

*In the opinion of Hinckley, Allen & Snyder LLP, Bond Counsel, based upon an analysis of existing law and assuming, among other matters, compliance with certain covenants, interest on the Bonds is excluded from gross income for federal income tax purposes under the Internal Revenue Code of 1986, as amended (the "Code"). Interest on the Bonds is not a specific preference item for purposes of the federal individual or corporate alternative minimum taxes, although such interest is included in adjusted current earnings when calculating corporate alternative minimum taxable income. Under existing law, interest on the Bonds and any profit on the sale of the Bonds are exempt from Massachusetts personal income taxes and the Bonds are exempt from Massachusetts personal property taxes. Bond Counsel expresses no opinion regarding any other tax consequences related to the ownership or disposition of, or the accrual or receipt of interest on, the Bonds. See "TAX EXEMPTION" herein.*

**\$1,539,720,000****MASSACHUSETTS DEVELOPMENT FINANCE AGENCY****Revenue Bonds****Harvard University Issue, Series 2016A****Dated: Date of Delivery****Due: as shown on the inside cover**

The Bonds (as defined herein) will be issued only as fully-registered bonds without coupons and, when issued, will be registered in the name of Cede & Co., as Bondowner and nominee for The Depository Trust Company, New York, New York ("DTC"). Purchases of the Bonds will be made in book-entry-only form. So long as Cede & Co. is the Bondowner, as nominee of DTC, references herein to the Bondowners or registered owners shall mean Cede & Co., as aforesaid, and shall not mean the Beneficial Owners of the Bonds. The Bonds will be issued in minimum denominations of \$5,000 and whole multiples thereof. The Bank of New York Mellon Trust Company, N.A. will act as Trustee.

Principal and semiannual interest on the Bonds will be paid by the Trustee. So long as DTC or its nominee, Cede & Co., is the Bondowner, such payments will be made directly to such Bondowner, as more fully described herein. Interest on the Bonds will be payable on January 15, 2017, and semiannually thereafter on each July 15 and January 15 to the Bondowners of record as of the close of business on the first day of the month of such interest payment date.

**The Bonds are subject to redemption prior to maturity as set forth in this Official Statement. See "THE BONDS—Redemption Provisions" herein.**

The Bonds shall be special obligations of the Massachusetts Development Finance Agency (the "Issuer") payable solely from the Revenues of the Issuer paid to the Trustee for the account of the Issuer by the President and Fellows of Harvard College (the "Institution") in accordance with the provisions of the Loan and Trust Agreement dated as of October 1, 2016 (the "Agreement"), among the Issuer, the Institution and the Trustee. The payments pursuant to the Agreement are a general obligation of the Institution.

**THE BONDS DO NOT CONSTITUTE A GENERAL OBLIGATION OF THE ISSUER OR A DEBT OR PLEDGE OF THE FAITH AND CREDIT OF THE ISSUER OR A DEBT OR PLEDGE OF THE FAITH AND CREDIT OF THE COMMONWEALTH OF MASSACHUSETTS OR ANY POLITICAL SUBDIVISION THEREOF. THE PRINCIPAL, REDEMPTION PRICE OR MAKE-WHOLE REDEMPTION PRICE OF AND INTEREST ON THE BONDS ARE PAYABLE SOLELY FROM THE REVENUES AND FUNDS PLEDGED FOR THEIR PAYMENT UNDER THE AGREEMENT. THE ISSUER HAS NO TAXING POWER UNDER THE ACT.**

The Bonds are offered when, as and if issued and received by the Underwriters, subject to prior sale, to withdrawal or modification of the offer without notice, and to the approval of their legality and certain other matters by Hinckley, Allen & Snyder LLP, Boston, Massachusetts, Bond Counsel to the Issuer. Certain legal matters will be passed upon for the Institution by its counsel, Ropes & Gray LLP, Boston, Massachusetts, and for the Underwriters by their counsel, Orrick, Herrington & Sutcliffe LLP, New York, New York. It is expected that the Bonds will be available in definitive form for delivery to DTC in New York, New York or its custodial agent on or about October 20, 2016.

**Goldman, Sachs & Co.  
BofA Merrill Lynch  
TD Securities****Barclays****J.P. Morgan****Citigroup****Morgan Stanley  
Wells Fargo Securities**

**\$1,539,720,000**  
**MASSACHUSETTS DEVELOPMENT FINANCE AGENCY**  
**Revenue Bonds**  
**Harvard University Issue, Series 2016A**

**\$1,166,670,000 Series 2016A Serial Bonds**

<b>Due July 15,</b>	<b>Amount</b>	<b>Interest Rate</b>	<b>Yield</b>	<b>CUSIP Number*</b>
2019	\$5,000,000	4.00%	0.900%	57584XYE5
2019	20,940,000	5.00	0.900	57584XXM8
2020	5,000,000	4.00	0.960	57584XYF2
2020	21,105,000	5.00	0.960	57584XXN6
2021	26,305,000	5.00	1.040	57584XXP1
2022	26,545,000	5.00	1.130	57584XXQ9
2023	26,790,000	5.00	1.230	57584XXR7
2024	26,145,000	5.00	1.350	57584XXS5
2025	28,035,000	5.00	1.480	57584XXT3
2026	30,020,000	5.00	1.600	57584XXU0
2027	32,425,000	5.00	1.720 <sup>1</sup>	57584XXV8
2028	45,300,000	5.00	1.830 <sup>1</sup>	57584XXW6
2029	30,815,000	4.00	2.030 <sup>1</sup>	57584XXX4
2030	44,905,000	5.00	2.010 <sup>1</sup>	57584XXY2
2031	39,115,000	5.00	2.070 <sup>1</sup>	57584XXZ9
2033	169,145,000	5.00	2.180 <sup>1</sup>	57584XYA3
2034	103,740,000	5.00	2.230 <sup>1</sup>	57584XYB1
2036	400,000,000	4.00	2.580 <sup>1</sup>	57584XYC9
2036	85,340,000	5.00	2.630	57584XYG0

**\$373,050,000 5.00% Series 2016A Term Bonds due July 15, 2040, Yield 2.730%, CUSIP Number 57584XYD7\***

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<sup>1</sup> Priced to first optional call on July 15, 2026.

**IN CONNECTION WITH THE OFFERING OF THE BONDS, THE UNDERWRITERS MAY OVERALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE BONDS AT LEVELS ABOVE THOSE WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.**

No dealer, broker, salesman or other person has been authorized by the Issuer, the Institution or the Underwriters to give any information or to make any representations with respect to the Bonds, other than those contained in this Official Statement, and, if given or made, such other information or representations must not be relied upon as having been authorized by any of the foregoing. Certain information contained herein has been obtained from the Institution and other sources which are believed to be reliable, but it is not guaranteed as to accuracy or completeness, and is not to be construed as a representation of the Issuer or the Underwriters. The Underwriters have provided the following sentence for inclusion in this Official Statement. The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their responsibility to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information. The information and expressions of opinion herein are subject to change without notice and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the parties referred to above since the date hereof.

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**OFFICIAL STATEMENT**  
**Relating to**  
**\$1,539,720,000**  
**MASSACHUSETTS DEVELOPMENT FINANCE AGENCY**  
**Revenue Bonds**  
**Harvard University Issue, Series 2016A**

**INTRODUCTION**

Purpose of this Official Statement

This Official Statement, including the cover page, inside cover page and appendices hereto, sets forth certain information in connection with the issuance and sale of the Massachusetts Development Finance Agency (the “Issuer”) Revenue Bonds, Harvard University Issue, Series 2016A (the “Bonds”). The Issuer is a body corporate and politic and a public instrumentality of The Commonwealth of Massachusetts (the “Commonwealth”) and is authorized under Chapter 23G and, to the extent incorporated therein, Chapter 40D of the Massachusetts General Laws (said Chapters, collectively and as amended, the “Act”), and pursuant to a resolution of the Issuer adopted on September 26, 2016, to issue the Bonds. The Bonds will be issued under a Loan and Trust Agreement dated as of October 1, 2016 (the “Agreement”) by and among the Issuer, the President and Fellows of Harvard College (the “Institution”) and The Bank of New York Mellon Trust Company, N.A., as Trustee (the “Trustee”). The information contained in this Official Statement is provided for use in connection with the initial sale of the Bonds. The definitions of certain terms used and not defined herein are contained in Appendix C – “DEFINITIONS OF CERTAIN TERMS AND SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT.”

Plan of Financing

The proceeds of the Bonds will be applied to (1) advance refund all of the outstanding Revenue Bonds, Harvard University Issue, Series B (2008) (the “Refunded Series 2008B Bonds”), originally issued by the Massachusetts Health and Educational Facilities Authority (“MHEFA”) on behalf of the Institution, (2) advance refund a portion of the outstanding Revenue Bonds, Harvard University Issue, Series 2009A (the “Refunded Series 2009A Bonds”), originally issued by MHEFA on behalf of the Institution, (3) advance refund a portion of the outstanding Revenue Bonds, Harvard University Issue, Series 2010A (the “Refunded Series 2010A Bonds”), originally issued by MHEFA on behalf of the Institution, (4) advance refund a portion of the Issuer’s outstanding Revenue Bonds, Harvard University Issue, Series 2010B-1 (the “Refunded Series 2010B-1 Bonds”), (5) advance refund all of the Issuer’s outstanding Revenue Bonds, Harvard University Issue, Series 2010B-2 (the “Refunded Series 2010B-2 Bonds”) and (6) pay the costs of issuance of the Bonds.

The Institution expects that, on or about October 13, 2016, it will issue its President and Fellows of Harvard College Taxable Bonds, Series 2016B in the principal amount of \$1,000,000,000 (the “Series 2016B Bonds”) and an additional estimated amount of approximately \$257,000,000 of taxable commercial paper, in order to refund certain outstanding bonds and commercial paper. If issued, the Series 2016B Bonds and taxable commercial paper will be unsecured general obligations of the Institution. The issuance of the Bonds is not contingent on the issuance of the Series 2016B Bonds and/or the taxable commercial paper, and the issuance of the Series 2016B Bonds and/or the taxable commercial paper is not contingent on the issuance of the Bonds.

See “PLAN OF FINANCING” and “ESTIMATED SOURCES AND USES” herein and Appendix F – “Table of Refunded Bonds.”

### **SOURCES OF PAYMENT AND SECURITY FOR THE BONDS**

The Issuer, the Institution and the Trustee shall execute the Agreement, which provides that, to the extent permitted by law, the obligation of the Institution to make the payments thereunder is a general obligation of the Institution and that the full faith and credit of the Institution are pledged to its performance. The Agreement also provides, among other things, that the Institution shall make payments to the Trustee equal to principal and interest on the Bonds and certain other payments required by the Agreement. The Agreement shall remain in full force and effect until such time as all of the Bonds and the interest thereon have been fully paid or until adequate provision for such payments has been made. The obligation of the Institution to make payments under the Agreement is unsecured.

The Bonds are special obligations of the Issuer, equally and ratably secured by and payable from a pledge of and lien on, to the extent provided by the Agreement, the moneys received with respect to the Bonds by the Trustee for the account of the Issuer pursuant to the Agreement.

Under the Agreement, the Issuer assigns and pledges to the Trustee in trust upon the terms of the Agreement (i) all Revenues to be received from the Institution or derived from any security provided thereunder, (ii) all rights to receive such Revenues and the proceeds of such rights, (iii) all funds and investments held from time to time in the funds established under the Agreement and (iv) all of its right, title and interest in the Agreement, including enforcement rights and remedies but excluding certain rights of indemnification and to reimbursement of certain expenses as set forth in the Agreement. Under the Act, to the extent authorized or permitted by law, the pledge of Revenues is valid and binding from the time when such pledge is made and the Revenues and all income and receipts earned on funds held by the Trustee for the account of the Issuer shall immediately be subject to the lien of such pledge without any physical delivery thereof or further act, and the lien of such pledge shall be valid and binding as against all parties having claims of any kind in tort, contract or otherwise against the Issuer irrespective of whether such parties have notice thereof.

The assignment and pledge by the Issuer does not include (i) the rights of the Issuer pursuant to provisions of the Agreement for consent, concurrence, approval or other action by the Issuer, notice to the Issuer, or the filing of reports, certificates or other documents with the Issuer, (ii) the right of the Issuer to any payment or reimbursement pursuant to the Agreement or (iii) the powers of the Issuer as stated in the Agreement to enforce the rights set forth in subclauses (i) and (ii) of this sentence.

As additional security for its payment obligations under the Agreement, the Institution, pursuant to the Agreement, grants to the Trustee a security interest in the moneys and other investments and any proceeds thereof held in the funds established under the Agreement.

The Institution’s payment obligations under the Agreement constitute unsecured general obligations of the Institution. Such payment obligations are not secured by a reserve fund, mortgage lien or security interest on or in any funds or other assets of the Institution. The Institution is not required to pay to the Trustee amounts necessary to pay the principal of and interest on the Bonds until the opening of business on the Business Day next preceding the date on which such payment is due; therefore, the funds held from time to time by the Trustee for the benefit of Bondowners under the Agreement are expected to be minimal.

The Institution has other unsecured general obligations outstanding. As of June 30, 2015, the Institution had approximately \$5.49 billion principal amount of indebtedness outstanding, including long-term debt and commercial paper. Subsequent to June 30, 2015, the Institution paid down approximately \$354.2 million principal amount of long-term debt, leaving approximately \$5.13 billion principal amount outstanding. Upon delivery of the Bonds and the expected issuance of the Series 2016B Bonds and the taxable commercial paper and after taking into account the principal to be refunded with the proceeds of the Bonds, the Series 2016B Bonds and the taxable commercial paper, the total outstanding principal amount of indebtedness is expected to be approximately \$5.01 billion.

The Institution is not restricted by the Agreement or otherwise from incurring additional indebtedness. Such additional indebtedness, if issued, may be either secured or unsecured and may be entitled to payment prior to the Institution's payment obligations under the Agreement. The Agreement also does not contain any financial covenants limiting the ability of the Institution to encumber or dispose of its property or merge with any other entity, or any covenants. Further, the Institution is not required by the Agreement to produce revenues at any specified level or to obtain any insurance with respect to its property or operations.

#### Acceleration

The Trustee may declare all of the Bonds immediately due and payable prior to maturity at par, plus accrued interest, upon an Event of Default under the Agreement. See Appendix C – "DEFINITIONS OF CERTAIN TERMS AND SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT – Events of Default."

**THE BONDS DO NOT CONSTITUTE A GENERAL OBLIGATION OF THE ISSUER OR A DEBT OR PLEDGE OF THE FAITH AND CREDIT OF THE ISSUER OR A DEBT OR PLEDGE OF THE FAITH AND CREDIT OF THE COMMONWEALTH OF MASSACHUSETTS OR ANY POLITICAL SUBDIVISION THEREOF. THE PRINCIPAL, REDEMPTION PRICE OR MAKE-WHOLE REDEMPTION PRICE OF AND INTEREST ON THE BONDS ARE PAYABLE SOLELY FROM THE REVENUES AND FUNDS PLEDGED FOR THEIR PAYMENT UNDER THE AGREEMENT. THE ISSUER HAS NO TAXING POWER UNDER THE ACT.**

#### **THE ISSUER**

The Issuer is authorized and empowered under the laws of Massachusetts, including the Act, to issue the Bonds for the purposes described herein and to enter into the Agreement and other agreements and instruments necessary to issue and secure the Bonds.

The Members of the Board of Directors and the officers of the Issuer authorized to sign documents relating to bond transactions are as follows:

## **Members of the Board of Directors**

### Ex-Officio Members

Chairperson, Secretary of the Executive Office of Housing & Economic Development, The Commonwealth of Massachusetts

Secretary, the Executive Office for Administration & Finance, The Commonwealth of Massachusetts, or the Secretary's designee

### Appointed Members

James Chisholm, Vice President for Business Development, Advantage Waypoint

Gerald D. Cohen, Vice Chair; Founder and Principal, SF Properties, Inc.

Karen G. Courtney, President, K. Courtney and Associates, Inc., and Executive Director, The Foundation for Fair Contracting of Massachusetts

Keon T. Holmes, Managing Director, Cambridge Associates LLC

Dennis Kanin, Co-Founder and Principal, New Boston Ventures LLC

Brian Kavoogian, Principal, Charles River Realty Investors

Lauren A. Liss, Partner, Rubin and Rudman LLP

Patricia McGovern, Consultant, formerly General Counsel and Senior Vice President at Beth Israel Deaconess Medical Center (retired)

Christopher P. Vincze, Chairman and CEO, TRC Solutions, Inc.

## **Officers of the Issuer**

Marty Jones, President and Chief Executive Officer

Simon R. Gerlin, Treasurer, Chief Financial Officer and Executive Vice President for Finance & Administration

Laura L. Canter, Executive Vice President for Finance Programs

Richard C.J. Henderson, Executive Vice President for Real Estate

Patricia A. DeAngelis, General Counsel and Secretary

Steven J. Chilton, Senior Vice President, Investment Banking (Mr. Chilton has signing authority for bond transactions only.)

Except for the information contained herein under the caption "THE ISSUER" and "LEGAL MATTERS" insofar as it relates to the Issuer, the Issuer has not provided any of the information contained in this Official Statement. The Issuer is not responsible for and does not certify as to the

accuracy or sufficiency of the disclosures made herein or any other information provided by the Institution, the Underwriters or any other person.

**THE ISSUER MAKES NO REPRESENTATION THAT INTEREST ON THE BONDS IS EXCLUDED FROM THE GROSS INCOME OF THE OWNERS THEREOF FOR FEDERAL INCOME TAX PURPOSES OR THAT INTEREST ON THE BONDS IS EXEMPT FROM MASSACHUSETTS INCOME TAX.**

## **THE BONDS**

### Description of the Bonds

The Bonds will be issued in the aggregate principal amount set forth on the inside cover page hereof, will be dated the date of original issuance and will bear interest from such date, payable on January 15, 2017 and each July 15 and January 15 thereafter at the respective rates set forth on the inside cover page hereof and will mature as set forth on the inside cover page hereof. Interest on the Bonds will be calculated on the basis of twelve 30-day months for a 360-day year.

Subject to the provisions discussed under “—Book-Entry-Only System” below, the Bonds are issuable as fully-registered bonds without coupons in the minimum denomination of \$5,000 or any multiple thereof. Principal, Redemption Price or Make-Whole Redemption Price of the Bonds will be payable at the principal corporate trust office of the Trustee, and interest on the Bonds will be paid by check or draft mailed to the registered owner as of the first (1st) day of the month in which interest is to be paid for the Bonds (the “Record Date”) or by wire transfer as provided in the Agreement.

### Redemption Provisions

The Bonds are subject to redemption in accordance with the redemption provisions described below.

#### Mandatory Redemption.

The Bonds maturing on July 15, 2040 are subject to mandatory sinking fund redemption and shall be redeemed by sinking fund installments on July 15 of each of the years and in the amounts set forth below (subject to crediting as described herein) at a redemption price equal to the principal amount thereof, plus accrued interest to the date of redemption, as follows:

#### **Bonds Maturing on July 15, 2040**

<u>Year</u>	<u>Amount</u>
2038	\$156,625,000
2039	105,510,000
2040 <sup>†</sup>	110,915,000

<sup>†</sup> Final Maturity

### Optional Redemption.

The Bonds maturing from July 15, 2027 through July 15, 2034 and the Bonds maturing on July 15, 2036 bearing interest at 4.00% are subject to optional redemption prior to maturity on or after July 15, 2026 at the option of the Institution by the written direction of the Institution to the Issuer and the Trustee, in whole or in part (in Authorized Denominations), at any time, in such order of maturity as directed by the Institution, at a redemption price equal to 100% of the principal amount of the Bonds to be redeemed, plus accrued interest to the redemption date (the “Redemption Price”).

The Bonds maturing on July 15, 2036 bearing interest at 5.00% and the Bonds maturing on July 15, 2040 (the “Make-Whole Call Bonds”) are subject to redemption prior to maturity at the option of the Institution by the written direction of the Institution to the Issuer and the Trustee, in whole or in part (in Authorized Denominations), at any time, in such order of maturity or sinking fund installments, if any, as directed by the Institution, at the Make-Whole Redemption Price. See Appendix C – “DEFINITIONS OF CERTAIN TERMS AND SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT.”

The “Make-Whole Redemption Price” means the greater of:

- (1) one hundred percent (100%) of the Amortized Value (as defined below) of the Make-Whole Call Bond to be redeemed; or
- (2) an amount equal to the sum of the present values of the remaining unpaid payments of principal and interest to be paid on the Make-Whole Call Bond to be redeemed from and including the date of redemption to the stated maturity date of such Make-Whole Call Bond, discounted to the date of redemption on a semiannual basis at a discount rate equal to the Applicable Tax-Exempt Municipal Bond Rate (as described below) for such Make-Whole Call Bond minus fifteen (15) basis points (-0.15%),

plus, in each case, accrued interest to the date of redemption.

The “Applicable Tax-Exempt Municipal Bond Rate” for such Make-Whole Call Bond will be the Comparable AAA General Obligations yield curve rate for the stated maturity date of such Make-Whole Call Bond as published by Municipal Market Data five Business Days prior to the date of redemption. If no such yield curve rate is established for the applicable year, the Comparable AAA General Obligations yield curve rate for the two published maturities most closely corresponding to the applicable year will be determined, and the Applicable Tax-Exempt Municipal Bond Rate will be interpolated or extrapolated from those yield curve rates on a straight-line basis.

In calculating the Applicable Tax-Exempt Municipal Bond Rate, should Municipal Market Data no longer publish the Comparable AAA General Obligations yield curve rate, then the Applicable Tax-Exempt Municipal Bond Rate will equal the AAA Benchmark Index yield curve rate (as published daily by Municipal Market Advisors) for the applicable year.

In the further event that Municipal Market Advisors no longer publishes the AAA Benchmark Index yield curve rate, the Applicable Tax-Exempt Municipal Bond Rate will be determined by Goldman, Sachs & Co. or a successor determined by the Institution, as the quotation agent, based upon the rate per annum equal to the semiannual equivalent yield to maturity of those tax-exempt general obligation bonds rated in the highest rating category by Moody’s and S&P with a maturity date equal to the stated maturity date of such Make-Whole Call Bond having characteristics (other than the ratings) most comparable to those of such Make-Whole Call Bond in the judgment of the quotation agent. The quotation agent’s

determination of the Applicable Tax-Exempt Municipal Bond Rate is final and binding in the absence of manifest error.

The “Amortized Value” will equal the principal amount of the Make-Whole Call Bond to be redeemed multiplied by the price of such Make-Whole Call Bond expressed as a percentage, calculated based on the industry standard method of calculating bond prices, with a delivery date equal to the date of redemption, a maturity date equal to the stated maturity date of such Make-Whole Call Bond and a yield equal to such Make-Whole Call Bond’s original offering yield as set forth on the cover of this Official Statement.

