy holds a BSc in Economics from the University of Pennsylvania and an MSc in Accounting and Finance from the London School of Economics.

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Appendix A

Catharine Bond Hill (Born 1954)

Dr. Hill is Managing Director of Ithaca S+R, a not-for-profit service that helps the academic community navigate economic and technological change, where she leads research and consulting initiatives to broaden access to higher education, reduce costs, and improve student outcomes.

From 2006 to 2016, Dr. Hill served as the 10th president of Vassar College. Before that, she was the provost of Williams College, where she had chief academic and financial officer responsibilities. She originally joined the economics faculty at Williams in 1985. From 1994–1997, she lived in the Republic of Zambia, working in the Ministry of Finance and with the Bank of Zambia.

Dr. Hill serves on the board of the Yale-NUS College and is an alumni fellow to the Yale Corporation.

She graduated from Williams College, earned a bachelor's degree and a master's degree at Brasenose College, Oxford University, and completed her doctorate in economics at Yale University.

Appendix A

Paul L. Joskow (Born 1947)
Trustee since 1997

Dr. Joskow is an economist and President of the Alfred P. Sloan Foundation (a philanthropic institution focused primarily on research and education on issues related to science, technology, and economic performance). He is the Elizabeth and James Killian Professor of Economics, Emeritus at the Massachusetts Institute of Technology (MIT), where he joined the faculty in 1972. Dr. Joskow was the Director of the Center for Energy and Environmental Policy Research at MIT from 1999 through 2007.

Dr. Joskow serves as a Trustee of Yale University, as a Director of Exelon Corporation (an energy company focused on power services), and as a member of the Board of Overseers of the Boston Symphony Orchestra. Prior to April 2013, he served as Director of TransCanada Corporation and TransCanada Pipelines Ltd. (energy companies focused on natural gas transmission, oil pipelines, and power services). Prior to August 2007, he served as a Director of National Grid (a U.K.-based holding company with interests in electric and gas transmission and distribution and telecommunications infrastructure). Prior to July 2006, he served as President of the Yale University Council. Prior to February 2005, he served on the Board of the Whitehead Institute for Biomedical Research (a non-profit research institution). Prior to February 2002, he was a Director of State Farm Indemnity Company (an automobile insurance company), and prior to March 2000, he was a Director of New England Electric System (a public utility holding company).

Dr. Joskow has published seven books and numerous articles on industrial organization, government regulation of industry, and competition policy. He is active in industry restructuring, environmental, energy, competition, and privatization policies having served as an advisor to governments and corporations worldwide. Dr. Joskow holds a Ph.D. and M.Phil. from Yale University and a B.A. from Cornell University.

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Appendix A

Kenneth R. Leibler (Born 1949) Trustee since 2006

Mr. Leibler is a founder and former Chairman of the Boston Options Exchange, an electronic marketplace for the trading of derivative securities.

Mr. Leibler is currently Vice Chairman Emeritus of the Board of Trustees of Beth Israel Deaconess Hospital in Boston and a former Director of Beth Israel Deaconess Care Organization, an accountable care group jointly owned by the medical center and its affiliated physicians. He is also a Director of Eversource

Corporation, which operates New England's largest energy delivery system, and, until November 2010, was a Director of Ruder Finn Group, a global communications and advertising firm. Prior to December 2006, he served as a Director of the

Optimum Funds Group. Prior to October 2006, he served as a Director of ISO New England, the organization responsible for the operation of the electric generation system in the New England states. Prior to 2000, Mr. Leibler was a Director of the Investment Company Institute in Washington, D.C.

Prior to January 2005, Mr. Leibler served as Chairman and Chief Executive Officer of the Boston Stock Exchange. Prior to January 2000, he served as President and Chief Executive Officer of Liberty Financial Companies, a publicly traded diversified asset management organization. Prior to June 1990, Mr. Leibler served as President and Chief Operating Officer of the American Stock Exchange (AMEX), and at the time was the youngest person in AMEX history to hold the title of President. Prior to serving as AMEX President, he held the position of Chief Financial Officer, and headed its management and marketing operations. Mr. Leibler graduated with a B.A in Economics from Syracuse University.