The Make-Whole Redemption Price will be determined by an independent accounting firm or independent financial advisor (which accounting firm or financial advisor shall be retained by the Institution at the expense of the Institution) in order to calculate such redemption price. Each of the Trustee, the Issuer and the Institution may conclusively rely on such accounting firm’s or financial advisor’s determination of such redemption price and will bear no liability for such reliance.

Purchase of Bonds by the Institution. The Institution may purchase Bonds of any maturity or sinking fund installment and credit them against the principal payment for such maturity at the principal amount by delivering them to the Trustee for cancellation at least sixty (60) days before the principal payment date. Whenever Bonds are called for optional redemption, the Institution may purchase some or all of the Bonds called for redemption if it gives written notice, as appropriate, to the Trustee and the Issuer not later than the day before the redemption date that it wishes to purchase the principal amount of Bonds specified in the notice, on the redemption date, at a purchase price equal to the Redemption Price or Make-Whole Redemption Price (as applicable). Any such purchase of Bonds by the Institution shall not be deemed to be a payment or redemption of the Bonds or any portion thereof and such purchase shall not operate to extinguish or discharge the indebtedness evidenced by such Bonds.

Selection of Bonds. If less than all of the Bonds are called for redemption, the Institution will select the maturity or maturities, or sinking fund installment or installments, as applicable, from which the Bonds are to be redeemed. If less than all of the Bonds within a maturity are to be redeemed, the particular Bonds to be called for redemption shall be selected by the Trustee by lot or in any customary manner as determined by the Trustee; provided, however, that so long as DTC or its nominee is the Bondowner, the particular portions of the Bonds to be redeemed shall be selected by lot by DTC in such manner as DTC may determine.

Notice of Redemption and Other Notices. So long as DTC or its nominee is the Bondowner, the Issuer and the Trustee will recognize DTC or its nominee as the Bondowner for all purposes, including notices and voting. Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners, will be governed by arrangements among them, subject to any statutory and regulatory requirements which may be in effect from time to time.

The Trustee shall give notice of redemption to the Bondowners not less than twenty (20) days nor more than forty-five (45) days prior to the date fixed for redemption. Such notice of redemption may state that the proposed redemption is conditioned upon there being on deposit in the Redemption Fund on the redemption date sufficient funds to pay the full Redemption Price or Make-Whole Redemption Price (as applicable) of the Bonds to be redeemed. Failure to mail notice to a particular Bondowner, or any defect in the notice to such Bondowner, shall not affect the redemption of any other Bond. So long as DTC or its nominee is the Bondowner, any failure on the part of DTC or failure on the part of a nominee of a Beneficial Owner (having received notice from a Direct Participant or otherwise) to notify the Beneficial Owner so affected shall not affect the validity of the redemption.

Effect of Redemption. On the redemption date, the Redemption Price or Make-Whole Redemption Price (as applicable) of each Bond to be redeemed, or the portion called for redemption, will become due and payable; and from and after such date, notice having been properly given and amounts having been made available and set aside for such redemption in accordance with the provisions of the Agreement, notwithstanding that any Bonds called for redemption have not been surrendered, no further interest will accrue on any Bonds (or such portion) called for redemption.

#### Book-Entry-Only System

DTC will act as the securities depository for the Bonds. The Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered Bond certificate will be issued for each maturity of the Bonds, each in the aggregate the principal amount of such maturity, and will be deposited with DTC.

DTC is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues and money market instruments (from over 100 countries) that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants," and together with Direct Participants, "Participants"). The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com).

Purchases of the Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Bonds on DTC's records. The ownership interest of each actual purchaser of each Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Bonds, except in the event that use of the book-entry system for the Bonds is discontinued.

To facilitate subsequent transfers, all Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of the Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial



ownership. DTC has no knowledge of the actual Beneficial Owners of the Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to DTC. If less than all of the Bonds within a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity of Bonds to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Issuer as soon as possible after the Record Date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Bonds are credited on the Record Date (identified in a listing attached to the Omnibus Proxy).

Payments of principal, Make-Whole Redemption Price, and interest on the Bonds will be made to Cede & Co. or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the Issuer or the Trustee, on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Underwriters, the Trustee, the Institution or the Issuer, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal, Make-Whole Redemption Price, and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Issuer or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as securities depository with respect to the Bonds at any time by giving reasonable notice to the Issuer or the Trustee. Under such circumstances, in the event that a successor securities depository is not obtained, such Bond certificates are required to be printed and delivered. The Issuer may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, the Bond certificates will be printed and delivered to DTC. See "Certificated Bonds" below.

The information herein concerning DTC and DTC's book-entry system has been obtained from sources that the Issuer, the Institution and the Underwriters believe to be reliable, but the Issuer, the Institution and the Underwriters take no responsibility for the accuracy thereof.

Each person for whom a Participant acquires an interest in the Bonds, as nominee, may desire to make arrangements with such Participant to receive a credit balance in the records of such Participant, and may desire to make arrangements with such Participant to have all notices of redemption or other communications to DTC, which may affect such persons, to be forwarded in writing by such Participant and to have notification made of all interest payments. NONE OF THE ISSUER, THE INSTITUTION,

THE UNDERWRITERS OR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO SUCH PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE BONDS.

So long as Cede & Co. is the registered owner of the Bonds, as nominee for DTC, references herein to Bondowners or registered owners of the Bonds (other than under the heading "TAX EXEMPTION" herein) shall mean Cede & Co., as aforesaid, and shall not mean the Beneficial Owners of the Bonds.

When reference is made to any action which is required or permitted to be taken by the Beneficial Owners, such reference shall only relate to those permitted to act (by statute, regulation or otherwise) on behalf of such Beneficial Owners for such purposes. When notices are given, they shall be sent by the Trustee to DTC only.

For every transfer and exchange of Bonds, the Beneficial Owner may be charged a sum sufficient to cover any tax, fee or other governmental charge that may be imposed in relation thereto.

The Issuer, in its sole discretion and without the consent of any other person, may terminate the services of DTC with respect to the Bonds if the Issuer determines that (i) DTC is unable to discharge its responsibilities with respect to the Bonds, or (ii) a continuation of the requirement that all of the Outstanding Bonds be registered in the registration books kept by the Trustee in the name of Cede & Co., as nominee of DTC, is not in the best interests of the Beneficial Owners. In the event that no substitute securities depository is found by the Issuer or restricted registration is no longer in effect, Bond certificates will be delivered.

NONE OF THE ISSUER, THE INSTITUTION OR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO DIRECT PARTICIPANTS, TO INDIRECT PARTICIPANTS, OR TO ANY BENEFICIAL OWNER WITH RESPECT TO (I) THE ACCURACY OF ANY RECORDS MAINTAINED BY DTC, ANY DIRECT PARTICIPANT, OR ANY INDIRECT PARTICIPANT; (II) ANY NOTICE THAT IS PERMITTED OR REQUIRED TO BE GIVEN TO THE OWNERS OF THE BONDS UNDER THE AGREEMENT; (III) THE SELECTION BY DTC OR ANY DIRECT PARTICIPANT OR INDIRECT PARTICIPANT OF ANY PERSON TO RECEIVE PAYMENT IN THE EVENT OF A PARTIAL REDEMPTION OF THE BONDS; (IV) THE PAYMENT BY DTC OR ANY DIRECT PARTICIPANT OR INDIRECT PARTICIPANT OF ANY AMOUNT WITH RESPECT TO THE PRINCIPAL OR MAKE-WHOLE REDEMPTION PRICE OR INTEREST DUE WITH RESPECT TO THE BONDS; (V) ANY CONSENT GIVEN OR OTHER ACTION TAKEN BY DTC AS THE OWNER OF THE BONDS; OR (VI) ANY OTHER MATTER.

#### Certificated Bonds

DTC may discontinue providing its services as securities depository with respect to the Bonds at any time by giving reasonable notice to the Issuer or the Trustee. In addition, the Issuer may determine that continuation of the system of book-entry transfers through DTC (or a successor securities depository) is not in the best interests of the Beneficial Owners. If for either reason the Book-Entry-Only system is discontinued, Bond certificates will be delivered as described in the Agreement and the Beneficial Owner, upon registration of certificates held in the Beneficial Owner's name, will become the Bondowner. Thereafter, the Bonds may be exchanged for an equal aggregate principal amount of the Bonds in other authorized denominations and of the same maturity, upon surrender thereof at the principal corporate trust office of the Trustee. The transfer of any Bond may be registered on the books maintained by the Trustee for such purpose only upon assignment in form satisfactory to the Trustee. For every exchange or registration of transfer of the Bonds, the Issuer and the Trustee may make a charge sufficient to reimburse

them for any tax or other governmental charge required to be paid with respect to such exchange or registration of transfer, but no other charge may be made to the Bondowner for any exchange or registration of transfer of the Bonds. The Trustee will not be required to register the transfer of or exchange any Bond during the notice period preceding any redemption if such Bond (or any part thereof) is eligible to be selected or has been selected for redemption.

## **PLAN OF FINANCING**

The proceeds of the Bonds will be applied to (1) advance refund all of the Refunded Series 2008B Bonds outstanding in the principal amount of \$208,870,000, (2) advance refund a portion of the Refunded Series 2009A Bonds in the principal amount of \$641,695,000, (3) advance refund a portion of the Refunded Series 2010A Bonds in the principal amount of \$402,840,000, (4) advance refund a portion of the Refunded Series 2010B-1 Bonds in the principal amount of \$277,325,000, (5) advance refund all of the Refunded Series 2010B-2 Bonds outstanding in the principal amount of \$178,195,000 and (6) pay the costs of issuance of the Bonds.

The proceeds of the Series 2016B Bonds, together with other monies of the Institution, will be applied to (1) refund a portion of the Institution's outstanding Taxable Bonds, Series 2008D (the "Refunded Series 2008D Bonds") in the principal amount of \$500,000,000, (2) advance refund a portion of the Refunded Series 2010B-1 Bonds in the principal amount of \$35,295,000, (3) refinance approximately \$449,575,000 of the Institution's outstanding commercial paper and (4) pay the costs of issuance of the Series 2016B Bonds.

The Institution will also issue taxable commercial paper to advance refund a portion of the Refunded Series 2009A Bonds in the principal amount of \$230,370,000.

The portions of the proceeds of the Bonds, the Series 2016B Bonds and the taxable commercial paper to be applied to advance refund the Refunded Series 2008B Bonds, the Refunded Series 2009A Bonds, the Refunded Series 2010A Bonds, the Refunded Series 2010B-1 Bonds and the Refunded Series 2010B-2 Bonds (collectively, the "Defeased Refunded Bonds") will be deposited in one or more refunding trust accounts held by the trustee of the applicable series of Defeased Refunded Bonds. The amounts so deposited will be invested in United States Treasury obligations and other obligations permitted under the applicable Loan and Trust Agreement pursuant to which the applicable series of Defeased Refunded Bonds was issued, the principal of and interest on which will be applied to (1) redeem each series of Defeased Refunded Bonds on the applicable redemption date, at the applicable redemption price and (2) pay interest on each series of Defeased Refunded Bonds to the applicable redemption date. The Refunded Series 2008B Bonds will be redeemed on October 1, 2017, the Refunded Series 2009A Bonds will be redeemed on November 15, 2018, the Refunded Series 2010A Bonds will be redeemed on December 15, 2019, the Refunded Series 2010B-1 Bonds will be redeemed on October 15, 2020 and the Refunded Series 2010B-2 Bonds will be redeemed on February 1, 2021, in each case at a redemption price of par.

The Refunded Series 2008D Bonds will be redeemed on or about October 26, 2016 at the Make-Whole Redemption Price (as such term is defined in the indenture pursuant to which the Refunded Series 2008D Bonds were issued) and will remain outstanding until redeemed. The applicable portion of the proceeds of the Series 2016B Bonds will be held by the trustee for the Refunded Series 2008D Bonds until such redemption date.

The CUSIP numbers and maturities of the bonds that will be advance refunded, refunded, refinanced or defeased, in whole or in part, including the Refunded Series 2008D Bonds, Refunded Series 2010B-1 Bonds, Refunded Series 2008B Bonds, Refunded Series 2009A Bonds, Refunded Series 2010A

Bonds and Refunded Series 2010B-2 Bonds, are set forth in Appendix F – “TABLE OF REFUNDED BONDS.”

### **ESTIMATED SOURCES AND USES OF FUNDS**

The table below sets forth the estimated sources and uses of funds in connection with the issuance of the Bonds.

Sources of Funds:	<u>Total</u>
Principal Amount of Bonds .....	\$1,539,720,000
Net Original Issue Premium .....	390,531,069
Total Sources .....	<u>\$1,930,251,069</u>
Uses of Funds:	
Advance Refunding of Refunded Series 2008B Bonds.....	\$217,581,000
Advance Refunding of Refunded Series 2009A Bonds.....	716,720,350
Advance Refunding of Refunded Series 2010A Bonds.....	459,676,000
Advance Refunding of Refunded Series 2010B-1 Bonds .....	318,142,046
Advance Refunding of Refunded Series 2010B-2 Bonds .....	209,867,542
Costs of Issuance <sup>(1)</sup> .....	8,264,130
Total Uses.....	<u>\$1,930,251,069</u>

<sup>(1)</sup> Includes the Underwriters’ compensation and other costs of issuing the Bonds.

\*\* Numbers may not add due to rounding.

### **RATINGS**

Moody’s has assigned a long-term rating of “Aaa” with a stable outlook to the Bonds. S&P has assigned a long-term rating of “AAA” with a stable outlook to the Bonds. Such ratings reflect only the views of such organizations and any desired explanation of the significance of such ratings should be obtained only from the rating agency furnishing the same. Generally, a rating agency bases its rating on the information and materials furnished to it and investigations, studies and assumptions of its own. There is no assurance that such ratings will continue for any given period of time or that they will not be revised, either downward or upward, or withdrawn entirely by the rating agencies, if in the judgment of such rating agencies, circumstances so warrant. Any such downward revision or withdrawal of such ratings may have an adverse effect on the market price of the Bonds.

### **UNDERWRITING**

The Underwriters, acting through Goldman, Sachs & Co. (collectively, the “Underwriters”), have agreed to purchase the Bonds at an aggregate purchase price of \$1,924,341,421.91 (representing the principal amount of the Bonds, plus an aggregate original issue premium of \$390,531,068.60 and less an underwriting discount of \$5,909,646.69), pursuant to a purchase contract. The Underwriters may offer and sell the Bonds to certain dealers (including dealers depositing Bonds into investment trusts) and others at prices lower than the public offering price stated on the inside cover page hereof. The contract for the purchase of the Bonds by the Underwriters is subject to certain conditions and provides that the Underwriters will purchase all the Bonds if any are purchased and requires the Institution to make certain representations and to indemnify the Underwriters and the Issuer and certain other parties against losses, claims, damages or liabilities arising out of any incorrect statements or information, including any

omission of material facts, contained in certain portions of this Official Statement described in the fifth paragraph under the heading “MISCELLANEOUS”. The public offering prices set forth on the inside cover page hereof may be changed after the initial offering by the Underwriters.

The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, investment management, principal investment, hedging, financing and brokerage activities. Certain of the Underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various investment banking services for the Issuer or the Institution, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the Underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of the Issuer or the Institution.

This paragraph has been supplied by J.P. Morgan Securities LLC: J.P. Morgan Securities LLC (“JPMS”), one of the Underwriters of the Bonds, has entered into negotiated dealer agreements (each, a “Dealer Agreement”) with each of Charles Schwab & Co., Inc. (“CS&Co.”) and LPL Financial LLC (“LPL”) for the retail distribution of certain securities offerings at the original issue prices. Pursuant to each Dealer Agreement, if applicable to this transaction, each of CS&Co. and LPL will purchase Bonds from JPMS at the original issue price less a negotiated portion of the selling concession applicable to any Bonds that such firm sells.

This paragraph has been supplied by Morgan Stanley & Co. LLC: Morgan Stanley, parent company of Morgan Stanley & Co. LLC, an Underwriter of the Bonds, has entered into a retail distribution arrangement with its affiliate Morgan Stanley Smith Barney LLC. As part of this arrangement, Morgan Stanley & Co. LLC may distribute municipal securities to retail investors through the financial advisor network of Morgan Stanley Smith Barney LLC. As part of this arrangement, Morgan Stanley & Co. LLC may compensate Morgan Stanley Smith Barney LLC for its selling efforts with respect to the Bonds.

This paragraph has been supplied by Citigroup Global Markets Inc.: Citigroup Global Markets Inc., an Underwriter of the Bonds, has entered into a retail distribution agreement with each of TMC Bonds L.L.C. (“TMC”) and UBS Financial Services Inc. (“UBSFS”). Under these distribution agreements, Citigroup Global Markets Inc. may distribute municipal securities to retail investors through the financial advisor network of UBSFS and the electronic primary offering platform of TMC. As part of this arrangement, Citigroup Global Markets Inc. may compensate TMC (and TMC may compensate its electronic platform member firms) and UBSFS for their selling efforts with respect to the Bonds.

This paragraph and the following paragraph have been supplied by Wells Fargo Bank, National Association: Wells Fargo Securities is the trade name for certain securities-related capital markets and investment banking services of Wells Fargo & Company and its subsidiaries, including Wells Fargo Bank, National Association, which conducts its municipal securities sales, trading and underwriting operations through the Wells Fargo Bank, NA Municipal Products Group, a separately identifiable department of Wells Fargo Bank, National Association, registered with the Securities and Exchange Commission as a municipal securities dealer pursuant to Section 15B(a) of the Securities Exchange Act of 1934.

Wells Fargo Bank, National Association, acting through its Municipal Products Group (“WFBNA”), one of the Underwriters of the Bonds, has entered into an agreement (the “WFA Distribution Agreement”) with its affiliate Wells Fargo Advisors, LLC (“WFA”), for the distribution of certain municipal securities offerings, including the Bonds. Pursuant to the WFA Distribution Agreement, WFBNA will share a portion of its underwriting or remarketing agent compensation, as applicable, with respect to the Bonds with WFA. WFBNA has also entered into an agreement (the “WFSLLC Distribution Agreement”) with its affiliate Wells Fargo Securities, LLC (“WFSLLC”), for the distribution of municipal securities offerings, including the Bonds. Pursuant to the WFSLLC Distribution Agreement, WFBNA pays a portion of WFSLLC’s expenses based on its municipal securities transactions. WFBNA, WFSLLC and WFA are each wholly-owned subsidiaries of Wells Fargo & Company.

This paragraph has been supplied by TD Securities (USA) LLC: TD Securities (USA) LLC, one of the Underwriters of the Bonds, has entered into a negotiated dealer agreement (the “Dealer Agreement”) with TD Ameritrade for the retail distribution of certain securities offerings, including the Bonds, at the original price. Pursuant to the Dealer Agreement, TD Ameritrade may purchase the Bonds from TD Securities (USA) LLC at the original issue prices less a negotiated portion of the selling concession applicable to any of the Bonds that TD Ameritrade sells.

### **CONTINUING DISCLOSURE**

No financial or operating data concerning the Issuer is material to an evaluation of the offering of the Bonds or to any decision to purchase, hold or sell the Bonds and the Issuer will not provide any such information. The Institution has undertaken all responsibilities for any continuing disclosure to owners of the Bonds as described below, and the Issuer shall have no liability to the owners of the Bonds or any other person with respect to Securities and Exchange Commission Rule 15c2-12.

The Institution has covenanted for the benefit of holders and beneficial owners of the Bonds to provide certain financial information and operating data relating to the Institution (the “Annual Report”) by not later than March 1 of each year and to provide notices of the occurrence of certain enumerated events, if material. The Annual Report and the notices of material events are to be filed by the Institution, or by the Trustee on behalf of the Institution, in electronic form with the Electronic Municipal Market Access system (“EMMA”) maintained by the Municipal Securities Rulemaking Board (the “MSRB”). These covenants have been made in order to assist the Underwriters in complying with Securities and Exchange Commission Rule 15c2-12(b)(5). The Institution filed its annual reports for the fiscal years ended June 30, 2011 through June 30, 2015 on a timely basis under its existing continuing disclosure agreements with respect to all series other than the Issuer’s Revenue Bonds, Harvard University Issue, Series 2010B.

On the date of delivery of the Bonds, the Institution and the Trustee will enter into the Continuing Disclosure Agreement substantially in the form attached hereto as Appendix E – “FORM OF CONTINUING DISCLOSURE AGREEMENT.”

### **TAX EXEMPTION**

In the opinion of Hinckley, Allen & Snyder LLP, Bond Counsel to the Issuer (“Bond Counsel”), based upon an analysis of existing laws, regulations, rulings, and court decisions, and assuming, among other matters, compliance with certain covenants, interest on the Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the “Code”). Bond Counsel is of the further opinion that interest on the Bonds is not a specific preference item for purposes of the federal individual or corporate alternative minimum taxes. However, such interest is included in adjusted current earnings when calculating corporate alternative minimum taxable

income. Bond Counsel expresses no opinion regarding any other federal tax consequences arising with respect to the ownership or disposition of, or the accrual or receipt of interest on, the Bonds.

The Code imposes various requirements relating to the exclusion from gross income for federal income tax purposes of interest on obligations such as the Bonds. Failure to comply with these requirements may result in interest on the Bonds being included in gross income for federal income tax purposes, possibly from the date of original issuance of the Bonds. The Issuer and the Borrower have covenanted to comply with such requirements to ensure that interest on the Bonds will not be included in federal gross income. The opinion of Bond Counsel assumes compliance with these covenants.

Bond Counsel is also of the opinion that, under existing law, interest on the Bonds and any profit on the sale of the Bonds are exempt from Massachusetts personal income taxes and that the Bonds are exempt from Massachusetts personal property taxes. Bond Counsel expresses no opinion regarding any other Massachusetts tax consequences arising with respect to the Bonds. Prospective Bondowners should be aware, however, that the Bonds are included in the measure of Massachusetts estate and inheritance taxes, and the Bonds and the interest thereon are included in the measure of certain Massachusetts corporate excise and franchise taxes. Bond Counsel has not opined as to the taxability of the Bonds or the income therefrom under the laws of any state other than Massachusetts. A complete copy of the proposed form of opinion of Bond Counsel is set forth in Appendix D hereto.

To the extent the issue price of any maturity of the Bonds is less than the amount to be paid at maturity of such Bonds (excluding amounts stated to be interest and payable at least annually over the term of such Bonds), the difference constitutes "original issue discount," the accrual of which, to the extent properly allocable to each owner thereof, is treated as interest on the Bonds which is excluded from gross income for federal income tax purposes and is exempt from Massachusetts personal income taxes. For this purpose, the issue price of a particular maturity of the Bonds is the first price at which a substantial amount of such maturity of the Bonds is sold to the public (excluding bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers). The original issue discount with respect to any maturity of the Bonds accrues daily over the term to maturity of such Bonds on the basis of a constant interest rate compounded semiannually (with straight-line interpolations between compounding dates). The accruing original issue discount is added to the adjusted basis of such Bonds to determine taxable gain or loss upon disposition (including sale, redemption, or payment on maturity) of such Bonds. Bondowners should consult their own tax advisors with respect to the tax consequences of ownership of Bonds with original issue discount, including the treatment of purchasers who do not purchase such Bonds in the original offering to the public at the first price at which a substantial amount of such Bonds is sold to the public.

Bonds purchased, whether at original issuance or otherwise, for an amount greater than the stated principal amount to be paid at maturity of such Bonds, or, in some cases, at the earlier redemption date of such Bonds ("Premium Bonds"), will be treated as having amortizable bond premium for federal income tax purposes and Massachusetts personal income tax purposes. No deduction is allowable for the amortizable bond premium in the case of obligations, such as the Premium Bonds, the interest on which is excluded from gross income for federal income tax purposes. However, a Bondowner's basis in a Premium Bond will be reduced by the amount of amortizable bond premium properly allocable to such Bondowner. Holders of Premium Bonds should consult their own tax advisors with respect to the proper treatment of amortizable bond premium in their particular circumstances.

Prospective Bondowners should be aware that certain requirements and procedures contained or referred to in the Agreement and other relevant documents may be changed and certain actions (including, without limitation, defeasance of the Bonds) may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such documents. Bond Counsel has not undertaken to determine

(or to inform any person) whether any actions taken (or not taken) or events occurring (or not occurring) after the date of issuance of the Bonds may adversely affect the value of, or the tax status of interest on, the Bonds.

Prospective Bondowners should be aware that from time to time legislation is or may be proposed which, if enacted into law, could result in interest on the Bonds being subject directly or indirectly to federal income taxation, or otherwise prevent Bondowners from realizing the full benefit provided under current federal tax law of the exclusion of interest on the Bonds from gross income. To date, no such legislation has been enacted into law. However, it is not possible to predict whether any such legislation will be enacted into law. Further, no assurance can be given that any pending or future legislation, including amendments to the Code, if enacted into law, or any proposed legislation, including amendments to the Code, or any future judicial, regulatory or administrative interpretation or development with respect to existing law, will not adversely affect the market value and marketability of, or the tax status of interest on, the Bonds. Prospective Bondowners are urged to consult their own tax advisors with respect to any such legislation, interpretation or development.

Although Bond Counsel is of the opinion that interest on the Bonds is excluded from gross income for federal income tax purposes and is exempt from Massachusetts personal income taxes, the ownership or disposition of, or the accrual or receipt of interest on, the Bonds may otherwise affect a Bondowner's federal or state tax liability. The nature and extent of these other tax consequences will depend upon the particular tax status of the Bondowner or the Bondowner's other items of income, deduction or exclusion. Bond Counsel expresses no opinion regarding any such other tax consequences, and Bondowners should consult with their own tax advisors with respect to such consequences.

#### **LEGALITY OF BONDS FOR INVESTMENT AND DEPOSIT**

The Act provides that the Bonds are securities in which all public officers and public bodies of the Commonwealth and its political subdivisions, all Massachusetts insurance companies, trust companies, savings banks, co-operative banks, banking associations, investment companies, executors, administrators, trustees and other fiduciaries may properly and legally invest funds, including capital in their control or belonging to them. Under the Act, the Bonds are securities which may properly and legally be deposited with and received by any Commonwealth or municipal officer of any agency or political subdivision of the Commonwealth for any purpose for which the deposit of bonds or obligations of the Commonwealth is now or may hereafter be authorized by law.

#### **COMMONWEALTH OF MASSACHUSETTS NOT LIABLE ON BONDS**

The Bonds are not a general obligation of the Issuer and shall not be deemed to constitute a debt or liability of the Commonwealth or any political subdivision thereof, or a pledge of the faith and credit of the Commonwealth or any such political subdivision, but shall be payable solely from and to the extent of the payments made by the Institution pursuant to the Agreement and any other funds held under the Agreement for such purpose. Neither the faith and credit of the Issuer or the Commonwealth nor the taxing power of the Commonwealth or of any political subdivision thereof is pledged to the payment of the principal of or the interest on the Bonds. The Act does not in any way create a so-called moral obligation of the Commonwealth or of any political subdivision thereof to pay any debt service on the Bonds in the event of default by the Institution. The Issuer has no taxing power under the Act.

#### **LEGAL MATTERS**

All legal matters incidental to the authorization and issuance of the Bonds by the Issuer are subject to the approval of Hinckley, Allen & Snyder LLP, Boston, Massachusetts, Bond Counsel, whose



opinion approving the validity and tax exempt status of the Bonds will be delivered with the Bonds. A copy of the proposed form of such opinion is attached hereto as Appendix D – “PROPOSED FORM OF BOND COUNSEL OPINION.” Certain legal matters will be passed on for the Institution by its counsel, Ropes & Gray LLP, Boston, Massachusetts, and for the Underwriters by their counsel, Orrick, Herrington & Sutcliffe LLP, New York, New York.

There is no litigation pending against the Issuer or, to the knowledge of the officers of the Issuer, threatened against the Issuer seeking to restrain or enjoin the issuance or delivery of the Bonds or in any way contesting the existence or the powers of the Issuer relating to the issuance of the Bonds. There is no litigation pending which in any manner questions the right of the Issuer to make a loan to the Institution in accordance with the provisions of the Act and the Agreement. See Appendix A with respect to the absence of material litigation affecting the Institution.

### **INDEPENDENT ACCOUNTANTS**

The financial statements of the Institution as of and for the fiscal year ended June 30, 2015, included in Appendix B to this Official Statement, have been audited by PricewaterhouseCoopers LLP, independent accountants, as stated in their report appearing in Appendix B hereto.

### **VERIFICATION OF MATHEMATICAL COMPUTATIONS**

Causey Demgen & Moore, P.C. will deliver to the Institution and the Issuer, on or before the settlement date of the Bonds, its verification report indicating that it has verified, in accordance with attestation standards established by the American Institute of Certified Public Accountants, the mathematical accuracy of (a) the mathematical computations of the adequacy of the cash and the maturing principal of and interest on the obligations purchased, to pay, when due, the maturing principal of, interest on and related call premium requirements of the Refunded Series 2008B Bonds, the Refunded Series 2009A Bonds, the Refunded Series 2010A Bonds, the Refunded Series 2010B-1 Bonds and the Refunded Series 2010B-2 Bonds and (b) the mathematical computations of yield used by Bond Counsel to support its opinion that interest on the Bonds will be excluded from gross income for federal income tax purposes.

The verification performed by Causey Demgen & Moore, P.C. will be solely based upon data, information and documents provided to Causey Demgen & Moore, P.C. by the Institution, the Underwriters and their representatives. Causey Demgen & Moore, P.C. has restricted its procedures to recalculating the computations provided by the Institution and its representatives and has not evaluated or examined the assumptions or information used in the computations.

### **MISCELLANEOUS**

The references to the Act and the Agreement are brief summaries of certain provisions thereof. Such summaries do not purport to be complete, and reference is made to the Act and the Agreement for full and complete statements of such provisions. The agreements of the Issuer with the Bondowners are fully set forth in the Agreement, and neither any advertisement of the Bonds nor this Official Statement is to be construed as constituting an agreement with the Bondowners. So far as any statements are made in this Official Statement involving matters of opinion, whether or not expressly so stated, they are intended merely as such and not as representations of fact. Copies of the documents mentioned in this paragraph are on file at the offices of the Issuer and the Trustee.

Appendix A to this Official Statement sets forth certain operating and financial information of the Institution. Appendix B to this Official Statement sets forth the “Harvard University Financial Report Fiscal Year 2015,” which includes the audited financial statements of the Institution for the fiscal year

ended June 30, 2015. While the information contained in such Report is believed to be reliable, neither the Issuer nor the Underwriters make any representations or warranties whatsoever with respect to such information.

Appendix C – “DEFINITIONS OF CERTAIN TERMS AND SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT” and Appendix D – “PROPOSED FORM OF BOND COUNSEL OPINION,” attached hereto, have been prepared by Hinckley, Allen & Snyder LLP, Bond Counsel to the Issuer.

All appendices hereto are incorporated herein as an integral part of this Official Statement.

The Institution has reviewed the portions of this Official Statement describing the Institution, “ESTIMATED SOURCES AND USES OF FUNDS,” “PLAN OF FINANCING” and the second and third paragraphs under the heading “CONTINUING DISCLOSURE,” has furnished Appendix A and Appendix B to this Official Statement, and has approved all such information for use with this Official Statement. At the closing, the Institution will certify that such portions of this Official Statement do not contain an untrue statement of a material fact or omit a statement of material fact necessary to make the statements made therein, in the light of the circumstances under which they are made, not misleading.

The Issuer has consented to the use of this Official Statement. The Issuer is responsible only for the statements contained under the caption “THE ISSUER” and the information pertaining to the Issuer under the caption “LEGAL MATTERS,” and the Issuer makes no representation as to the accuracy, completeness or sufficiency of any other information contained herein. Except as otherwise stated herein, neither the Issuer nor the Underwriter makes any representations or warranties whatsoever with respect to the information contained herein.

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## **APPENDIX A**

### **CERTAIN INFORMATION CONCERNING THE INSTITUTION**

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# HARVARD UNIVERSITY

MASSACHUSETTS HALL  
CAMBRIDGE, MASSACHUSETTS 02138

The following is information with respect to President and Fellows of Harvard College (“Harvard” or the “University”).

## The University

Harvard is one of the nation’s oldest and most prestigious institutions of higher education, dedicated to teaching and research to push the boundaries of human knowledge. Harvard is an educational corporation incorporated in 1650 by act of the Colony of Massachusetts Bay confirmed, as amended, in the Constitution of 1780 of The Commonwealth of Massachusetts. It is exempt from federal income tax pursuant to Section 501(c)(3) of the Internal Revenue Code. Its principal sites are in Cambridge, Massachusetts and the Allston and Longwood areas of Boston, Massachusetts. The University consists of Harvard College, eleven graduate schools and several research institutes and museums.

By charter, Harvard has two governing boards – the President and Fellows (also known as the “Corporation”) and the Board of Overseers (the “Board”). The Corporation consists of the President and Treasurer, along with eleven Fellows. Members of the Corporation (including the President and Treasurer) are elected by the Corporation, subject to the counsel and consent of the Board. The Corporation oversees the management of the financial affairs of the University without need of consent by the Board to specific transactions. The members of the Corporation are:

Name	Title
Drew Gilpin Faust	President and Lincoln Professor of History, Harvard University
Paul J. Finnegan	Treasurer, Harvard University Co-CEO, Madison Dearborn Partners
Lawrence S. Bacow	President Emeritus, Tufts University Leader-in-Residence, Center for Public Leadership, Harvard Kennedy School of Government
James W. Breyer	Founder and CEO, Breyer Capital
Kenneth I. Chenault	Chairman and CEO, American Express Company
Susan L. Graham	Pehong Chen Distinguished Professor Emerita of Electrical Engineering and Computer Science, University of California, Berkeley
Nannerl O. Keohane	President Emerita, Duke University President Emerita, Wellesley College
William F. Lee	Partner, Wilmer Cutler Pickering Hale and Dorr LLP
Jessica Tuchman Mathews	Distinguished Fellow and former President, Carnegie Endowment for International Peace
Karen Gordon Mills	Senior Fellow, Harvard Business School Former Administrator, U.S. Small Business Administration President, MMP Group
Joseph J. O'Donnell	Chairman, Centerplate, Inc.
Shirley M. Tilghman	President Emerita, Princeton University Professor of Molecular Biology and Public Affairs, Princeton University
Theodore V. Wells, Jr.	Partner, Paul, Weiss, Rifkind, Wharton & Garrison LLP

The Board consists of the President and the Treasurer *ex-officiis* and 30 persons elected by the alumni of the University for six-year staggered terms. A member of the Board may serve more than one term. The consent of the Board is required for certain acts of the Corporation, including the election of successors to Fellows, certain academic and administrative appointments (including the President and the Treasurer) and the awarding of degrees. The Board also reviews the academic performance of the University through more than 50 visiting committees composed of both Board members and others.

## **Administration**

The academic affairs of the University are managed by the President, the Provost and the deans of the University's faculties. The non-academic affairs of the University are managed by the President, the Treasurer, the Executive Vice President, the Senior Vice President and nine Vice Presidents. The principal administrative officers of the University are as follows:

<b>Name</b>	<b>Title</b>
Drew Gilpin Faust	President
Alan M. Garber	Provost
Paul J. Finnegan	Treasurer
Katherine N. Lapp	Executive Vice President
Robert W. Iuliano	Senior Vice President and General Counsel, Deputy to the President
Paul Andrew	Vice President for Public Affairs and Communications
Marc Goodheart	Vice President and Secretary of the University
Marilyn Hausamann	Vice President for Human Resources
Thomas J. Hollister	Vice President for Finance and Chief Financial Officer
Anne H. Margulies	Vice President and Chief Information Officer
Tamara Elliott Rogers	Vice President for Alumni Affairs and Development
Leah Rosovsky	Vice President for Strategy and Programs
Sarah E. Thomas	Vice President for the Harvard Library
Meredith Weenick	Vice President for Campus Services

## **Harvard Management Company**

Harvard Management Company, Inc. ("HMC"), a wholly owned subsidiary of Harvard University founded in 1974, has delegated authority to manage the General Investment Account and substantially all of the financial assets of the University pursuant to an Investment Advisory Agreement. Led by interim President and CEO, Robert A. Ettl, HMC's mission is to help ensure that Harvard University has financial resources to maintain and expand its teaching, learning, and research activities.

HMC is governed by a Board of Directors, which includes the President, Treasurer, and Chief Financial Officer of the University, and the President of HMC. Information on other members of HMC's management team, as of the date hereof, is available at: <http://www.hmc.harvard.edu/about-hmc/management-team.html>.

HMC's approach to endowment management employs a mix of internal and external management teams that focus on specific investment areas. This "hybrid model" of investing provides depth and breadth to HMC's market perspectives.

## Allston Development

On October 17, 2013, the Boston Redevelopment Authority unanimously approved Harvard's Institutional Master Plan ("IMP"), a ten-year development plan for the extension of its campus in Allston. The IMP outlines seven new building projects and two major renovations on the Allston campus, which the University anticipates will eventually encompass a total of 1.4 million square-foot new construction and 500,000 square-foot renovation spaces for facilities such as new academic and faculty buildings, an addition/renovation to Harvard Stadium, and a hotel and conference center. The IMP also features a description of the future development of an Enterprise Research Campus on the former CSX rail yards. This 36-acre tract, often referred to as Allston Landing North, is intended to attract private and non-profit entities to interact with faculty and students of the University and other area institutions. Work on each of these projects is progressing.

Outside of the regulatory scope of the IMP, other projects are also in process. Among them is the Science and Engineering Complex, future home of the Harvard John A. Paulson School of Engineering and Applied Sciences. This project was unanimously approved in April 2016 by the Boston Redevelopment Authority, and construction has commenced. The complex is scheduled to open in 2020. The University also engaged a third-party real estate partner, Samuels and Associates, to develop Barry's Corner at the intersection of Western Avenue and North Harvard Street. Work there includes Continuum, a mixed-use residential and retail project that includes 325 rental apartments, shops and street side restaurants. Continuum opened its doors to residents in August 2015.

When the IMP projects are combined with previously permitted projects such as Continuum and the Science and Engineering Complex, the University's plans in Allston over the next decade are expected to include more than 2.5 million square feet of development and renovation. Throughout this time, the University expects to continue to focus on property improvements, property leasing, and community engagement with respect to its Allston development projects.

## Student Applications and Enrollment

The University receives applications substantially in excess of the number of students it can accept into its undergraduate and graduate programs. The following table shows applications received and the number of freshmen admitted to and enrolled in Harvard College for the fall terms of the academic years indicated.

Recent Application Statistics					
Academic Year	Freshman Applications Received	Freshmen Admitted	Freshmen Enrolled	Selectivity (%)	Yield (%)
2011-12	34,950	2,188	1,661	6.3%	75.9%
2012-13	34,303	2,076	1,665	6.1%	80.2%
2013-14	35,023	2,047	1,659	5.8%	81.0%
2014-15	34,295	2,048	1,662	6.0%	81.2%
2015-16	37,307	2,080	1,660	5.6%	79.8%

Source: University Records

The following table shows the total number of full-time equivalent undergraduate students and graduate-degree students enrolled for the fall term of the academic years indicated. (Figures do not include the Harvard Division of Continuing Education.)

Student Enrollment			
Academic Year	Undergraduate	Graduate	Total
2011-12	6,654	12,387	19,041
2012-13	6,654	12,722	19,376
2013-14	6,666	12,595	19,261
2014-15	6,639	12,789	19,428
2015-16	6,634	12,729	19,363

Source: University Records

### Tuition, Fees and Room & Board

The following table shows undergraduate charges for the academic years indicated.

Tuition, Fees and Room & Board			
Academic Year	Tuition and Fees	Average Room and Board	Total
2011-12	\$39,850	\$12,800	\$52,650
2012-13	\$40,866	\$13,630	\$54,496
2013-14	\$42,292	\$14,115	\$56,407
2014-15	\$43,938	\$14,669	\$58,607
2015-16	\$45,278	\$15,381	\$60,659

Source: University Records

### Student Financial Aid

The University's undergraduate admissions policy includes the tenet that admission is need-blind. For the 2015-16 academic year, approximately 70% of undergraduate students received some form of financial aid, with 55% qualifying for need-based scholarship assistance. Typically, undergraduate aid packages consist of grants and employment, with a small percentage of students electing loans, and represents 80% of the total cost of attendance.

Harvard participates in the U.S. Department of Education's William D. Ford Federal Direct Student Loan Program. The net outstanding amount of student loans from University sources as of June 30, 2016 included \$0.4 million of loans issued by Harvard under federally guaranteed programs, \$75.9 million of loans made under federally funded revolving loan programs and \$85.8 million of loans funded through gifts or unrestricted funds of the faculties. The following table shows the net outstanding amount of student loans from all University sources, as of June 30 of each of the years indicated.

Student Loans Outstanding (net of reserves for bad debt)				
<i>(in \$ millions)</i>				
2012	2013	2014	2015	2016
\$159.4	\$160.2	\$162.3	\$162.7	\$162.1

Source: University Records



## **Faculty and Staff**

Harvard employs approximately 3,300 faculty. Faculty tenure decisions are subject to the approval of the President, while certain other appointments (such as the Provost, faculty deans, vice presidents, University Professors, and selected others) are subject to the approval of the governing boards' Joint Committee on Appointments. The University had approximately 18,700 employees as of June 30, 2016 (not including research fellows and similar positions and temporary or less than half-time workers). Each school at the University has significant autonomy in establishing its own staffing policies, which include hiring and wage and salary administration.

## **Labor Relations**

The University considers its relations with its employees to be good. Approximately 6,200 of its employees are covered under seven collective bargaining agreements, represented by ten labor unions. Bargaining units consist of clerical and technical workers; dining service workers; custodians; arborists and gardeners; maintenance tradespersons; police officers; and museum, parking and security guards. The collective bargaining agreements covering these employees have varying expiration dates from calendar years 2016 through 2020.

## **Litigation**

The University is subject to various suits, audits, investigations and other legal proceedings in the course of its operations. While the University's ultimate liability, if any, is not determinable at present, no such proceedings are pending or threatened that, in management's opinion, would be likely to have a material adverse effect on the University's ability to meet its commitments related to the Bonds (as defined in the Official Statement to this transaction).

## **Additional Information**

For the fiscal year ended June 30, 2016, management estimates that the return on the Harvard endowment was a negative 2.0%. The value of the endowment on June 30, 2016 is estimated to be \$35.7 billion. The estimate is unaudited and is determined in accordance with Harvard Management Company's internal valuation conventions, which rely in part on periodic valuations provided by outside fund sponsors for investments in certain illiquid asset classes.

This letter and the information herein are submitted to the Massachusetts Development Finance Agency (the "Issuer") for inclusion in its Official Statement relating to the sale of the Issuer's Revenue Bonds, Harvard University Issue, Series 2016A, as authorized by the Corporation.

PRESIDENT AND FELLOWS  
OF HARVARD COLLEGE

By: 

Name: Thomas J. Hollister

Title: Vice President for Finance  
and Chief Financial Officer

**HARVARD UNIVERSITY FINANCIAL REPORT FISCAL YEAR 2015**

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# FINANCIAL REPORT

FISCAL YEAR 2015



**HARVARD**  
UNIVERSITY

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# Message from the President

I write to report on Harvard University's financial results for fiscal 2015.

The past year provides many reasons for optimism about Harvard's future. Despite continued pressure on sources of revenue, including further declines in federally sponsored research dollars and volatility in the financial markets, we once again achieved a balanced budget. We also maintained, as we did during and after the global financial crisis, our commitment to affordability, awarding \$520 million in financial aid to students across the University.

While Harvard and all of higher education will continue to confront financial challenges for the foreseeable future, prudent stewardship is enabling us to advance our academic aspirations, many of which will be funded through The Harvard Campaign. Launched publicly only two years ago, the campaign already has made significant progress toward its ambitious goals.

Every gift is important, and I regret that I cannot appropriately recognize here all the extraordinary support we have received from members of the Harvard community around the globe. But a small number of examples may help to illustrate the breadth and depth of the Campaign's impact—and the potential of philanthropy to catalyze progress, today and for generations to come. From engineering to arts, from public health to public service, The Harvard Campaign is making a difference.

The Morningside Foundation's donation of \$350 million in memory of T.H. Chan to name the School of Public Health will support faculty and student efforts to develop substantive solutions to health challenges from genes to the globe. These new funds will enable students and faculty to address the increasingly interconnected health issues facing populations worldwide.

The unprecedented gift of \$400 million by John A. Paulson to name the School of Engineering and Applied Sciences has—combined with the generous contributions of Steve Ballmer and others—transformed previously unfunded aspirations into unparalleled opportunity. Since the School was established in 2007, researchers and students have achieved critical breakthroughs in areas ranging from climate change science to delivery devices for cancer-fighting drugs and robotics technology that may one day help people with motor impairments. This type of deeply meaningful research will benefit the world in innumerable ways. The Harvard Paulson School's potential for leadership in research and teaching is boundless.