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Appendix A

Robert E. Patterson (Born 1945) Trustee since 1984

Mr. Patterson is Co-Chairman of Cabot Properties, Inc. (a private equity firm investing in commercial real estate) and Chairman or Co-Chairman of the Investment Committees for various Cabot Funds.

Mr. Patterson is past Chairman and served as a Trustee of the Joslin Diabetes Center. He previously was a Trustee of the Sea Education Association. Prior to December 2001, Mr. Patterson was President and Trustee of Cabot Industrial Trust (a publicly traded real estate investment trust). Prior to February 1998, he was Executive Vice President and Director of Acquisitions of Cabot Partners Limited Partnership (a registered investment adviser involved in institutional real estate investments). Prior to 1990, he served as Executive Vice President of Cabot, Cabot & Forbes Realty Advisors, Inc. (the predecessor company of Cabot Partners).

Mr. Patterson practiced law and held various positions in state government, and was the founding Executive Director of the Massachusetts Industrial Finance Agency. Mr. Patterson is a graduate of Harvard College and Harvard Law School.

Appendix A

George Putnam, III (Born 1951) Trustee since 1984

Mr. Putnam is Chairman of New Generation Research, Inc. (a publisher of financial advisory and other research services), and President of New Generation Advisors, LLC (a registered investment adviser to private funds). Mr. Putnam founded the New Generation companies in 1986.

Mr. Putnam is a Director of The Boston Family Office, LLC (a registered investment adviser). He is a Trustee of Epiphany School and a Trustee of the Marine Biological Laboratory in Woods Hole, Massachusetts. Prior to June 2007, Mr. Putnam was President of the Putnam funds. Until 2010, he was a Trustee of St. Mark's School, until 2006, he was a Trustee of Shore Country Day School, and until 2002, he was a Trustee of the Sea Education Association.

Mr. Putnam previously worked as an attorney with the law firm of Dechert LLP (formerly known as Dechert Price & Rhoads) in Philadelphia. He is a graduate of Harvard College, Harvard Business School, and Harvard Law School.

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Appendix A

Manoj P. Singh (Born 1952)

Mr. Singh is the former chief operating officer and global managing director at Deloitte Touche Tohmatsu, Ltd., a global professional services organization. He served on the Deloitte U.S. board of directors and the boards of Deloitte member firms in China, Mexico and Southeast Asia.

Mr. Singh is a Director of Abt Associates, a global research firm working in the fields of health, social and environmental policy, and international development. He has also been admitted to the Board of Directors of a new public company being formed through the merger of HP Enterprise Services

and CSC Corp. This new company is expected to be launched on April 3, 2017. He is a member of the advisory board of Altimetrik, a business transformation and technology solutions firm. He is a Trustee of Carnegie Mellon University, a Trustee of the Rubin Museum, and a Director of Pratham USA, an organization dedicated to children's education in India.

Mr. Singh holds a bachelor's degree in electrical engineering from the Indian Institute of Technology and an MS in industrial administration from Carnegie Mellon University.

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Appendix B

Paul D. Scanlon, CFA

Mr. Scanlon is Co-Head of Fixed Income and oversees the Fixed Income Global Credit group. He is a Portfolio Manager of Putnam Absolute Return 100 Fund, Putnam Absolute Return 300 Fund, Putnam Diversified Income Trust, Putnam Emerging Markets Income Fund, Putnam Floating Rate Income Fund, George Putnam Balanced Fund, Putnam Global Income Trust, Putnam High Yield Advantage Fund, Putnam High Yield Trust, Putnam Master Intermediate Income Trust, and Putnam Premier Income Trust. Mr. Scanlon, a CFA charter holder, joined Putnam in 1999, and has been in the investment industry since 1986.

Education: University of Chicago, M.B.A.; Colgate University,

B.A.

Paul M. Drury, CFA

Mr. Drury is a Portfolio Manager in the Tax Exempt Fixed Income group. He is a Portfolio Manager of Putnam's tax -exempt fixed income funds and is responsible for managing several sectors within the municipal market. Mr. Drury joined Putnam in 1989. A CFA charter holder, he has over [27] years of investment industry experience.

Education: Suffolk University, B.A.