Maryellie Kulukundis Johnson and Rupert H. Johnson Jr. provided a wonderful gift of \$12.5 million to bolster the future of the arts at Harvard by creating more chances for students and faculty to explore their creative interests and by funding the transformation of the Radcliffe Institute's gallery in Byerly Hall into an arts laboratory. With this support, and that of so many of our alumni and friends, the arts will continue to increase in vitality and to become more central to what it means to be part of the Harvard community.

Since its founding, Harvard has existed to serve society. A \$15 million gift from Eric and Stacey Mindich will fuel that mission by enabling more undergraduates—up to 75 each year—to explore public service opportunities. It will also further infuse public service into the curriculum by supporting the creation of 14 courses that include a public service component, building on those that already exist throughout the College.

These gifts represent only a small percentage of the many that are helping to generate learning, discovery, and transformation. Overall, the Harvard Campaign is enabling the University to attract and support the most talented faculty and students, as well as the most innovative research and teaching. For instance, thanks to alumni and friends who recognize the importance of our mission, the Campaign has raised \$686 million for financial aid across all the Schools, while garnering funding to support 75 faculty chairs.

Although we focus intently during a capital campaign on endowment gifts, current-use gifts are also vital to our mission. Last year, we received a total of \$436 million in current-use gifts to support priorities including financial aid, faculty support, and capital planning. Gifts of \$10,000 and below totaled nearly \$50 million, roughly the equivalent of the distribution of a \$1 billion endowment fund. While current-use giving helps us to meet our immediate needs, the thousands of individual gifts that make up the endowment will support Harvard in perpetuity.

In 1638, John Harvard gifted to a small college in Cambridge his library of 400 books and half his estate. As it has been carefully stewarded and added to by successive generations, John Harvard's legacy has improved the world in countless ways. We have a responsibility to both the past and future to guarantee that it continues to grow, not only to maintain its real value over time, but to match our ever expanding ambitions as a community of scholars.

As we have for nearly four centuries, we will achieve this through astute and prudent financial management, using the proceeds of our investments to support our faculty and students while reinvesting in the endowment to ensure that it is there forever to underpin Harvard's pedagogical and research priorities.

It is with thanks to our community of alumni donors, our faculty and students, and the administrators who support their efforts, that I present the financial report for fiscal year 2015.

Sincerely,



Drew Gilpin Faust  
PRESIDENT

October 29, 2015

# Financial Overview

From the Vice President for Finance and the Treasurer

We write to report on the University's financial position and results for the fiscal year ended June 30, 2015. The University's operating surplus of \$62 million is slightly more than 1% of University revenue, compared to last year's \$22 million, and again an approximate break even result. The University's net assets increased by \$1.4 billion, reflecting the strength of the University's ongoing capital Campaign and net growth in the market value of the endowment. Taken together, the results of this past fiscal year follow a recent trend of modest, but continued improvement in the University's overall financial health.

The progress we have achieved to date provides a strong foundation for the University to pursue its aspirations for the future. Harvard is committed to making critical investments in its academic program – expanded faculty; funding to support vital research; and new and modernized spaces that support research, teaching, and learning – that will help ensure the University's unparalleled excellence over the course of the next generation. Our donor community's contributions remain at the core of what enables us to drive our mission, and for that we are extremely grateful.

While the University is well positioned to invest in the future, it is with an acknowledgement of ongoing financial pressures, both in the world of higher education and at Harvard. Federal research funding has flattened, tuition growth is constrained by structural affordability issues, and capital market returns are uncertain and volatile. At the same time, a cost structure that is largely fixed makes quick changes difficult to effect. The University's commitment to financial aid, which is invaluable in making a Harvard education accessible at all income levels, and its deep commitment to research, with world-altering successes, also puts significant and continuing pressure on annual budgets. In recent years, Harvard has taken important steps to manage these pressures, by enhancing financial and capital planning, exploring alternative revenue sources, and establishing new financial practices and policies.

This kind of prudent financial management has enabled the University to begin investing now in several strategic priorities that will pay dividends in the future:

## CAMPUS EXPANSION AND RENEWAL

After years of academic and logistical planning, Harvard's future in Allston has come into sharper focus in 2015. Over the course of the year, faculty have deeply engaged in the academic planning process with the aim of producing a prudently designed yet incomparably impactful and exciting new Science and Engineering Complex.

In Cambridge, the Faculty of Arts and Sciences is undertaking a multiyear effort to renew the undergraduate residential campus to meet the needs of the 21st-century student. Following completion of work to Stone Hall in 2013 and McKinlock Hall last year, Dunster House officially welcomed students back this fall, and pre-construction work began on Winthrop House. These famous buildings are now a magnificent mixture of old and new and designed to invigorate student life as well as student achievement.

## NONTRADITIONAL SOURCES OF EDUCATION

Harvard is committed to an evolving learning strategy – including collaborations such as edX, University-wide efforts such as HarvardX and school-based activities like HBX, executive education programs, and the Division of Continuing Education. Novel pedagogical formats are attracting new types of students, such as pre-college students seeking a leg up; international and lifelong learners attracted by low or no residency requirements; and professionals and alumni looking to build career skills, expertise, or find an intellectual community. Moreover, our faculty have been eager to innovate and meet the changing interests of our residential students, through active and adaptive learning techniques and the introduction of new digital tools. Nurturing and furthering the University's longstanding tradition as a pioneer in



## HIGHER EDUCATION REVENUE PRESSURES

In the wake of the global financial crisis and its aftermath, higher education in America has entered a new era in which primary and traditional sources of operating revenue are expected to grow modestly at best each year. Harvard is no exception. While the University is generating modest surpluses, we recognize and understand that pressure on traditional revenue streams are a new normal that we must account for as we plan our operations and financial management moving forward.

- Federal sponsored dollars remain under intense scrutiny, and with the expiration of the American Recovery and Reinvestment Act (ARRA), which offered short-term relief from spending cuts affecting government-funded research, federal spending, along with the overhead it helps support, has decreased in recent years. On aggregate, our revenue from federal and non-federal sponsored sources increased by 1%, but federal funding – which accounted for

approximately 72% of the total sponsored revenue – actually declined by 2%.

- The financial markets that drive the growth of our endowment continue to be volatile. While the University's endowment payout approach ensures that the impact of the investment results are smoothed into the operating budget over time, we continue to be mindful of the impact of building additional structural costs onto a volatile revenue source.
- Given our commitment to providing access to affordable higher education for all qualified candidates, the rate of revenue growth we previously derived from tuition has largely plateaued. In the midst of a growing debate about the levels of student loan debt, and as other colleges curtailed spending after 2008, Harvard has maintained its industry leading commitment to student support (\$520 million in fiscal year 2015).

pedagogy requires significant investment, and will be fundamental to our continuing success as a leader in higher education in the coming decades.

## ENERGY AND ENVIRONMENT RESEARCH AND PRACTICE

The University's Climate Change Solutions Fund supports research initiatives intended to hasten the transition from carbon-based energy systems to those that rely on renewable energy sources, and to propel innovations needed to accelerate progress toward cleaner energy and a greener world. Broad efforts to raise funds for energy and environment research across the campus have already generated nearly \$120 million in committed support through the Harvard Campaign.

A key priority of Harvard's University-wide sustainability plan is an aggressive short-term, science-based goal to reduce greenhouse gas emissions 30% by fiscal year 2016, including growth. Harvard has upgraded the efficiency of its central utilities, including expanding combined heat and power

systems, and implemented campus-wide energy audits and conservation measures. As a result, absolute emissions have been reduced by 21% and energy by 2% from fiscal 2006 to fiscal 2014, even after accounting for an 11% increase in growth (excluding growth, greenhouse gas emissions were reduced 32% and energy was reduced 17%).



While new and innovative investments chart Harvard's future, the University remains steadfastly committed to the key elements supporting our teaching and research – our faculty and students. Attracting and supporting the most talented students and faculty, while providing them with the resources to do their best work, is a key priority of the ongoing Campaign. Increased faculty support, both through the establishment of new endowed professorships and funds supporting teaching and research, allows the University to retain and attract teachers and researchers at the tops of their fields. Similarly, the

## THE HARVARD CAMPAIGN

In the second year since its formal launch in 2013, the Harvard Campaign continues to attract historic levels of support from our alumni community. Their generosity is evident in \$1 billion in current use, construction, and endowment gift receipts reported in fiscal year 2015.

The two largest endowment gifts in Harvard's history, both pledged in fiscal year 2015, will have significant future influence both on Harvard and the world.

- A \$350 million pledge from the Morningside Foundation, in the memory of the late T.H. Chan, will enable the Harvard T.H. Chan School of Public Health to support research on four global health threats: pandemics old and new, such as malaria, Ebola, cancer, and obesity; harmful physical and social environments such as those resulting from tobacco use, gun violence, and pollution; poverty and humanitarian crises such as those stemming from war and natural disasters; and failing health care systems around the world.

- John A. Paulson's pledge of \$400 million to the Harvard John A. Paulson School of Engineering and Applied Sciences will put the School on a firm financial footing, ensuring that Harvard faculty and students in these fields have the promise and the opportunity to tackle some of the most difficult problems facing humanity, from helping cure cancer to developing substantive solutions to climate change.

In the coming decades and centuries, funds from these two gifts will be invested alongside the approximately 13,000 other individual funds that make up the University endowment. We expect the returns from these investments along with those from our other generous donors to provide critical revenues for the University's faculty, students, and staff, so that they can achieve their academic goals and aspirations.

University's leading edge financial aid program, particularly at Harvard College, demonstrates a commitment to making a Harvard education accessible at all levels of income. In fiscal year 2015, in addition to maintaining total undergraduate aid at the record high mark of \$170 million, the Faculty of Arts and Sciences (FAS) introduced several investments in resources and programs developed in collaboration with current students, as well as new efforts to attract economically diverse students. These included: providing Spring Break meals on campus, programming for First Generation college students, and unveiling "The Harvard College Connection," which involves current College students in recruiting prospective students.

With a combination of constrained resources and high aspirations, new and ongoing University investments will require trade-offs and judicious cost management. To that end, we will continue to explore opportunities to both enhance University revenue streams and manage expenses. We will continue to plan carefully for today and tomorrow, prioritize, make choices, and steward our financial resources with great care so that

we can build on our historic and continuing excellence in research, teaching, and learning. We are confident in the future health and vigor of the University, and grateful for the support of our community.

We hope this introduction provides you with a helpful context for evaluating the University's financial report.



Thomas J. Hollister  
VICE PRESIDENT FOR FINANCE



Paul J. Finnegan  
TREASURER

October 29, 2015

## FINANCIAL OVERVIEW

The University ended fiscal 2015 with an operating surplus of \$62 million, compared to \$22 million in fiscal 2014. The University's net assets increased by \$1.4 billion to \$44.6 billion at June 30, 2015, mainly due to an increase in giving and positive investment returns on the endowment.

## OPERATING REVENUE

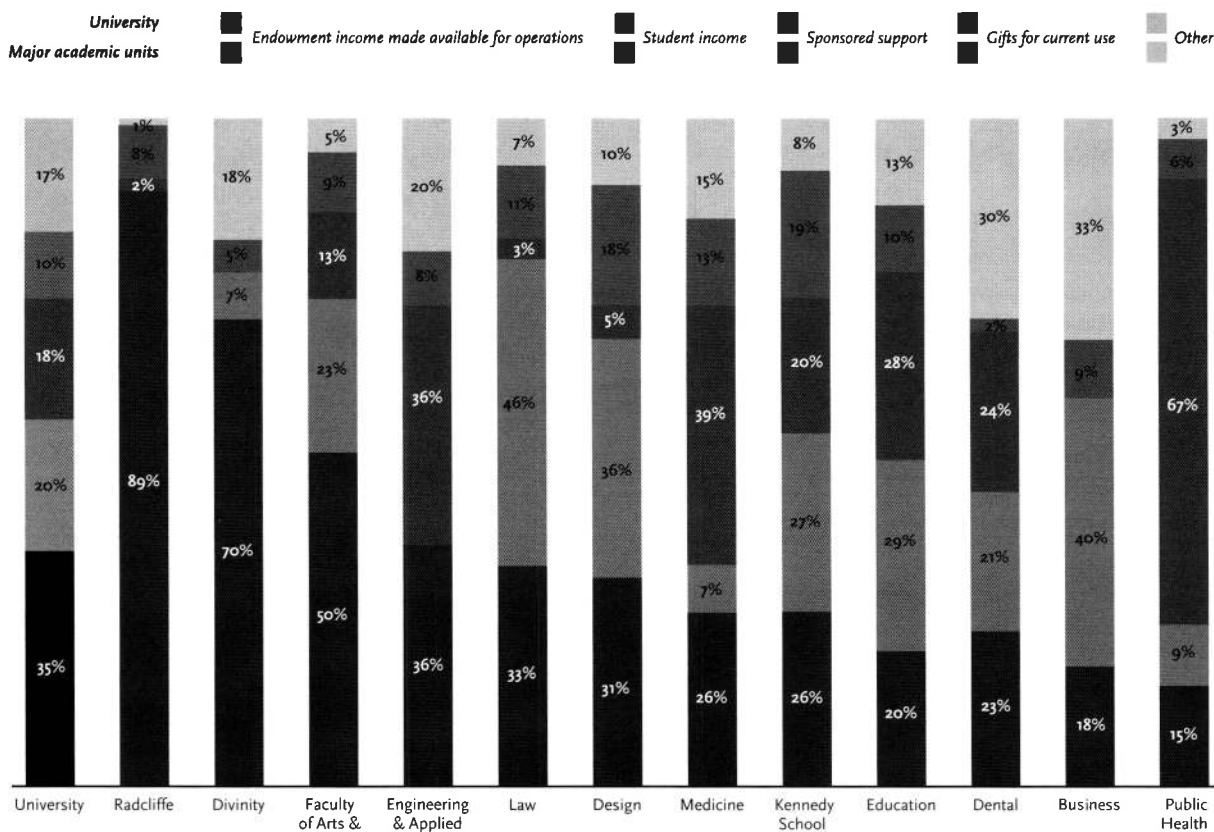
Total operating revenue increased 3% to \$4.5 billion. The largest drivers were the annual endowment distribution as well as increased revenue from continuing and executive education programs, the result of a continued focus on revenue diversification and online learning initiatives.

In fiscal 2015, the endowment distribution increased 4% to \$1.6 billion. Growth in the endowment distribution was a result of the annual Corporation-approved increase, as well as the impact of new gifts.

In the aggregate, Harvard's endowment payout rate (i.e., the dollars withdrawn annually for operations and for one-time or time-limited strategic purposes, as a percentage of the endowment's prior year-end market value) was 5.1% compared to the University's targeted payout rate range of 5.0-5.5% and the 5.6% payout rate in fiscal 2014.

The ongoing success of The Harvard Campaign continues to positively impact the University's contribution revenue, and we are extremely grateful for the generosity of our donor community. Total cash receipts from giving, including gifts designated as endowment, were \$1.0 billion, with current use gifts increasing by 4% to \$436 million in fiscal 2015 (see Note 16 of the audited financial statements). In addition, pledge receivables increased \$654 million resulting from The Harvard Campaign.

## FISCAL 2015 SOURCES OF OPERATING REVENUE



Revenue from federal and non-federal sponsored sources, in aggregate, increased by 1% to \$806 million in fiscal 2015. Federal funding, which accounted for approximately 72% of the total sponsored revenue in fiscal 2015, declined 2% to \$578 million while non-federal funding increased 10% to \$228 million. Declines in federal sponsored revenue were due to lower National Institutes of Health (NIH) funding and the anticipated decline in revenue from the American Recovery and Reinvestment Act. The 10% increase in revenue from non-federal funding sources offset the decline, and was attributable most notably to foundation and foreign sponsors.

Net student revenue increased approximately 6% to \$930 million in fiscal 2015, driven principally by 7% growth in net revenue from continuing and executive education programs. Increased capacity at the Harvard Business School, the expansion of programs at the Division of Continuing Education and the diverse collection of online course offerings across the University continue to positively impact student revenue. Net revenue from undergraduate and graduate students grew 5% due to modest tuition increases partly offset by a continued commitment to financial aid.

## OPERATING EXPENSES

Total operating expenses increased by 4% to \$4.5 billion, after removing the impact of one-time asset write offs and benefits charges. Compensation expense (i.e. salaries, wages and benefits), which represents approximately half of the University's total operating expense, increased 5% to \$2.2 billion, after removing the impact of a fiscal year 2014 one-time benefits-related charge.

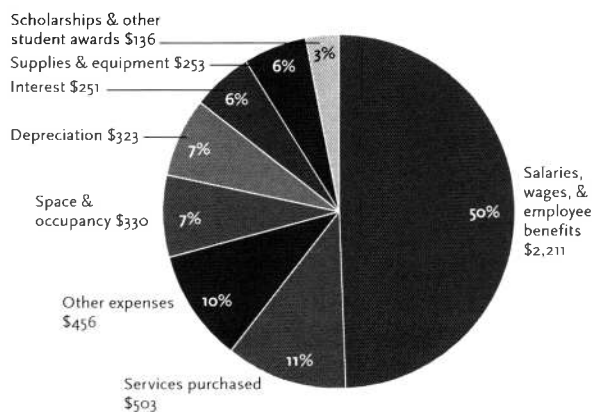
Salaries and wages increased by 5%, or \$85 million, to \$1.7 billion in fiscal 2015 due to increases in strategic areas of focus such as online learning, technology investments, and continuing and executive education programs, as well as the University's merit increase programs.

Employee benefits expense of \$500 million increased 4% after removing the impact of the fiscal year 2014 one-time benefits-related charge. The increase was predominantly driven by growth in active employee

health plan expense of 6%, resulting from increased total enrollment, general health care inflation, and an overall increase in cost of claims. In order to moderate health cost increases, the University made changes to its active, non-union employee health benefits offering, which were effective January 1, 2015.

## FISCAL 2015 OPERATING EXPENSES

*In millions of dollars*



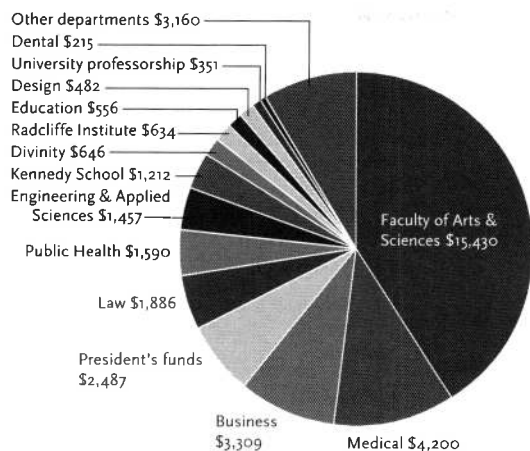
**TOTAL OPERATING EXPENSES \$4,463**

## BALANCE SHEET

### Investments

In fiscal 2015, the endowment earned an investment return of 5.8% and its value (after the net impact of distributions from the endowment for operations and the addition of new gifts to the endowment during the year) increased from \$36.4 billion at the end of fiscal 2014 to \$37.6 billion at the end of fiscal 2015. More information can be found in the Message from the CEO of Harvard Management Company (HMC), found on page 9 of this report.

The University's holdings of liquid investments (e.g., cash and treasuries) outside of the General Investment Account (GIA) decreased from \$2.1 billion at June 30, 2014 to \$1.6 billion at June 30, 2015. The University has a policy of maintaining a cash reserve floor of \$1.2 billion outside the GIA.

**MARKET VALUE OF THE ENDOWMENT AS OF JUNE 30, 2015***In millions of dollars***TOTAL MARKET VALUE \$37,615****Debt**

Outstanding debt remained flat at \$5.6 billion at June 30, 2015, as compared to June 30, 2014. The University issued no new debt issuance over the past fiscal year, and is currently limiting the use of new debt in order to allow for future flexibility in the financing of major initiatives. In July 2015, the University paid down \$316 million of callable debt (bond series 2005A, B and C), reducing outstanding debt to \$5.3 billion, down from a high of \$6.3 billion in 2011.

The University is rated AAA by Standard & Poor's Ratings Services and Aaa by Moody's Investors Service (both re-affirmed in fiscal 2015). Additional detail regarding the University's debt portfolio can be found in *Note 12* of the audited financial statements.

**Accrued Retirement Obligations**

The University's accrued retirement obligations increased by \$120 million or 14% to \$957 million at June 30, 2015. The drivers of the increase were expected overall growth in plan costs and the adoption of a modified mortality table recently issued by the Society of Actuaries, slightly offset by a reduction in interest rates in both obligations.

**Capital Expenditures**

The University invested \$467 million in capital projects and acquisitions during fiscal 2015, which is consistent with fiscal 2014. This enabled progress on several significant projects including:

- The undergraduate long-term house renewal initiative with the substantial completion of the Dunster House project, the onset of the renovation to Winthrop House, and completion of the Inn at Harvard, which will be used as swing space;
- The completion of Esteves Hall and ongoing construction of the Ruth Mulan Chu Chao Center to support the Business School's portfolio of executive education programs;
- Progress on the installation of a combined heat and power plant which will reduce the University's greenhouse gas footprint and increase capacity to generate electric power;
- Enabling and planning for the new science complex in Allston; and
- Planning for the Smith Campus Center to support the University's goal of creating new and programmable common space for the entire community.

This concludes the summary of the key financial highlights for fiscal 2015. We encourage you to read the audited financial statements and related notes for more information regarding the financial position and results of the University.



HARVARD  
MANAGEMENT  
COMPANY, INC.

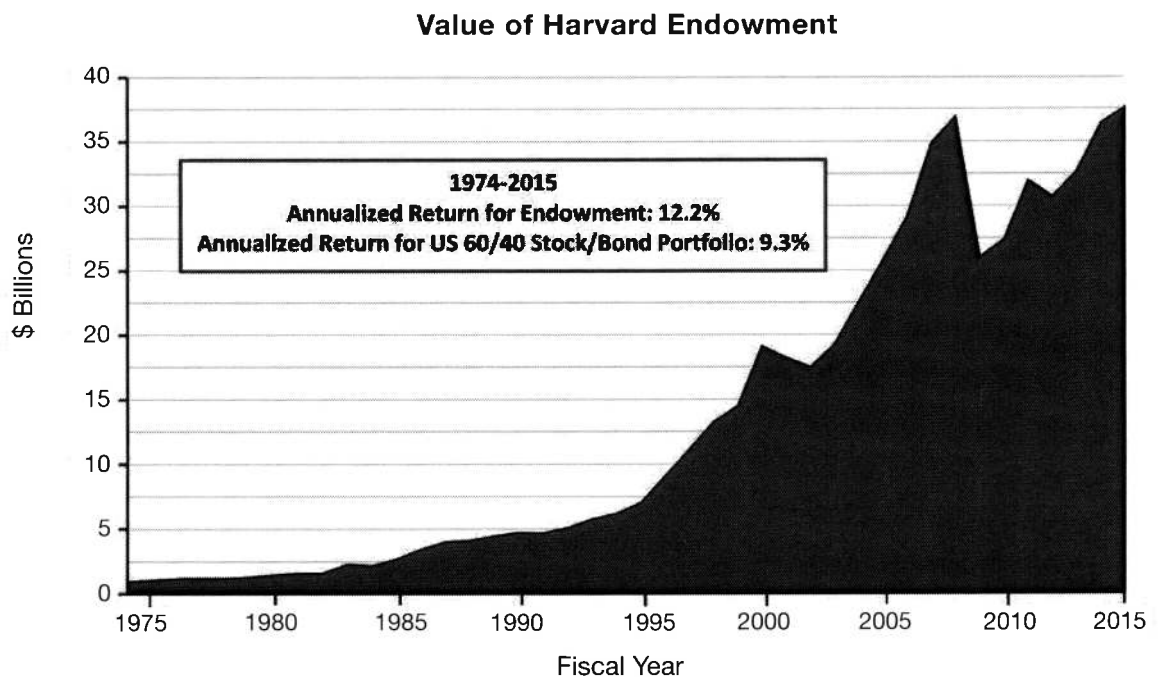
## A Letter from Stephen Blyth PhD '92 President and CEO of Harvard Management Company

Dear Alumni and Friends,

I write to share with you the performance of the Harvard endowment during the 2015 fiscal year, and to update you on work undertaken at the Harvard Management Company (HMC) since I took over as CEO designed to ensure we deliver improved investment performance for Harvard University in the future.

The endowment returned 5.8% from 1 July 2014 to 30 June 2015. The value of the endowment on 30 June 2015 was \$37.6 billion, an all-time high. However, the real (inflation-adjusted) value of the endowment remains below its peak level in 2008. The market value of the Harvard endowment since the formation of HMC in 1974 is shown in Figure 1, and the time series of the endowment's annual returns is shown in Figure 2. The performance of the endowment over one-year, five-year, ten-year and twenty-year periods is shown in Figure 3.

Figure 1



In the first part of this letter, I describe the performance for fiscal year 2015, attributing drivers of our return, highlighting areas of strength and noting sectors of disappointment. Secondly, I detail work that we have undertaken at HMC in the past nine months in order to set a course for the future, including: setting clear investment objectives; overhauling our asset allocation framework; reinvigorating our investment decision-making process; and reviewing our compensation plan. Thirdly, I provide an outlook on the investment landscape. I conclude with some reflections on my experiences of being CEO.

Figure 2

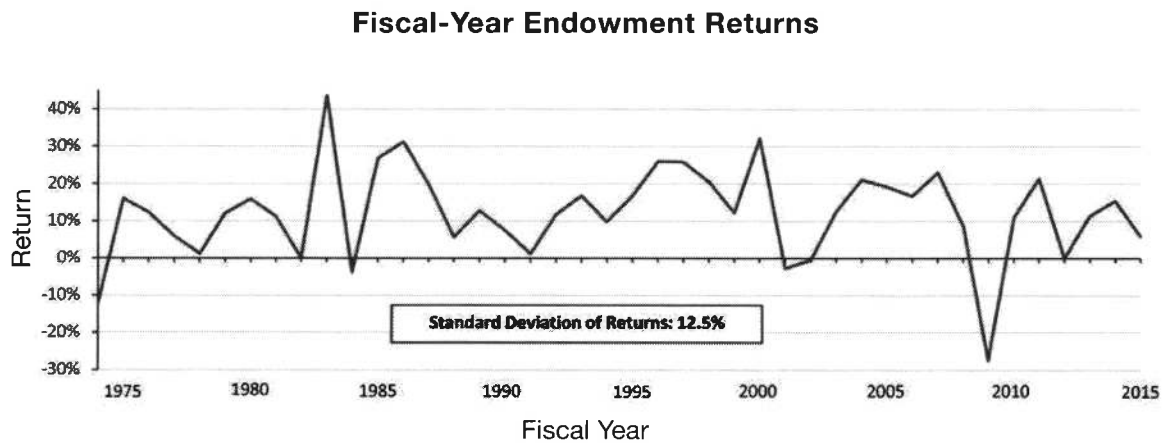
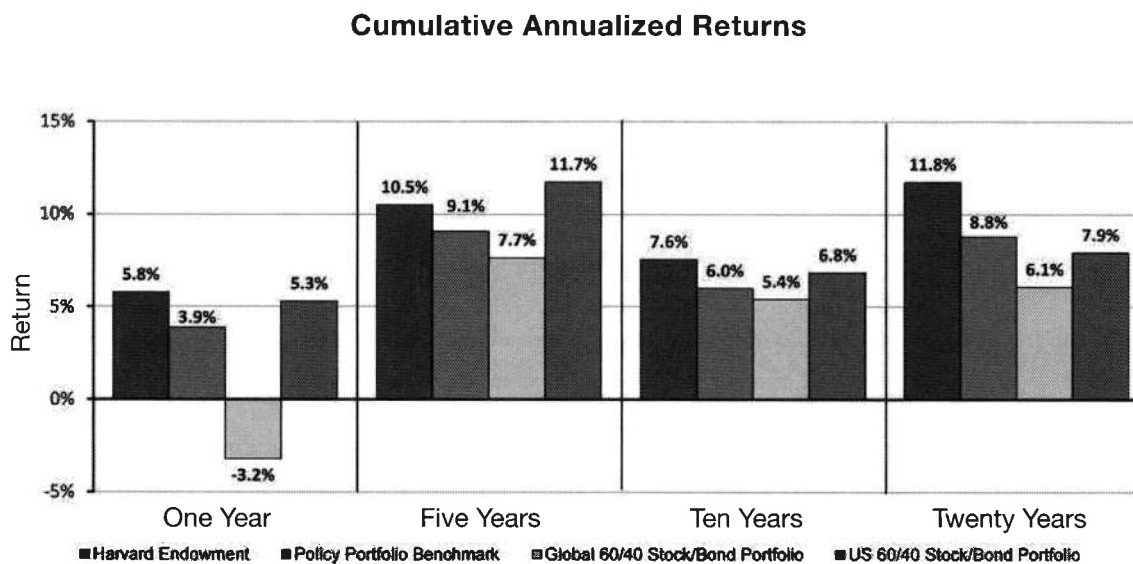


Figure 3



## 1. Fiscal Year 2015 Performance

The endowment's return of 5.8% was comprised of the following individual asset class returns: public equities 2.9%; private equity 11.8%; public bonds 2.1%; absolute return 0.1%; natural resources and commodities 3.5%; and real estate 19.4%. These returns, along with accompanying asset class market indices or industry benchmarks, are displayed in Figure 4.

Figure 4

## Fiscal Year 2015 Performance

Asset Class	HMC Return	Benchmark	Relative
US Equity	12.4%	7.2%	5.2%
Foreign Equity	(1.8)%	(3.8)%	2.0%
Emerging Market Equity	(2.2)%	(5.1)%	2.9%
Total Public Equity	2.9%	(0.5)%	3.4%
Private Equity	11.8%	10.8%	1.1%
Public Bonds	2.1%	(2.5)%	4.7%
Absolute Return	0.1%	3.5%	(3.3)%
Natural Resources and Commodities	3.5%	3.1%	0.4%
Real Estate	19.4%	11.5%	7.9%
<b>Endowment</b>	<b>5.8%</b>	<b>3.9%</b>	<b>1.9%</b>

Note: benchmark and relative returns may not sum to HMC return, due to rounding.

The public markets platform, made up of internal portfolio management teams in fixed income, credit and commodities and a blend of internal and external portfolio managers in public equities, had a strong year. The fixed income teams at HMC continued their long-term, consistent run of outperformance. In particular, the international fixed income team, spearheaded by portfolio managers Graig Fantuzzi and Michele Toscani, generated over 12% of performance in excess of global bond indices, driven primarily by the identification of dislocations in bond and swap markets around the world. In addition, I am pleased with the performance of our overall public equity team, managed by our head of public equity, Michael Ryan. Whilst the strength of the US dollar versus other currencies led to lower nominal returns in developed and emerging markets, our hybrid portfolio outperformed all three markets by meaningful amounts. In particular, HMC's return in US equities exceeded the US stock market return by over 5%.

Our private equity portfolio led by Rich Hall '90 returned 11.8%. A key driver within the portfolio was the strong performance of 29.6% produced by our venture capital investments. Several of our venture capital partners delivered outsized returns, in particular in the technology and biotech sectors.

Our absolute return portfolio had a tough year, delivering only 10 basis points of return, compared to a hedge fund industry benchmark of 3.5%. Whilst there were both positive and negative performers within absolute return, the latter clearly dominated. A major theme was the poor performance of deep-value managers during the liquidity-supported conditions of fiscal year 2015. In addition, we experienced losses in our shipping investments, as a result of extreme distress in the dry bulk shipping industry.

The return of 3.5% from our natural resources portfolio and commodities team can be viewed from two perspectives. On the one hand, our decision in June 2014 to eliminate completely our exposure to commodity indices was a wise one. The GSCI and Dow Jones commodity indices were down 37% and 24% respectively during the fiscal year. Therefore, the positive return from our commodity relative-value team led by Satu Parikh was impressive, and indicative of our ability to extract value from volatile and distressed markets, agnostic of market direction. On the other hand, our natural resources portfolio had generally subdued returns. High performance from certain agriculture and timber assets was largely offset by lower soft commodity prices and weakness in land prices in areas of Latin America.

The real estate portfolio was our highest returning asset class. The return of 19.4% was driven primarily by the exceptional, continued success of our direct investment strategy, started in 2010 and led by Dan Cummings. In fiscal year 2015, the Harvard direct real estate program returned 35.5%, as our internal real estate team and their joint venture partners continued to create outstanding value throughout their portfolio.



## 2. Setting a Course for the Future

Since becoming CEO on 1 January 2015, my management team and I have identified and implemented several changes designed to improve HMC's long-term investment performance.

### (a) Goals and Objectives

HMC has had a long-stated goal of delivering superior risk-adjusted returns to support the activities of the University. However, we believe that explicit investment objectives, motivated by a clear statement of mission which captures the role HMC plays for the University, are essential in order to set investment strategy. In addition, any organization needs clear metrics of success. We have therefore established the following mission and investment objectives for HMC, which have been approved by the President and Fellows of Harvard College.

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**HMC Mission:** To help ensure that Harvard University has the financial resources to confidently maintain and expand its preeminence in teaching, learning and research for future generations.

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Note that our mission reflects two important notions. First, the endowment currently provides 35% of the operating budget of the University, thus we can only help ensure, rather than guarantee, that the University has sufficient financial resources. Secondly, we aim to help the University maintain and expand its preeminence. This naturally implies a notion of comparison with the financial performance of the endowments of peer institutions, which we explore further in our objectives below.

Based on this mission, we have established the following three investment objectives by which HMC should be judged in the years to come.

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**Objective 1:** HMC will aim to achieve a real return of 5% or more, with inflation measured by the Higher Education Price Index (HEPI)<sup>1</sup>, on a rolling ten-year annualized basis.

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The distribution rate from the endowment to the University has averaged 4.4% over the past twenty years, and 5% over the past five years. Given the continued heavy reliance on endowment distribution, and pressure on other funding sources, it is likely that a real return of 5% will be necessary to maintain the real value of the endowment for future generations. We measure this objective over ten years, as any real (or indeed nominal) investment return objective is only viable through a full market cycle. In order for Harvard to expand and not just maintain its preeminence, a real return in excess of the distribution rate will be required, and thus our goal is a minimum real return of 5%.

Figure 5 shows how HMC has performed versus this objective from fiscal year 2000 through fiscal year 2015. One can see how real returns have declined steadily over time. This can be attributed to a number of factors: (i) a steady and substantial decline in the risk-free real interest rate—for instance, the real yield of the ten-year TIPS (Treasury Inflation Protected Security) has declined from 4.3% in 2000 to 0.6% today; (ii) a reduction in risk premia across asset classes due to significant liquidity injections; and (iii) fewer opportunities for outperformance (or “alpha generation”) across markets. Delivering a real return of 5% will be more challenging in the current environment than in the past.

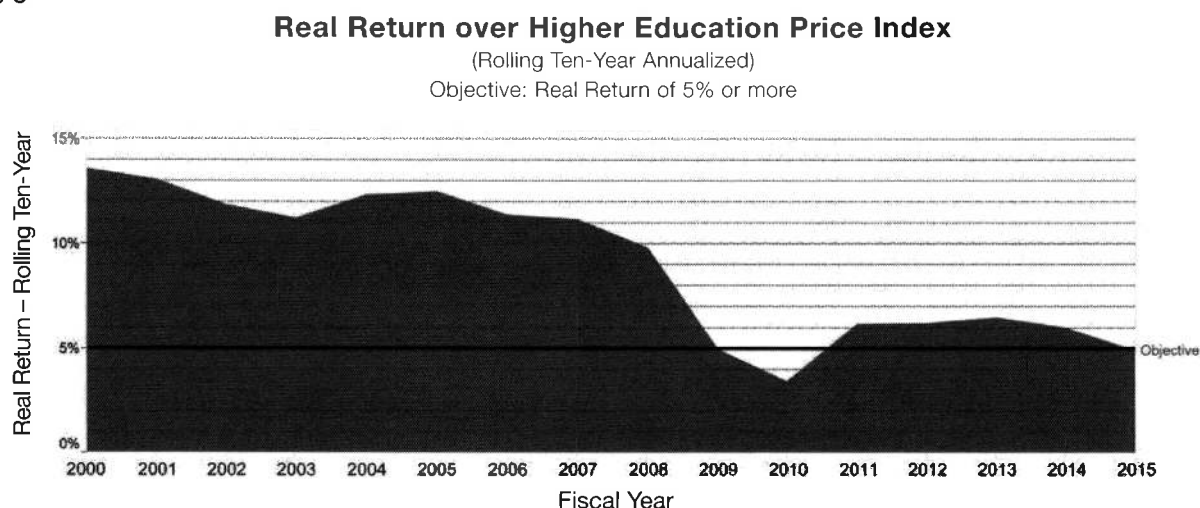
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<sup>1</sup> HEPI is designed specifically for use by institutions of higher education, and measures the average relative level in the price of a fixed market basket of goods and services purchased by colleges and universities. A comparison between HEPI and the Consumer Price Index (CPI) is given below.

Term:	Five years	Ten year	Twenty years
HEPI	2.2%	2.7%	3.2%
CPI	1.8%	2.1%	2.3%

Source: Commonfund, Bloomberg.

Figure 5



**Objective 2:** HMC will aim to achieve aggregate outperformance of 1% or more over appropriate market and industry benchmarks, on a rolling five-year annualized basis.

Whilst HMC always strives to outperform market indices, one would not expect to do so each year. However, over a five-year period, we do believe that HMC should in the aggregate deliver consistent outperformance. I tend to agree with Lim Chow Kiat, CIO of GIC, the Singaporean sovereign wealth fund, that “The minimum time horizon for performance measurement is five years.”<sup>2</sup> Outperformance of 1% is, I believe, the minimum that we should expect from HMC, given the investment made in the capabilities and talent of our company, and our relationships with high-quality external managers.

Figure 6 shows how HMC has performed against this metric since fiscal year 2000. One can see the steady decline in outperformance over the past ten years. This may be due to an environment where there are fewer alpha-generating opportunities; a more crowded investment landscape with more competitors seeking the same opportunities; or less effective identification and execution of these opportunities by our portfolio managers. I aim to ensure that our hybrid portfolio consists of the best managers, whether internal or external to HMC, who are capable of delivering outperformance and strong investment returns through a diverse set of strategies across a broad range of market conditions.

Figure 6

### Aggregate Outperformance versus Market/Industry Benchmark

(Rolling Five-Year Annualized)

Objective: 1% or more Outperformance

	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Endowment Return	23.15%	16.94%	11.58%	10.07%	11.76%	9.46%	13.52%	18.44%	17.61%	6.19%	4.69%	5.51%	1.22%	1.72%	11.58%	10.51%
Benchmark Return	19.38%	12.33%	7.31%	5.66%	5.21%	4.42%	9.22%	13.78%	13.47%	3.67%	2.99%	4.26%	0.80%	1.22%	10.22%	9.07%
Relative Return	3.78%	4.61%	4.27%	4.41%	6.55%	5.04%	4.30%	4.66%	4.14%	2.32%	1.70%	1.25%	0.42%	0.50%	1.36%	1.44%

Achieved
  Did Not Achieve

<sup>2</sup> Perspectives on the Long Term



expectations serve as the basis for optimization, has high uncertainty in its inputs, and often failed to provide motivating insights regarding how we should conceive of and shape our asset allocation. Upon taking over as CEO, I believed the time was right to revisit thoroughly our process for strategic asset allocation.

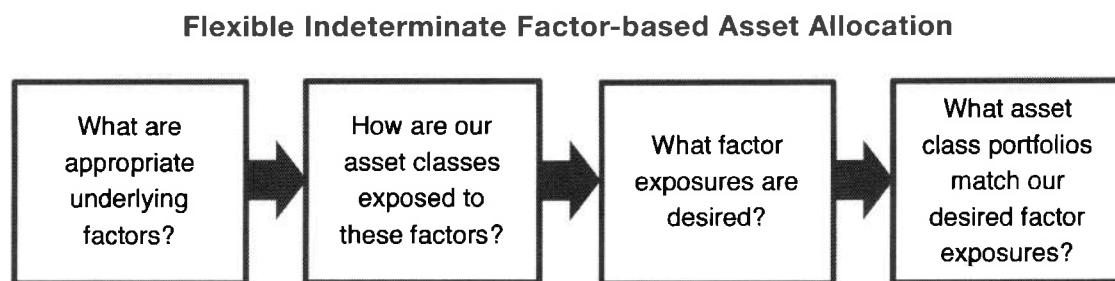
Spearheaded by our Chief Risk Officer Jake Xia and Senior Vice President Mark Szigety AM '00, DBA '08, our asset allocation research involved a thorough literature review; consultations with academic experts in the field; and meetings with a range of institutional investors. From this research we reached several conclusions, the most important of which is that all asset allocation approaches are imperfect in their own way. For example, mean-variance relies on highly uncertain risk and return assumptions for an often large number of asset classes. Others may be overly simple, or difficult to implement. On the other hand, many had enviable features: a “factor” (as opposed to an asset class) view promotes simplicity and clarity on major risk and return drivers, and a “best ideas” approach is attractive from a fundamental investor standpoint. Consequently, while no approach struck us as superior, we determined that a selective combination of various asset allocation frameworks may represent a meaningful improvement over our current process.

Additionally, we recognized that investors generally like to follow a tried-and-true formula for asset allocation, but at the same time understand that any such objective methodology will often fail to incorporate nuances and subtleties that investment expertise and judgment suggest are important. As my advisor in the Statistics Department, Professor Emeritus Arthur Dempster, wrote: a worthy practical approach “balances [the] objective and subjective, and puts aside an operationally spurious concept of [a] true model.”<sup>5</sup> Thus, we have aimed to build a process that is capable of expressing less quantifiable investment ideas and objectives around a rigorous core. The result is a comprehensive process that we term Flexible Indeterminate Factor-based Asset Allocation (FIFAA).<sup>6</sup>

The core of our proposal is an assumption that our strategic asset allocation, as expressed through asset classes, can be conceived of as a combination of a chosen systematic “factor” portfolio and a non-systematic “residual” portfolio. By conceptually partitioning in this manner, we hope to focus on the principle drivers of our risk and return while at the same time accommodating a variety of desirable portfolios.

FIFAA comprises the four steps shown in Figure 8: (i) selecting factors; (ii) measuring asset class factor exposures; (iii) choosing desirable factor exposures; and (iv) determining the most appropriate asset class targets and ranges for achieving our long-term investment objectives, which at the same time maintain our preferred factor exposures. Each of the four steps is briefly described below.

**Figure 8**



#### **(i) Selecting Appropriate Factors**

The selection of factors is a matter of informed judgment, and based on our research we believe there is no ideal set that is appropriate for every institutional investor. For our purposes, we have currently selected a parsimonious set of five factors—enough to span more of the primary risk and return drivers than solely equities and bonds (the so-called “reference portfolio”), but not too many so as to prevent increased simplicity and heightened confidence in our risk and return expectations.

<sup>5</sup> Dempster, A.P. (1998), “Logistic Statistics I: Models and Modeling,” *Statistical Science* 13, no.3, 248–276.

<sup>6</sup> For complete details, see Blyth, S.J., Szigety, M. and Xia, J. (2016), “Flexible Indeterminate Factor-based Asset Allocation”, *The Journal of Portfolio Management*, forthcoming.

Our five factors include world equities, US Treasuries, high yield credit, inflation and currency. In selecting these factors, we placed a premium on tradability (can we inexpensively manage risk or rebalance?) and suitability (will this capture our strategy?). Parsimony also demanded that we not include what we consider to be more asset-class specific factors, such as value, momentum, carry and illiquidity.

## (ii) Measuring Asset Class Exposures to Factors

The second step involves determining how asset classes or investment universes relate to the selected factors. One of the attractive features of FIFAA is that it gives us the flexibility to implement our factor exposures with any set of asset classes or investment opportunities. As just one possible example, we can separate emerging market equities into commodity exporters and commodity importers. This is a plausible approach because it is reasonable to believe that commodity exporters such as Brazil, South Africa, Mexico and Russia have different factor exposures than commodity importers such as China, South Korea, Taiwan and India.

Our analysis proceeded from two directions. First, we employed well-known empirical approaches to pin down a parsimonious set of estimated exposures. Secondly, together with our portfolio managers, we applied a market-informed overlay to ensure the estimates appear appropriate on a forward-looking basis. The end result of this step is a matrix of linear exposures (or so-called “betas”) for use in a variety of subsequent steps.

## (iii) Choosing Factor Exposures

The third step involves selecting appropriate factor exposures using insights from a variety of both return- and risk-based portfolio construction approaches. We believe that developing reliable capital market assumptions of our five factors is more tractable than for a full set of asset classes. For implementation, we leaned heavily on mean-variance analysis to inform us as to which factor exposures were most attractive. Our initial analysis from this step argued that we should: decrease our equity exposure; slightly increase high yield exposure; lower our inflation exposure; increase our exposure to the dollar; and increase bond exposure. These factor exposures form the basis of our strategic asset allocation and can be reviewed on a frequency consistent with long-term objectives.

## (iv) Selecting an Asset Class Portfolio

The fourth and final step involves setting the final target weights and ranges for the asset classes. The main challenge here is that, in general, there are an infinite number of portfolio solutions of twelve (or more) asset classes that satisfy the optimal five factor exposures. To tackle this problem, we computationally searched for a portfolio that maximizes our asset class specific return per unit of risk, penalizes illiquidity and satisfies the desired factor exposures. To establish target ranges, we ran many searches, each time adding a small amount of error to our asset class-to-factor mappings from step (ii). This explicitly acknowledges that there is uncertainty in the asset-class-to-factor mappings, and it allows us to establish the lower 5% and upper 95% bounds of the portfolio’s target asset class weights. The resulting portfolio parameters are shown in Figure 9.

The ranges for our asset classes reflect inherent uncertainty in mapping asset classes to factors, and are a manifestation of the natural uncertainty present in any asset allocation approach. The ranges provide us with appropriate flexibility to execute a variety of investment opportunities and strategies as they arise, while still maintaining the desired factor exposures. Note that asset allocations that match desired factor exposures are, for example, unlikely to have most asset classes at the top of their ranges.

Figure 9

Fiscal Year 2016 Asset Class Ranges

Asset Class	Range	
US Equity	6%	16%
Foreign Equity	6%	11%
Emerging Market Equity	4%	17%
Private Equity	13%	23%
Absolute Return	11%	21%
High Yield	0%	3%
Natural Resources and Commodities	6%	16%
Real Estate	10%	17%
Domestic Bonds	5%	9%
Foreign Bonds	0%	4%
Inflation-Linked Bonds	0%	6%

The goal of our strategic asset allocation review was to introduce a meaningful improvement over our current multi-asset class, mean-variance approach. We believe that we have made substantive progress in developing a flexible approach that accommodates necessarily subjective investment judgment within a rigorous, factor-based framework. Based on this new approach, we have set an asset allocation for fiscal year 2016, approved by the HMC Board.

### **(c) Reinvigorating HMC's Investment Process**

The Harvard Management Company has a remarkably powerful investment platform. After several years of necessarily dealing with the depths of the financial crisis and its aftermath, and the accompanying severe liquidity issues across the University as a whole, we are now in a position to harness that power to deliver on our objectives.

In order to increase the rigor of our investment debate and decision making process, I have charged my portfolio managers—whether they be managing internal investment strategies, participating in direct investments for Harvard or building and developing relationships with our suite of outstanding external managers—to focus on the following areas.

First, we will engage in more cross-asset class discussion and collaboration. Increasingly, investment opportunities lie at the border of traditional asset classes, or are informed by knowledge from different areas. For instance, the real estate market for laboratory space for life science companies is highly related to the biotech sector within venture capital, the willingness of public equity investors to fund mid- to late-stage companies as well as the development of the underlying science. We will develop a strong culture of constructive challenge and comparison of investment opportunities across the portfolio.

Secondly, I am encouraging our portfolio managers to be creative in considering new partnerships, vehicles and platforms for investing that provide the maximum benefit for Harvard, in terms of access to compelling opportunities, transparency to our investments, flexibility in and control of investment decisions and reduction in management fees.

In addition, we need to develop the conviction to invest in scale. HMC manages approximately \$38 billion of endowment assets. With the appropriate rigor of analytical work and open debate, deep market experience and the identification of investment opportunities that fulfil our objectives within our portfolio, we will be prepared to invest at the appropriate scale. This does not mean leveraging up, running higher risk or having a higher beta portfolio; indeed, it could mean the opposite depending on the market environment. We will do the depth of work to allow ourselves to take positions to the appropriate endowment scale when opportunities arise.

Finally, HMC will engage more fully both with our investment partners and with peer institutional investors globally. I have greatly enjoyed—and benefited from—meeting groups of our investment manager partners, where market insights can be shared both between HMC and our managers, and also between our external managers. I have also found it especially helpful to meet CEOs of several comparable investment institutions. I am grateful to them for their openness, insights and wisdom, and I look forward to developing a range of collaborative endeavors between our institutions.

### **(d) Compensation**

The compensation plan currently in place at HMC has served Harvard for many years. The majority of portfolio manager compensation is linked to long-term outperformance versus market indices or industry benchmarks. In particular, we do not pay for “beta” returns simply provided by the market. Overall, HMC’s compensation model has provided significant savings to the University over decades.

However, I also believe that we should align compensation more closely with the aggregate goals of HMC, as stated above, in addition to the success of individual portfolios. Fostering a deeper sense of ownership in the overall success of HMC amongst all our staff, and developing a true sense of partnership amongst senior investment professionals at HMC, are key priorities for me.

We have therefore undertaken a review of the compensation system at HMC. Whilst we will continue to have a significant component of compensation linked to outperformance of portfolios versus their market indices and industry benchmarks, I plan to introduce components linked to the overall success of HMC. Incenting all our staff to improve the aggregate performance of HMC can only increase the likelihood of us achieving our goals over the long term.

Designing a new compensation model is, of course, a complex and sensitive task, and I look forward to working with my colleagues, the Finance and Compensation Committee of the HMC Board and external experts, as we develop and implement this plan.

#### IN MEMORIAM

James F. Rothenberg (1946-2015)

Jim Rothenberg was chair of the Board of Harvard Management Company from 2005 to 2015. It was Jim who, at 10:30am on 24 September 2014, called me to state that the Board would like me to become the next President and CEO of HMC. Since that moment, he provided me with support, kind encouragement and a calm guiding hand. His last message to me, sent the weekend before he so unexpectedly died in July, was: "I am on the same train as you are. Cheers."

Cheers Jim.

### 3. Outlook

I described briefly in my letter of introduction in April<sup>7</sup> that current market conditions present various challenges to investors. We are carefully monitoring market liquidity conditions, given that the risk capacity and shock absorption ability of sell-side market-makers is low, as a result of the new regulatory regime that has shrunk balance sheets and reduced risk appetite. The US Treasury "flash crash" of 15 October 2014, when the US ten-year Treasury note moved a total of 68 basis points in one day, was a stark manifestation of the evaporation of liquidity that can occur even when no material economic event has occurred. The recent high volatility in the US stock market is another indicator that market liquidity can be prone to rapid evaporation. To give an order of magnitude, from 1 January 2015 to 10 August 2015, the S&P had a trading range of 7%. On 24 August 2015, the Dow Jones Industrial Average fell 6.6%, rallied 6.4% and then fell 4.7% within the trading day.

The new regulatory environment for financial institutions is having significant effects on the ability of banks to use balance sheets, warehouse risk, or act as market shock absorbers. Given Harvard's strong balance sheet, we view this as an opportunity, as price dislocations or stress in risk parameters (and hence the ability to generate alpha) is likely to increase when there is less capacity to accommodate and absorb these risk factors.

The debate about highly-valued assets continues to get louder: private equity valuations are now, on average, at higher levels than in 2007. There are over eighty "unicorns" (venture-capital portfolio companies with valuations over \$1 billion), as many as in the last three years combined. Venture capital continues to receive ample funding, and private company valuations are also bolstered by public mutual funds entering late stage funding rounds in significant size. This environment is likely to result in lower future returns than in the recent past.

Furthermore, it is hard to know the impact of the eventual rise of interest rates in the US on asset classes domestically and globally. Monetary accommodation in the US has been in place for almost eight years, since the first Federal Reserve intervention on 11 December 2007, the Term Auction Facility (TAF). An extensive number of policy interventions, with a long lexicon of acronyms, followed. As hard as it was to predict the impact of these policy actions, it will be equally hard to predict the effect of their removal. We are analyzing potential effects of higher rates throughout the portfolio, in particular examining the possibility of second order effects if many asset classes (e.g., bonds, high-yielding stocks, high-yield debt, emerging markets and real estate) were to decline simultaneously. An interesting question emerges: could rising interest rates in 2016 have an analogous impact to falling house prices in 2007, where a range of largely unanticipated second-order effects was triggered?

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<sup>7</sup> Letter of Introduction

We are proceeding with caution in several areas of the portfolio: many of our absolute return managers are accumulating increasing amounts of cash; we are being careful about not over-committing into illiquid investments in potentially frothy markets, while still ensuring we will be involved if market dislocations arise; and we are being particularly discriminating about underwriting and return assumptions given current valuations. In addition, we have renewed focus on identifying public equity managers with demonstrable investment expertise on both the long and short sides of the market. And we are concentrating on investment opportunities with idiosyncratic features that still offer value creation, such as the life science laboratory space, and the retail sector where transformation continues at rapid pace.

We are executing on these themes through a variety of instruments, including equity, debt, private securities and real assets. More broadly, across HMC we are developing new platforms, fund relationships and internal capabilities that will give us greater flexibility to respond to the changing market environment.

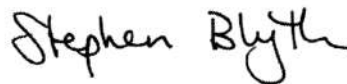
#### 4. Concluding Remarks

As Professor of the Practice in Statistics, within the Faculty of Arts and Sciences, I have had the privilege since 2010 to teach the class Statistics 123, “Applied Quantitative Finance”, to over 350 outstanding young women and men. Teaching Harvard undergraduates has been a joy; it is in fact my one regret about becoming CEO of HMC that I will be unlikely to teach in the near future. I often say that my experiences in the lecture hall, in office hours and at student-faculty dinners have “made flesh” the mission of HMC. I know that my colleagues at HMC share deeply the special role that HMC plays in the support of our great University.

We have clearly stated this mission and have laid out straightforward, ambitious investment objectives. I have found my first nine months as CEO to be intensely fulfilling and intensely enjoyable. I will do everything in my power to maximize the probability of HMC achieving its objectives over the coming years and decades. We have challenges ahead and much hard work to be done, but I believe we have gained significant traction in 2015, and I am highly optimistic that we can achieve our goals.

I thank you all for your support of Harvard University and of HMC, and in particular for the many personal messages of encouragement. I look forward to meeting many of you in the years ahead.

Yours sincerely,

A handwritten signature in black ink that reads "Stephen Blyth". The signature is fluid and cursive, with the first name "Stephen" and last name "Blyth" clearly distinguishable.

Stephen Blyth PhD '92  
President and Chief Executive Officer  
Harvard Management Company





## Independent Auditor's Report

To the Board of Overseers of Harvard College:

We have audited the accompanying consolidated financial statements of Harvard University (the "University"), which comprise the consolidated balance sheet as of June 30, 2015, and the related consolidated statements of changes in net assets with general operating account detail, changes in net assets of the endowment, and cash flows for the year then ended.

### Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

### Auditor's Responsibility

Our responsibility is to express an opinion on the consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the University's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the University at June 30, 2015, and the changes in their net assets and their cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

### Other Matters

We have previously audited the University's 2014 consolidated financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated November 7, 2014. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2014 is consistent, in all material respects, with the audited financial statements from which it has been derived.

October 29, 2015

## BALANCE SHEETS

with summarized financial information as of June 30, 2014

In thousands of dollars	June 30	
	2015	2014
<b>ASSETS:</b>		
Cash	\$ 109,698	\$ 87,704
Receivables, net (Note 6)	239,962	246,482
Prepayments and deferred charges	152,164	151,533
Notes receivables, net (Note 7)	377,837	376,476
Pledges receivables, net (Note 8)	2,245,199	1,590,758
Fixed assets, net (Note 9)	6,184,352	5,986,605
Interests in trusts held by others (Notes 4)	363,175	376,526
Investment portfolio, at fair value (Notes 3 and 4)	54,659,156	53,308,477
Securities pledged to counterparties, at fair value (Notes 3 and 4)	10,874,966	7,685,852
<b>TOTAL ASSETS</b>	<b>75,206,509</b>	<b>69,810,413</b>
<b>LIABILITIES:</b>		
Accounts payable	313,737	316,699
Deposits and other liabilities	807,318	743,120
Securities lending and other liabilities associated with the investment portfolio (Notes 3, 4 and 12)	21,183,731	17,608,530
Liabilities due under split interest agreements (Note 11)	910,084	758,991
Bonds and notes payable (Note 12)	5,563,079	5,619,190
Accrued retirement obligations (Note 13)	957,002	837,361
Government loan advances (Note 7)	69,432	68,863
<b>TOTAL LIABILITIES</b>	<b>29,804,383</b>	<b>25,952,754</b>
<b>NET ASSETS</b> , attributable to non-controlling interests in the pooled general investment account (Notes 3 and 4)	<b>833,583</b>	<b>646,429</b>
<b>NET ASSETS</b> , attributable to the University	<b>44,568,543</b>	<b>43,211,230</b>
<b>TOTAL LIABILITIES AND NET ASSETS</b>	<b>\$ 75,206,509</b>	<b>\$ 69,810,413</b>

	Unrestricted	Temporarily restricted	Permanently restricted	June 30	
				2015	2014
NET ASSETS, attributable to the University:					
General Operating Account (GOA) (Note 10)	\$ 4,039,787	\$ 2,357,080	\$ 97,585	\$ 6,494,452	\$ 6,163,177
Endowment (Note 10)	6,183,339	24,504,172	6,928,034	37,615,545	36,429,256
Split interest agreements (Note 11)		40,816	417,730	458,546	618,797
<b>TOTAL NET ASSETS</b> , attributable to the University	<b>\$ 10,223,126</b>	<b>\$ 26,902,068</b>	<b>\$ 7,443,349</b>	<b>\$ 44,568,543</b>	<b>\$ 43,211,230</b>

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

# STATEMENTS OF CHANGES IN NET ASSETS WITH GENERAL OPERATING ACCOUNT DETAIL

with summarized financial information for the year ended June 30, 2014

				For the year ended	
		Temporarily	Permanently	June 30	
In thousands of dollars	Unrestricted	Restricted	Restricted	2015	2014
<b>OPERATING REVENUE:</b>					
Student income:					
Undergraduate program	\$ 291,865			\$ 291,865	\$ 282,661
Graduate and professional degree programs	504,344			504,344	479,678
Board and lodging	172,440			172,440	166,638
Continuing education and executive programs	345,488			345,488	321,584
Scholarships applied to student income (Note 14)	(384,208)			(384,208)	(372,905)
Total student income	929,929	0	0	929,929	877,656
Sponsored support: (Note 15)					
Federal government – direct costs	418,832			418,832	433,583
Federal government – indirect costs	159,133			159,133	158,659
Non-federal sponsors – direct costs	82,356	\$ 112,613		194,969	176,746
Non-federal sponsors – indirect costs	23,754	9,133		32,887	30,942
Total sponsored support	684,075	121,746	0	805,821	799,930
Gifts for current use (Note 16)					
	145,492	290,157		435,649	419,171
Investment income:					
Endowment returns made available for operations (Note 10)	286,105	1,308,122		1,594,227	1,539,462
GOA returns made available for operations	124,805			124,805	133,820
Other investment income	11,006	5,113		16,119	17,971
Total investment income	421,916	1,313,235	0	1,735,151	1,691,253
Other income (Note 17)	619,000			619,000	599,788
Net assets released from restriction	1,692,773	(1,692,773)		0	0
<b>TOTAL OPERATING REVENUE</b>	<b>4,493,185</b>	<b>32,365</b>	<b>0</b>	<b>4,525,550</b>	<b>4,387,798</b>
<b>OPERATING EXPENSES:</b>					
Salaries and wages	1,710,768			1,710,768	1,625,657
Employee benefits (Note 13)	499,793			499,793	524,499
Services purchased	503,331			503,331	484,161
Space and occupancy	330,066			330,066	302,476
Depreciation (Note 9)	323,149			323,149	305,104
Interest (Note 12)	251,657			251,657	253,032
Supplies and equipment	252,838			252,838	245,841
Scholarships and other student awards (Note 14)	135,693			135,693	129,743
Other expenses (Note 18)	455,794			455,794	495,387
<b>TOTAL OPERATING EXPENSES</b>	<b>4,463,089</b>	<b>0</b>	<b>0</b>	<b>4,463,089</b>	<b>4,365,900</b>
<b>NET OPERATING SURPLUS</b>	<b>30,096</b>	<b>32,365</b>	<b>0</b>	<b>62,461</b>	<b>21,898</b>
<b>NON-OPERATING ACTIVITIES:</b>					
Income from GOA Investments	21,838			21,838	26,555
GOA realized and change in unrealized appreciation, net (Note 3)	194,942			194,942	471,332
GOA returns made available for operations	(124,805)			(124,805)	(133,820)
Change in pledge balances (Note 8)		33,477		33,477	164,218
Change in interests in trusts held by others		(7,975)		(7,975)	(2,956)
Capital gifts for loan funds and facilities (Note 16)		133,820	\$ 313	134,133	92,040
Change in retirement obligations (Note 13)	(84,105)			(84,105)	2,762
Net loss from discontinued operations (Note 2)	(50,753)			(50,753)	(8,730)
Other changes	(21,787)			(21,787)	613
Transfers between GOA and endowment (Note 10)	91,994	66,123	(5,159)	152,958	167,388
Transfers between GOA and split interest agreements (Note 11)		20,817	74	20,891	17,122
Non-operating net assets released from restrictions	183,611	(188,770)	5,159	0	0
<b>TOTAL NON-OPERATING ACTIVITIES</b>	<b>210,935</b>	<b>57,492</b>	<b>387</b>	<b>268,814</b>	<b>796,524</b>
<b>GENERAL OPERATING ACCOUNT NET CHANGE DURING THE YEAR</b>	<b>241,031</b>	<b>89,857</b>	<b>387</b>	<b>331,275</b>	<b>818,422</b>
Endowment net change during the year	38,825	876,025	271,439	1,186,289	3,739,767
Split interest agreements net change during the year (Note 11)		(44,952)	(115,299)	(160,251)	49,773
<b>NET CHANGE DURING THE YEAR, attributable to the University</b>	<b>279,856</b>	<b>920,930</b>	<b>156,527</b>	<b>1,357,313</b>	<b>4,607,962</b>
<b>NET ASSETS CHANGE DURING THE YEAR, attributable to non-controlling interests in the pooled general investment account</b>	<b>187,154</b>			<b>187,154</b>	<b>192,489</b>
<b>NET CHANGE DURING THE YEAR<sup>1</sup></b>	<b>467,010</b>	<b>920,930</b>	<b>156,527</b>	<b>1,544,467</b>	<b>4,800,451</b>
Net assets, beginning of year <sup>1</sup>	10,589,699	25,981,138	7,286,822	43,857,659	39,057,208
<b>NET ASSETS, END OF YEAR<sup>1</sup></b>	<b>\$11,056,709</b>	<b>\$26,902,068</b>	<b>\$ 7,443,349</b>	<b>\$45,402,126</b>	<b>\$43,857,659</b>

<sup>1</sup> Net assets attributable to the University and non-controlling interests in the pooled general investment account.

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

## STATEMENT OF CHANGES IN NET ASSETS OF THE ENDOWMENT

with summarized financial information for the year ended June 30, 2014

In thousands of dollars	Unrestricted	Temporarily Restricted	Permanently Restricted	For the year ended June 30	
				2015	2014
Investment Return (Note 3):					
Income from general investments	\$ 34,643	\$ 164,513		\$ 199,156	\$ 240,073
Realized and change in unrealized appreciation, net	320,757	1,436,741		1,757,498	4,448,877
Total investment return	355,400	1,601,254	0	1,956,654	4,688,950
Endowment returns made available for operations (Note 10)	(286,105)	(1,308,122)		(1,594,227)	(1,539,462)
Net investment return	69,295	293,132	0	362,427	3,149,488
Gifts for capital (Note 16)	54,346	39,275	\$ 244,866	338,487	512,853
Transfers between endowment and the GOA (Note 10)	(91,994)	(66,123)	5,159	(152,958)	(167,388)
Capitalization of split interest agreements (Note 11)		1,644	23,076	24,720	32,784
Change in pledge balances (Note 8)		637,337	(16,174)	621,163	190,369
Change in interests in trusts held by others (Note 10)		(739)	(4,637)	(5,376)	27,413
Other changes	(2,634)	(25,781)	26,241	(2,174)	(5,752)
Net assets released from restrictions	9,812	(2,720)	(7,092)	0	(0)
<b>NET CHANGE DURING THE YEAR</b>	<b>38,825</b>	<b>876,025</b>	<b>271,439</b>	<b>1,186,289</b>	<b>3,739,767</b>
Net assets of the endowment, beginning of year	6,144,514	23,628,147	6,656,595	36,429,256	32,689,489
<b>NET ASSETS OF THE ENDOWMENT, end of year</b>	<b>\$ 6,183,339</b>	<b>\$ 24,504,172</b>	<b>\$ 6,928,034</b>	<b>\$ 37,615,545</b>	<b>\$ 36,429,256</b>

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

## STATEMENTS OF CASH FLOWS

<i>In thousands of dollars</i>	For the year ended June 30	
	2015	2014
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Change in net assets	\$ 1,544,467	\$ 4,800,451
Adjustments to reconcile change in net assets to net cash (used in) operating activities:		
Change in non-controlling interests in the pooled general investment account	(187,154)	(192,489)
Depreciation	323,149	305,104
Depreciation for discontinued operations	2,152	2,510
Realized and change in unrealized (appreciation), net	(1,982,970)	(5,063,953)
Change in fair value of interest rate exchange agreements	9,058	1,941
Change in interests in trusts held by others	13,351	(24,457)
Increase in liabilities due under split interest agreements	151,093	41,666
Gifts of donated securities	(117,075)	(94,671)
Proceeds from the sales of gifts of unrestricted securities	16,297	19,527
Gifts of donated securities in other investments	0	(142,900)
Gifts restricted for capital purposes	(331,896)	(398,444)
Loss on disposal of assets	30,684	54,121
Write-off of assets and liabilities for discontinued operations	15,806	0
Net (gain) on sale of property for discontinued operations	0	(10,500)
Forgiveness of notes payable	(10,000)	0
Change in accrued retirement obligations	119,641	83,404
Changes in operating assets and liabilities:		
Receivables, net	6,520	(20,332)
Prepayments and deferred charges	(631)	7,122
Pledges receivable, net	(654,441)	(354,667)
Accounts payable	(17,355)	4,341
Deposits and other liabilities	64,198	37,933
<b>NET CASH (USED IN) OPERATING ACTIVITIES</b>	<b>(1,005,106)</b>	<b>(944,293)</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Loans made to students, faculty, and staff	(48,982)	(54,189)
Payments received on student, faculty, and staff loans	44,979	42,812
Change in other notes receivable	2,642	527
Proceeds from the sales and maturities of investments	87,914,830	78,870,001
Purchase of investments	(89,347,046)	(76,388,470)
Change associated with repurchase agreements	214,444	(50,902)
Additions to fixed assets	(560,493)	(557,878)
Proceeds from sale of property related to discontinued operations	0	10,500
<b>NET CASH (USED IN)/PROVIDED BY INVESTING ACTIVITIES</b>	<b>(1,779,626)</b>	<b>1,872,401</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>		
Change in overdrafts included in accounts payable	5,348	(9,257)
Proceeds from issuance of debt	260	459
Debt repayments	(46,371)	(69,276)
Proceeds from the sales of gifts of restricted securities	100,778	75,144
Gifts restricted for capital purposes	331,896	398,444
Non-controlling interests in the pooled general investment account contributions and distributions, net	17,754	81,482
Change in repurchase and reverse repurchase agreements	2,396,492	(1,381,413)
Change in government loan advances	569	614
<b>NET CASH PROVIDED BY/(USED IN) FINANCING ACTIVITIES</b>	<b>2,806,726</b>	<b>(903,803)</b>
<b>NET CHANGE IN CASH</b>	<b>21,994</b>	<b>24,305</b>
Cash, beginning of year	87,704	63,399
<b>CASH, end of year</b>	<b>\$ 109,698</b>	<b>\$ 87,704</b>
<b>Supplemental disclosure of cash flow information:</b>		
Accounts payable related to fixed asset additions	\$ 70,060	\$ 61,015
Cash paid for interest	\$ 255,345	\$ 256,613

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

## 1. UNIVERSITY ORGANIZATION

Harvard University (the “University”) is a private, not-for-profit institution of higher education with approximately 7,240 undergraduate and 14,190 graduate students. Established in 1636, the University includes the Faculty of Arts and Sciences, the John A. Paulson School of Engineering and Applied Sciences, the Division of Continuing Education, ten graduate and professional Schools, the Radcliffe Institute for Advanced Study, a variety of research museums and institutes, and an extensive library system to support the teaching and research activities of the Harvard community. The President and Fellows of

Harvard College (the “Corporation”), a governing board of the University, has oversight responsibility for all of the University’s financial affairs. The Corporation delegates substantial authority to the Schools and departments for the management of their resources and operations.

The University includes Harvard Management Company (HMC), a wholly owned subsidiary founded in 1974 to manage the University’s investment assets. HMC is governed by a Board of Directors that is appointed by the Corporation.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

### Basis of presentation

The consolidated financial statements present the activities of Harvard University as a whole, including significant affiliated organizations controlled by the University.

Funds transferred to the University on behalf of specific beneficiaries (agency funds) are recorded as assets and liabilities in the *Balance Sheets* and are not included in the *Statement of Changes in Net Assets with General Operating Account Detail*.

The financial statements include certain prior year summarized comparative information in total, not by net asset classification. This information is not presented in sufficient detail to conform to generally accepted accounting principles (GAAP). Accordingly, such information should be read in conjunction with the University’s financial statements for the year ended June 30, 2014, from which the summarized information is derived.

### Discontinued operations

On May 31, 2015, the New England Primate Research Center (“NEPRC”) ceased operations following a two-year wind down period during which primates were moved to other sites, including the other National Primate Research Centers. The closure of the Southborough, MA facility resulted in a \$50.8 million loss from discontinued operations, which includes a \$15.8 million loss on impairment of fixed assets, for the year ended June 30, 2015, and a \$19.2 million loss for the year ended June 30, 2014. These losses are classified as “Net loss from discontinued operations” in the non-operating section of the accompanying *Statement of Change in Net Assets with General Operating Account Detail*.

In addition, the University sold a property in fiscal year 2014 from which proceeds were \$10.5 million. The sale resulted in a gain of \$10.5 million for the year ended June 30, 2014, which is also classified as “Net loss from discontinued operations” in the non-operating section of the accompanying *Statement of Changes in Net Assets with General Operating Account Detail*.

Certain prior year amounts have been reclassified to conform to current year presentation. The reclassifications include moving the portion of 2014 operating results that relate to the closure of the NEPRC to “Net loss from discontinued operations” in the non-operating section of the accompanying *Statement of Changes in Net Assets with General Operating Account Detail*. This reclassification increased the prior year net operating revenue surplus by \$19.2 million.

### Net asset classifications

For the purposes of financial reporting, the University classifies resources into three net asset categories pursuant to any donor-imposed restrictions and applicable law. Accordingly, the net assets of the University are classified in the accompanying financial statements in the categories that follow:

**UNRESTRICTED** net assets are not subject to donor-imposed restrictions. Funds invested in fixed assets and unrestricted endowment funds comprise 89% of the University’s unrestricted net assets as of June 30, 2015. In addition, this category includes unrestricted gifts and endowment income balances, University-designated loan funds, and other unrestricted current funds.

**TEMPORARILY RESTRICTED** net assets are subject to legal or donor-imposed stipulations that will be satisfied either by actions of the University, the passage of time, or both. These net assets include gifts donated for a particular purpose, amounts subject to time restrictions such as funds pledged for future payment, or amounts subject to legal restrictions such as portions of otherwise unrestricted capital appreciation and income, which must be reported as temporarily restricted net assets until appropriated for spending in accordance with Massachusetts law.

**PERMANENTLY RESTRICTED** net assets are subject to donor-imposed stipulations that they be invested to provide a perpetual source of income to the University. Generally, donors of these assets require the University to maintain

and invest the original contribution in perpetuity, but permit the use of some or all investment returns for general or specific purposes.

Revenues from sources other than contributions are generally reported as increases in unrestricted net assets. Expenses are reported as decreases in unrestricted net assets. Gains and losses on investments are reported as increases or decreases in unrestricted net assets, unless their use is restricted by donor stipulations or by law. Investment returns earned by restricted donor funds are initially classified as temporarily restricted net assets and then reclassified to unrestricted net assets when expenses are appropriated or incurred for their intended purpose. Expirations of temporary restrictions on net assets are reported as reclassifications from temporarily restricted to unrestricted net assets and appear as "Net assets released from restrictions" and "Non-operating net assets released from restrictions" in the *Statements of Changes in Net Assets*.

Unconditional pledges are reported as increases in the appropriate categories of net assets in accordance with donor restrictions.

### Net operating surplus

Revenues earned, expenses incurred, and returns made available for operations for the purpose of teaching, conducting research, and the other programs and services of the University are the components of "Net operating surplus" in the *Statement of Changes in Net Assets with General Operating Account Detail*.

### Collections

The University's vast array of museums and libraries contains priceless works of art, historical treasures, literary works, and artifacts. These collections are protected and preserved for public exhibition, education, research, and the furtherance of public service. They are neither disposed of for financial gain nor encumbered in any manner. Accordingly, such collections are not recorded for financial statement purposes.

### Insurance programs

The University, together with the Harvard-affiliated teaching hospitals, has formed a captive insurance company, Controlled Risk Insurance Company (CRICO), to provide limited professional liability, general liability, and medical malpractice insurance for its shareholders. The University self-insures a portion of its professional liability and general liability programs and maintains a reserve for incurred claims, including those related to Harvard Medical School activities occurring away from the affiliated teaching hospitals. The CRICO provided malpractice coverage applies with no deductible for medical professionals practicing within Harvard's University Health Services department,

the School of Dental Medicine, and the T.H. Chan School of Public Health. The University also maintains reserves for the self-insured portion of claims related to automobile liability, property damage, and workers' compensation; these programs are supplemented with commercial excess insurance above the University's self-insured limit. In addition, the University is self-insured for unemployment, the primary retiree health plan, and all health and dental plans for active employees. The University's claims liabilities are recognized as incurred, including claims that have been incurred but not reported, and are included in operating expenses.

### Tax-exempt status

The University is a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code.

### Use of estimates

The preparation of financial statements in accordance with GAAP in the United States of America requires management to make estimates and assumptions that affect reported amounts and disclosures. Actual results could differ from those estimates.

### New accounting pronouncements

Effective July 1, 2015, the University elected to retroactively adopt ASU No. 2015-07, *Fair Value Measurement (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent)*. Under the new guidance, investments measured at net asset value (NAV), as a practical expedient for fair value, are excluded from the fair value hierarchy. In addition, when the NAV as practical expedient is not applied to eligible investments, certain other disclosures regarding nature and risks of investments are no longer required. The effects of adopting this amendment are addressed in *Notes 4 and 13* and the 2014 presentation has been adjusted to conform to this new presentation.

The FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers*, a principles-based standard to recognize revenue from customer contracts. ASU No. 2014-09 will be effective for the University's fiscal year beginning 2019. The University is currently evaluating the impact the adoption of ASU No. 2014-09 will have on the financial statements.

### 3. INVESTMENTS

Investments are presented at fair value in accordance with GAAP. The University's investment valuation policies and procedures are discussed in detail in *Note 4*.

Cash and short-term investments are recorded at cost, which approximates fair value, and include cash in bank accounts, institutional money market funds, and other temporary investments held for working capital purposes with maturities of three months or less. Cash and short-term investments do not include cash balances held as collateral by the University. Cash and short-term investment balances designated for investment purposes are included in the "Investment portfolio, at fair value" in the *Balance Sheets*.

Dividend income is recognized net of applicable withholding taxes on the ex-dividend date. Non-cash dividends are recorded at the fair value of the securities received. Interest income and expenses are recorded net of applicable withholding taxes on the accrual basis of accounting. The University amortizes bond premiums and accretes bond discounts using the effective yield method and when cash collection is expected.

The University utilizes a number of wholly owned subsidiary entities to support its investment activities.

The consolidated financial statements include all assets, liabilities, income, and expenses associated with these entities. All intercompany accounts and transactions have been eliminated during consolidation.

The University separately reports the fair value of assets for which counterparties have the right to pledge or exchange the collateral they have received; investment portfolio assets that are unencumbered are included in "Investment portfolio, at fair value" in the *Balance Sheets*.

The majority of the University's investments are managed by HMC in the GIA, a pooled fund that consists primarily of endowment assets. Certain other investments are managed separately from the GIA. These other investments consist primarily of cash, short-term investments, and fixed income securities (principally US government securities) held for the University's working capital and liquidity needs; publicly traded securities associated with split interest agreements; and public and private investments donated to the University.

The University's investment holdings as of June 30, 2015 and 2014 are summarized in the following table (in thousands of dollars):

	2015	2014
Investment portfolio, at fair value:		
Pooled general investment account assets <sup>1</sup>	\$ 62,961,440	\$ 57,854,135
Other investments <sup>2</sup>	2,572,682	3,140,194
Investment assets <sup>3</sup>	65,534,122	60,994,329
Pooled general investment account liabilities	21,166,693	17,600,550
Interest rate exchange agreement	17,038	7,980
Investment liabilities	21,183,731	17,608,530
<b>TOTAL INVESTMENTS</b>	<b>44,350,391</b>	<b>43,385,799</b>
Non-controlling interests attributable to the pooled investment account	833,583	646,429
<b>TOTAL INVESTMENTS, NET</b>	<b>\$ 43,516,808</b>	<b>\$ 42,739,370</b>

<sup>1</sup> Includes securities pledged to counterparties of \$10,874,966 and \$7,685,852 at June 30, 2015 and 2014, respectively.

<sup>2</sup> Consists primarily of repurchase agreements and US government securities of \$1,459,301 and \$1,953,994 at June 30, 2015 and 2014, respectively.

<sup>3</sup> Investment assets include cash and cash equivalents that consist principally of deposits that have maturities of 90 days or less. Cash and cash equivalents classified as investments were \$711,186 and \$656,577 at June 30, 2015 and 2014, respectively.

A summary of the University's total return on investments for fiscal 2015 and 2014 is presented below (in thousands of dollars):

	2015	2014
Return on pooled general investment account:		
Realized and change in unrealized appreciation, net	\$ 2,003,651	\$ 5,025,864
Net investment income	225,532	271,731
Total return on pooled general investment account <sup>1</sup>	2,229,183	5,297,595
Return on other investments:		
Realized and change in unrealized (depreciation)/appreciation, net	(20,681)	38,089
Net investment income	27,869	28,540
Total return on other investments	7,188	66,629
Realized and change in unrealized (depreciation) on interest rate exchange agreement, net	(12,744)	(5,798)
<b>TOTAL RETURN ON INVESTMENTS</b>	<b>\$ 2,223,627</b>	<b>\$ 5,358,426</b>

<sup>1</sup> Net of all internal and external management fees and expenses.



The University's investment strategy incorporates a diversified asset allocation approach and maintains, within defined limits, exposure to the movements of the global equity, fixed income, real estate, commodities, and private equity markets. The pooled GIA assets and liabilities below have been disaggregated based on the exposure of the investment to these markets. Exposure to each asset class

is achieved through investments in individual securities, direct investments in special purpose vehicles, and/or through vehicles advised by external managers.

The pooled GIA assets and liabilities as of June 30, 2015 and 2014 are summarized as follows (in thousands of dollars):

	2015	2014
<b>POOLED GENERAL INVESTMENT ACCOUNT ASSETS:</b>		
Investment assets:		
Domestic common and convertible equity	\$ 6,450,834	\$ 5,592,535
Foreign common and convertible equity	2,591,172	2,627,127
Domestic fixed income	8,557,087	6,509,373
Foreign fixed income	3,206,849	3,404,440
Emerging market equity and debt	3,743,452	3,337,388
High yield	477,832	785,001
Absolute return	6,164,896	5,632,820
Private equities	7,120,249	7,367,183
Natural resources	4,283,935	4,709,950
Real estate	8,653,859	7,099,602
Inflation-indexed bonds	1,105,023	719,239
Due from brokers <sup>1</sup>	1,106,554	667,983
Total investment assets	53,461,742	48,452,641
Repurchase agreements <sup>2</sup>	7,621,408	7,215,852
Cash and short-term investments	597,076	520,060
Other assets <sup>3</sup>	1,281,214	1,665,582
<b>POOLED GENERAL INVESTMENT ACCOUNT ASSETS</b>	<b>62,961,440</b>	<b>57,854,135</b>
<b>POOLED GENERAL INVESTMENT ACCOUNT LIABILITIES:</b>		
Investment liabilities:		
Equity and convertible securities sold, not yet purchased	611,107	294,049
Fixed income securities sold, not yet purchased	5,670,279	5,520,809
Due to brokers <sup>4</sup>	96,777	168,901
Total investment liabilities	6,378,163	5,983,759
Reverse repurchase agreements <sup>5</sup>	10,581,215	7,800,215
Other liabilities <sup>6</sup>	4,207,315	3,816,576
<b>POOLED GENERAL INVESTMENT ACCOUNT LIABILITIES</b>	<b>21,166,693</b>	<b>17,600,550</b>
Non-controlling interests attributable to the pooled general investment account	833,583	646,429
<b>POOLED GENERAL INVESTMENT ACCOUNT NET ASSETS<sup>7</sup></b>	<b>\$ 40,961,164</b>	<b>\$ 39,607,156</b>

<sup>1</sup> Includes collateral advanced under securities borrowing agreements of \$691,240 and \$336,123 as of June 30, 2015 and 2014, respectively.

<sup>2</sup> Includes pending repurchase agreements that settled subsequent to the balance sheet date of \$122,520 and \$383,955 as of June 30, 2015 and 2014, respectively.

<sup>3</sup> As of June 30, 2015, other assets consisted primarily of receivables for transactions that settled subsequent to the balance sheet date of \$693,016, and assets consolidated under ASC 810 of \$626,322. As of June 30, 2014, other assets consisted primarily of receivables for transactions that settled subsequent to the balance sheet date of \$864,049, and assets consolidated under ASC 810 of \$533,707.

<sup>4</sup> Includes collateral held under securities lending agreements of \$66,004 and \$126,757 as of June 30, 2015 and 2014, respectively.

<sup>5</sup> Includes pending reverse repurchase agreements that settled subsequent to the balance sheet date of \$27,185 and \$223,434 as of June 30, 2015 and 2014, respectively.

<sup>6</sup> As of June 30, 2015, other liabilities consisted primarily of payables for the purchase of securities of \$471,500, and liabilities consolidated under ASC 810 of \$3,230,275. As of June 30, 2014, other liabilities consisted primarily of payables for the purchase of securities of \$859,957, and liabilities consolidated under ASC 810 of \$2,464,559.

<sup>7</sup> The cost of the total pooled GIA net assets, net of proceeds received from short positions, was \$39,499,150 and \$35,240,844 as of June 30, 2015 and 2014, respectively.

As of June 30, 2015 and 2014, the GIA was comprised of the following components (in thousands of dollars):

	2015	2014
<b>POOLED GENERAL INVESTMENT ACCOUNT</b>		
Endowment <sup>1</sup>	\$ 35,703,136	\$ 35,039,522
General Operating Account	3,893,044	3,255,419
Split interest agreements	806,219	812,736
Other internally designated funds	558,765	499,479
<b>TOTAL POOLED GENERAL INVESTMENT ACCOUNT NET ASSETS</b>	<b>\$ 40,961,164</b>	<b>\$ 39,607,156</b>

<sup>1</sup> Includes only the portion of the endowment invested in the GIA and excludes pledges, interests in trusts held by others, other non-GIA investments, and GIA income.

The asset allocation of the University's investment portfolio involves exposure to a diverse set of markets. The investments within these markets involve various risks such as price, interest rate, market, sovereign, currency, liquidity, and credit risks. Additionally, the GIA's direct investments in natural resources and real estate expose the University to a unique set of risks such as operational, environmental, and political risks. Furthermore, a component of the investment portfolio's asset allocation includes five diversified funds managed by external advisors, which represent 18% of the GIA net asset value ("NAV"), in the aggregate. The University anticipates that the value and composition of its investments may, from time to time, fluctuate substantially in response to any or all of the risks described herein.

The University has various sources of liquidity at its disposal within its investment pools, including approximately \$3.2 billion in cash and cash equivalents (including repurchase agreements of \$2.5 billion) at June 30, 2015 in the GIA and the GOA. In addition, the University estimates that as of June 30, 2015, it could liquidate additional unencumbered US government

securities of \$2.2 billion within one business day (typical settlement terms) to meet any immediate short-term needs of the University.

The University *Balance Sheets* display both the assets and corresponding liabilities generated by repurchase, reverse repurchase, securities borrowing, and securities lending transactions. The University enters these transactions under agreements containing master netting arrangements. The University requires the fair value of the collateral exchanged under these agreements to be equal to or in excess of the total amount of the agreement, including interest where applicable. Collateral is exchanged as required by fluctuations in the fair value of these instruments. In the event of a counterparty default, the University generally has the right to close out all transactions traded under such agreements and to net amounts owed or due across all transactions and offset such net payable or receivable with collateral posted by one party or the other.

The following table presents information about the offsetting of these instruments and related collateral amounts as of June 30, 2015 and 2014 (in thousands of dollars):

	As of June 30, 2015			As of June 30, 2014		
	Gross asset amounts <sup>1</sup>	Collateral <sup>2</sup>	Net exposure <sup>4</sup>	Gross asset amounts <sup>1</sup>	Collateral <sup>2</sup>	Net exposure <sup>4</sup>
Repurchase agreements	\$ 8,580,607	\$ 8,580,607	\$ 0	\$ 8,410,543	\$ 8,410,543	\$ 0
Securities borrowing agreements	691,240	691,240	0	336,123	336,123	0
<b>TOTAL REPURCHASE AND SECURITIES BORROWING AGREEMENTS</b>	<b>\$ 9,271,847</b>	<b>\$ 9,271,847</b>	<b>\$ 0</b>	<b>\$ 8,746,666</b>	<b>\$ 8,746,666</b>	<b>\$ 0</b>
	Gross liability amounts <sup>1</sup>	Collateral <sup>3</sup>	Net exposure <sup>4</sup>	Gross liability amounts <sup>1</sup>	Collateral <sup>3</sup>	Net exposure <sup>4</sup>
Reverse repurchase agreements	\$ 10,581,215	\$ 10,581,215	\$ 0	\$ 7,800,215	\$ 7,800,215	\$ 0
Securities lending agreements	66,004	66,004	0	126,757	126,757	0
<b>TOTAL REVERSE REPURCHASE AND SECURITIES LENDING AGREEMENTS</b>	<b>\$ 10,647,219</b>	<b>\$ 10,647,219</b>	<b>\$ 0</b>	<b>\$ 7,926,972</b>	<b>\$ 7,926,972</b>	<b>\$ 0</b>

<sup>1</sup> The University does not offset repurchase and securities borrowing agreements and reverse repurchase and securities lending agreements that are subject to master netting arrangements or similar arrangements on the University's Balance Sheets. Refer to Note 5 for information related to offsetting of derivatives.

<sup>2</sup> Includes securities in transit of \$124,221 and \$358,166 as of June 30, 2015 and 2014, respectively, that will typically settle within one to two business days subsequent to the transaction date.

<sup>3</sup> Includes securities in transit of \$27,134 and \$197,924 as of June 30, 2015 and 2014, respectively, that will typically settle within one to two business days subsequent to the transaction date.

<sup>4</sup> Net exposure excludes any over-collateralized amounts.

The University has consolidated, under ASC 810, certain non-controlling interests relating to its investments in natural resources and real estate assets. These non-controlling interests represent the minority interest portion of these assets controlled by the University that are required to be presented on the University's balance sheet under GAAP. The net increase in non-controlling interests year over year of \$187.2 million is due to \$169.5 million in appreciation on existing non-controlling interests and \$81.0 million of contributions made by minority partners offset by \$63.3 million in distributions to the minority partners.

*Other liabilities* on page 28 include debt outstanding on consolidated portfolio investments of \$2,629.0 million and \$2,018.8 million as of June 30, 2015 and 2014, respectively. This debt is categorized as Level 3 in the ASC 820 fair value hierarchy as defined in Note 4. Based on the structure, duration, and nature of the debt being consolidated, the amounts approximate the fair value of the debt as of each reporting period. This debt is utilized for purposes specific to natural resources and real estate assets held by the investment portfolio, and is non-recourse to any other assets held by the University.

#### 4. FAIR VALUE OF INVESTMENT ASSETS AND LIABILITIES

The University endeavors to utilize all relevant and available information in measuring fair value. Investments are valued in accordance with ASC 820, and under the guidelines prescribed by the HMC investment valuation policy, which is reviewed and approved by the HMC Board of Directors on an annual basis.

Instruments listed or traded on a securities exchange are valued at the last quoted price on the primary exchange where the security is traded. Where there is no readily available closing price on the valuation date, long positions are valued at the bid price and short positions are valued at the ask price. Restrictions that are attached to a security are factored into the valuation of that security, reflective of the estimated impact of those restrictions. Investments in non-exchange traded debt and equity instruments are primarily valued using inputs provided by independent pricing services or by broker/dealers who actively make markets in these securities.

Over the counter ("OTC") derivative products classified as due to/from brokers include option, swap, credit default, interest rate, and forward contracts. These types of instruments are primarily valued using industry standard models with independent market inputs, or by broker quotes. Inputs such as prices, spreads, curves, and/or broker quotes are evaluated for source reliability and consistency with industry standards. Counterparty marks obtained and utilized to determine daily collateral requirements are also used to corroborate input reasonability. The University considers current market conditions including interest rate and credit risks in its evaluation of inputs, pricing methodologies, and models utilized to determine fair values.

Investments managed by external advisors include investments in private equity, real estate, natural resources, absolute return and other externally managed funds. The majority of these investments are not readily marketable and are reported at fair value utilizing the most current information provided by the external advisor, subject to assessments that the information is representative of fair value and in consideration of any additional factors deemed pertinent to the fair value measurement. The University evaluates its external advisors through a manager due-diligence program executed by HMC, which includes an analysis of an advisor's use of and adherence to fair value principles. In situations where the information provided by the external advisor is deemed to not be representative of fair value as of the measurement date, the University will evaluate specific features of the investment and utilize supplemental information provided by the external advisor along with any relevant market data to measure the investment's fair value as of that date.

Direct investments in natural resources, specifically timberland and agriculture, as well as real estate are primarily valued using a combination of independent appraisals and/or one or more industry standard valuation techniques (e.g., income approach, market approach, or cost approach). The income approach is primarily based on the investment's anticipated future income using one of two principal methods: the discounted cash flow method or the capitalization method. Inputs and estimates developed and utilized in the income approach may be subjective and require judgment regarding significant matters such as estimating the amount and timing of future cash flows and the selection of discount and capitalization rates that appropriately reflect market and credit risks. The market approach derives investment value through comparison to recent and relevant market transactions with similar investment characteristics. The cost approach is utilized when the cost of the investment is determined to be the best representation of fair value. This method is typically used for newly purchased or undeveloped assets. The valuation process encompasses a wide range of procedures that in the aggregate allow the University to assert as to the adequacy of the fair values reported as of the measurement date. The HMC Board of Directors discusses the valuation process and results with HMC management, and makes determinations on significant matters impacting valuation that may arise from time to time.

The University's investments have been categorized based upon the fair value hierarchy in accordance with ASC 820, which prioritizes the inputs to valuation techniques used to measure fair value of investment assets and liabilities into three levels:

**LEVEL 1** Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;

**LEVEL 2** Quoted prices in markets that are not considered to be active or financial instruments for which all significant inputs are observable, either directly or indirectly;

**LEVEL 3** Prices or valuations that require inputs that are significant to the fair value measurement, unobservable and/or require the University to develop its own assumptions.

The level of an asset or liability within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Transfers between levels are recognized at the beginning of the year.

The following is a summary of the levels within the fair value hierarchy for those investment assets and liabilities subject to fair value measurement as of June 30, 2015 and 2014 (in thousands of dollars):

	2015				2014			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
<b>INVESTMENT ASSETS:</b>								
Cash and short-term investments	\$ 711,186			\$ 711,186	\$ 656,577			\$ 656,577
Domestic common and convertible equity	1,018,938	\$ 86,958	\$ 137,501	1,243,397	597,498			597,498
Foreign common and convertible equity	830,074			830,074	619,803	\$ 3		619,806
Domestic fixed income	9,128,709	28,110		9,156,819	6,950,344	415,069	\$ 3,932	7,369,345
Foreign fixed income	1,512,530	1,727,753		3,240,283	1,575,942	1,865,063		3,441,005
Emerging market equity and debt	2,255,442	254,636		2,510,078	2,650,177	317,841		2,968,018
High yield	54,208	374,841		464,246	68,504	398,390		479,377
Absolute return			175,556	175,556			199,609	199,609
Private equities			140,541	140,541			191,011	191,011
Natural resources	1,406		3,946,937	3,948,343	9,592		4,415,026	4,424,618
Real estate			5,465,543	5,465,543			4,053,221	4,053,221
Inflation-indexed bonds	1,117,971			1,117,971	731,925			731,925
Due from brokers	45,913	298,823	103,444	448,180	17,656	334,114	7,984	359,754
Other investments	10,893	2,631	20,326	33,850	17,508	1,986	20,511	40,005
Repurchase agreements		8,580,607		8,580,607		8,410,543		8,410,543
Interests in trusts held by others <sup>1</sup>			363,175	363,175			376,526	376,526
<b>INVESTMENT ASSETS SUBJECT TO FAIR VALUE LEVELING</b>	<b>\$16,687,270</b>	<b>\$11,354,359</b>	<b>\$10,388,220</b>	<b>38,429,849</b>	<b>\$13,895,526</b>	<b>\$11,743,009</b>	<b>\$9,280,303</b>	<b>34,918,838</b>
Investments measured using the practical expedient				25,262,493				24,195,923
Securities borrowing agreements				691,240				336,123
Other assets not subject to fair value				1,546,581				1,947,865
<b>TOTAL ASSETS<sup>2</sup></b>				<b>\$65,930,163</b>				<b>\$61,398,749</b>
<b>INVESTMENT LIABILITIES:</b>								
Equity and convertible securities sold, not yet purchased	\$ 611,107			\$ 611,107	\$ 294,049			\$ 294,049
Fixed income securities sold, not yet purchased	3,924,873	\$ 1,745,406		5,670,279	3,888,005	\$ 1,632,803		5,520,808
Due to brokers <sup>3</sup>	13,295	66,920	\$ 462	80,677	15,369	45,454	\$ 17,196	78,019
Reverse repurchase agreements		10,581,215		10,581,215		7,800,215		7,800,215
Liabilities due under split interest agreements <sup>3</sup>		910,084		910,084		758,991		758,991
Other liabilities subject to fair value			2,629,035	2,629,035			2,018,829	2,018,829
<b>INVESTMENT LIABILITIES SUBJECT TO FAIR VALUE LEVELING</b>	<b>\$ 4,549,275</b>	<b>\$13,303,625</b>	<b>\$ 2,629,497</b>	<b>20,482,397</b>	<b>\$ 4,197,423</b>	<b>\$10,237,463</b>	<b>\$2,036,025</b>	<b>16,470,911</b>
Securities lending agreements				66,004				126,757
Other liabilities not subject to fair value				1,578,280				1,797,747
<b>TOTAL LIABILITIES<sup>2</sup></b>				<b>\$22,126,681</b>				<b>\$18,395,415</b>

<sup>1</sup> Amounts excluded from total investments and included separately on the University's Balance Sheets.

<sup>2</sup> For purposes of reporting by level under the fair value hierarchy, some assets and liabilities are shown gross that are otherwise reported net in the table on page 28.

<sup>3</sup> Includes fair value of an interest rate exchange agreement on the University's debt portfolio of \$17,038 and \$7,980 as of June 30, 2015 and 2014, respectively.

The following is a rollforward of Level 3 investments for the year ended June 30, 2015 (in thousands of dollars):

	Beginning balance as of July 1, 2014	Net realized gains/ (losses)	Net change in unrealized appreciation/ (depreciation)	Purchases/ contributions	Sales/ distributions	Transfers into Level 3 <sup>2</sup>	Transfers out of Level 3 <sup>2</sup>	Ending balance as of June 30, 2015
<b>INVESTMENT ASSETS:</b>								
Domestic common and convertible equity		\$ 1,408	\$ 12,500	\$ 130,001	\$ (6,408)			\$ 137,501
Domestic fixed income	\$ 3,932	(159)	73		(1,296)		\$ (2,550)	0
High yield	12,483	(2,670)	1,533	53,673	(32,372)	\$ 2,550		35,197
Absolute return	199,609	500	(76,553)	77,565	(25,565)			175,556
Private equities	191,011	14,205	(38,435)		(8,068)		(18,172)	140,541
Natural resources	4,415,026	528,660	(388,171)	493,836	(1,102,414)			3,946,937
Real estate	4,053,221	58,686	1,124,028	827,627	(461,756)	11,909	(148,172)	5,465,543
Due from brokers	7,984	(593)	(9,305)	108,438	(63,313)	60,233		103,444
Other investments	20,511	42	(227)					20,326
Interests in trusts held by others	376,526		(13,351)					363,175
<b>INVESTMENT ASSETS SUBJECT TO FAIR VALUE LEVELING</b>	<b>\$ 9,280,303</b>	<b>\$ 600,079</b>	<b>\$ 612,092</b>	<b>\$ 1,691,140</b>	<b>\$ (1,701,192)</b>	<b>\$ 74,692</b>	<b>\$ (168,894)</b>	<b>\$ 10,388,220</b>
<b>INVESTMENT LIABILITIES:</b>								
Due to brokers	\$ 17,196	\$ 1,464	\$ (39,011)	\$ (16,811)	\$ 37,624			\$ 462
Other liabilities subject to fair value	2,018,829		(38,507)	(138,439)	787,152			2,629,035
<b>INVESTMENT LIABILITIES SUBJECT TO FAIR VALUE LEVELING</b>	<b>\$ 2,036,025</b>	<b>\$ 1,464</b>	<b>\$ (77,518)</b>	<b>\$ (155,250)</b>	<b>\$ 824,776</b>			<b>\$ 2,629,497</b>

<sup>1</sup> Total change in unrealized appreciation/(depreciation) relating to Level 3 investment assets and investment liabilities still held by the University at June 30, 2015 is \$1,302,246 and is reflected in "Realized and change in unrealized appreciation, net" in the Statements of Changes in Net Assets.

<sup>2</sup> During the fiscal year, the University changed the asset class designation for certain Level 3 investments to better align with investment exposure. Additionally, certain transfers into Level 3 represent instances of deviation from the practical expedient whereas certain transfers out of Level 3 represent a return to the practical expedient. Certain securities, included in Due from brokers, valued using single broker quotes were transferred into Level 3.

The following is a rollforward of Level 3 investments for the year ended June 30, 2014 (in thousands of dollars):

	Beginning balance as of July 1, 2013	Net realized gains/ (losses)	Net change in unrealized appreciation/ (depreciation) <sup>1</sup>	Purchases/ contributions	Sales/ distributions	Transfers into Level 3 <sup>2</sup>	Transfers out of Level 3 <sup>2</sup>	Ending balance as of June 30, 2014
<b>INVESTMENT ASSETS:</b>								
Domestic fixed income		\$ (709)	\$ 352	\$ 4,289				\$ 3,932
High yield	\$ 27,528	11,733	(6,011)	52	\$ (15,581)		\$ (5,238)	12,483
Absolute return	79,497		(10,442)	136,054	(5,500)			199,609
Private equities	106,290	106,043	(21,322)					191,011
Natural resources	3,673,732	(580)	534,989	238,139	(31,254)			4,415,026
Real estate	2,596,653	69,893	793,071	844,841	(393,589)	\$ 161,289	(18,937)	4,053,221
Due from brokers	19,315	290	(1,961)	340	(10,000)			7,984
Other investments	21,338	188	(1,015)					20,511
Interests in trusts held by others	352,069		24,457					376,526
<b>INVESTMENT ASSETS SUBJECT TO FAIR VALUE LEVELING</b>	<b>\$ 6,876,422</b>	<b>\$ 186,858</b>	<b>\$ 1,312,118</b>	<b>\$ 1,223,715</b>	<b>\$ (455,924)</b>	<b>\$ 161,289</b>	<b>\$ (24,175)</b>	<b>\$ 9,280,303</b>
<b>INVESTMENT LIABILITIES:</b>								
Due to brokers	\$ 660	\$ (476)	\$ 111	\$ (1,134)	\$ 18,035			\$ 17,196
Other liabilities subject to fair value	1,404,010		(266)	(115,465)	730,550			2,018,829
<b>INVESTMENT LIABILITIES SUBJECT TO FAIR VALUE LEVELING</b>	<b>\$ 1,404,670</b>	<b>\$ (476)</b>	<b>\$ (155)</b>	<b>\$ (116,599)</b>	<b>\$ 748,585</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 2,036,025</b>

<sup>1</sup> Total change in unrealized appreciation/(depreciation) relating to Level 3 investment assets and investment liabilities still held by the University at June 30, 2014 is \$429,541 and is reflected in "Realized and change in unrealized appreciation, net" in the Statements of Changes in Net Assets.

<sup>2</sup> Certain real estate transfers into Level 3 represent instances of deviation from the practical expedient whereas certain Real estate transfers out of Level 3 represent a return to the practical expedient.

Investments that trade in inactive markets, but are valued based on quoted market prices, broker/dealer quotations, or independent pricing services supported by observable inputs are primarily classified within Level 2. These may include non-exchange traded equity and fixed income securities, securities subject to restriction, and certain OTC derivatives. Other investments, including OTC derivatives valued using broker quotes or other industry standard models, where unobservable inputs may have been obtained from third parties, have been classified as Level 3 in accordance with the fair value hierarchy under ASC 820.

The University is a limited partner in private equity and real estate partnerships, and other external investment managers, which include commitments to make periodic contributions in future periods. The amounts of these expected disbursements as of June 30, 2015 and 2014 are disclosed below (in thousands of dollars):

	As of June 30, 2015				As of June 30, 2014		
	Fair value <sup>1</sup>	Remaining unfunded commitments	Estimated remaining life <sup>2</sup>		Fair value <sup>1</sup>	Remaining unfunded commitments	Estimated remaining life <sup>2</sup>
Private equities	\$ 5,945,381	\$ 2,886,558	4 – 10	\$	6,159,103	\$ 2,564,806	4 – 10
Real estate	2,178,485	1,409,809	4 – 10		2,437,070	1,508,439	4 – 10
Other externally managed funds <sup>3</sup>	1,658,033	1,569,692	2 – 8		1,156,671	1,128,653	2 – 8
<b>TOTAL</b>	<b>\$ 9,781,899</b>	<b>\$ 5,866,059</b>		<b>\$</b>	<b>9,752,844</b>	<b>\$ 5,201,898</b>	

<sup>1</sup> Represents the fair value of the funded portion of investments with remaining unfunded commitments.

<sup>2</sup> The estimated remaining lives of these funds, expressed in years, are forward-looking projections based on the University's estimates and could vary significantly depending on the investment decisions of external managers, changes in the University's investment portfolio, and other circumstances.

<sup>3</sup> Investments in other externally managed funds primarily include exposures to absolute return, natural resources, domestic, foreign, and emerging equities, and high yield asset classes.

The nature of these partnership interests is that distributions are received through the liquidation of the underlying assets of the partnership over its remaining life. The fair value of the investments in these asset classes has generally been estimated using the University's capital account balance with each partnership, unless the University has deemed the NAV to be an inappropriate representation of fair value. To evaluate the fair value of the University's externally managed investments, the University has assessed factors including, but not limited to, the external advisor's adherence to fair value principles in calculating the capital account balance, the existence of transactions at NAV at the measurement date, and the existence or absence of certain restrictions at the measurement date. Investments in externally managed funds generally have limited redemption options for investors and, subsequent to final closing, may or may not permit subscriptions by new or existing investors. These entities may also have the ability to impose gates, lockups, and other restrictions on an investor's ability to readily redeem out of their investment interest in the partnership.

The valuation procedures performed on direct investments are based on industry standard processes for each respective asset class. The inputs utilized in any valuation model may be significant and unobservable, and require a certain degree of judgment. The University examines market data and collaborates closely with industry experts to attempt to arrive at the best estimation of fair value for each respective asset. While the inputs described below represent the range of inputs utilized as of the measurement date, these inputs may change over time, which may have a material effect on the valuation of these types of investments in the future. Additionally, there may be interrelationships between the unobservable inputs utilized in any valuation model, and significant changes in any of those inputs, in isolation or in the aggregate, may trigger changes in other inputs or in the estimated fair value for each respective investment asset. The University has not assessed the sensitivity to unforeseeable changes in significant unobservable inputs; rather the range of inputs described below illustrate those inputs utilized by management in arriving at fair value for these direct investments as of the measurement date.

	As of June 30, 2015		As of June 30, 2014	
	Level 3 investments subject to fair value (in thousands of dollars) <sup>2</sup>	Range of inputs utilized in valuation model <sup>3</sup>	Level 3 investments subject to fair value (in thousands of dollars) <sup>2</sup>	Range of inputs utilized in valuation model <sup>3</sup>
Significant unobservable input by asset class <sup>1</sup>				
Natural resources:	\$ 3,845,097		\$ 3,681,268	
Income approach discount rate		5.5% – 15.0%		4.0% – 20.0%
Price per planted hectare		\$3,673 – \$132,207		\$3,347 – \$141,445
Real estate:	5,230,378		3,855,752	
Income approach discount rate		5.8% – 20.4%		7.0% – 20.0%
Capitalization rate		2.8% – 10.0%		4.0% – 9.0%
Net operating income growth rate		2.0% – 7.7%		2.0% – 7.0%
Absolute return:	87,128			
Book value multiplier		1x		
Other liabilities subject to fair value:	(2,629,035)		(2,018,829)	
Loan to value		2.3% – 86.3%		3.3% – 75.7%
Market interest rate		1.7% – 10.0%		2.0% – 10.0%
<b>NET AMOUNT</b>	<b>\$ 6,533,568</b>		<b>\$ 5,518,191</b>	

<sup>1</sup> The fair value of investments may be determined using multiple valuation techniques.

<sup>2</sup> Included within Level 3 investments is \$1,225,155 and \$1,726,087 as of June 30, 2015 and 2014, respectively, which were valued using other inputs including, but not limited to single source broker quotations, third party pricing and prior transactions.

<sup>3</sup> The range of inputs encompasses a variety of investment types within each asset class.

## 5. DERIVATIVES

The University uses a variety of financial instruments with off-balance sheet risk involving contractual or optional commitments for future settlement, which are exchange traded or executed OTC. Certain instruments are cleared and settled through central clearing counterparties, while others are bilateral contracts between two counterparties. These instruments are used to increase or decrease exposure to a given asset class, with the goal of enhancing the returns of these asset classes. The market risk of a particular strategy is influenced by the relationship between the financial instruments with off-balance sheet risk and the offsetting positions recorded in the *Balance Sheets*. The University manages exposure to market risk through the

use of industry standard analytical tools that measure the market exposure of each position within a strategy. The strategies are monitored daily, and positions are frequently adjusted in response to changes in the financial markets.

In connection with its derivative activities, the University generally maintains master netting agreements and collateral agreements with its counterparties. These agreements provide the University the right, in the event of default by the counterparty (such as bankruptcy or a failure to pay or perform), to net a counterparty's rights and obligations under the agreement and to liquidate and offset collateral against any net amount owed by the counterparty.

The following table presents information about the University's derivatives by primary risk exposure for the years ended June 30, 2015 and 2014 (in thousands of dollars):

	As of June 30, 2015		For the year ended June 30, 2015	As of June 30, 2014		For the year ended June 30, 2014
	Gross derivative assets	Gross derivative liabilities	Net profit/ (loss) <sup>4</sup>	Gross derivative assets	Gross derivative liabilities	Net profit/ (loss) <sup>4</sup>
Primary risk exposure						
Equity instruments:						
Equity futures	\$ 25,676	\$ 3,537	\$ (5,529)	\$ 2,605	\$ 5,986	\$ (9,410)
Equity options	88,398	29,119	2,869	6,636	3,667	(16,556)
Equity exchange agreements	84,286	112,477	(132,958)	73,552	51,256	540,750
<b>TOTAL EQUITY INSTRUMENTS</b>	<b>198,360</b>	<b>145,133</b>	<b>(135,618)</b>	<b>82,793</b>	<b>60,909</b>	<b>433,784</b>
Fixed income instruments:						
Fixed income futures	15,851	22,710	3,817	36,866	32,484	26,469
Fixed income options	2,200	7,419	13,705	2,791	2,049	2,531
Interest rate exchange agreements <sup>1</sup>	1,707,173	1,470,383	(37,044)	1,613,371	1,394,561	(76,119)
Interest rate caps and floors	220,138	179,050	7,018	234,986	182,071	35,130
<b>TOTAL FIXED INCOME INSTRUMENTS</b>	<b>1,945,362</b>	<b>1,679,562</b>	<b>(12,504)</b>	<b>1,888,014</b>	<b>1,611,165</b>	<b>(11,989)</b>
Commodity instruments:						
Commodity futures	18,525	17,029	71,047	12,031	10,023	(7,560)
Commodity options	3,600		22,570	9,776	215	(2,272)
Commodity exchange agreements	28,358	3,318	10,191	17,509	15,501	57,111
<b>TOTAL COMMODITY INSTRUMENTS</b>	<b>50,483</b>	<b>20,347</b>	<b>103,808</b>	<b>39,316</b>	<b>25,739</b>	<b>47,279</b>
Currency instruments:						
Currency forwards	3,443,981	3,436,484	141,823	2,665,133	2,677,329	(36,123)
Currency options	101,529	82,340	14,156	50,759	44,644	(1,555)
Currency exchange agreements	10,819	3,544	12,708	23,984	12,162	(8,253)
<b>TOTAL CURRENCY INSTRUMENTS</b>	<b>3,556,329</b>	<b>3,522,368</b>	<b>168,687</b>	<b>2,739,876</b>	<b>2,734,135</b>	<b>(45,931)</b>
<b>CREDIT INSTRUMENTS</b>	<b>51,169</b>	<b>66,790</b>	<b>9,971</b>	<b>72,469</b>	<b>108,784</b>	<b>(17,180)</b>
<b>SUBTOTAL</b>	<b>5,801,703</b>	<b>5,434,200</b>	<b>\$ 134,344</b>	<b>4,822,468</b>	<b>4,540,732</b>	<b>\$ 405,963</b>
Counterparty netting <sup>2</sup>						
Exchange traded	(40,076)	(40,076)		(49,713)	(49,713)	
Centrally cleared	(218,265)	(218,265)		(117,102)	(117,102)	
Bilateral OTC	(5,145,086)	(5,145,086)		(4,331,773)	(4,331,773)	
<b>TOTAL COUNTERPARTY NETTING</b>	<b>(5,403,427)</b>	<b>(5,403,427)</b>		<b>(4,498,588)</b>	<b>(4,498,588)</b>	
<b>NET AMOUNTS INCLUDED IN THE BALANCE SHEETS<sup>3</sup></b>	<b>398,276</b>	<b>30,773</b>		<b>323,880</b>	<b>42,144</b>	
Collateral						
Cash collateral received/posted	80,842	8,689		3,010		
Securities collateral received/posted <sup>5,6</sup>	318,734	289,330		325,890	196,892	
<b>TOTAL COLLATERAL</b>	<b>399,576</b>	<b>298,019</b>		<b>328,900</b>	<b>196,892</b>	
<b>NET AMOUNT</b>	<b>(1,300)</b>	<b>(267,246)</b>		<b>(5,020)</b>	<b>(154,748)</b>	
<b>NET AMOUNT IN ACCORDANCE WITH ASC 210<sup>7</sup></b>	<b>\$ 0</b>	<b>\$ 0</b>		<b>\$ 0</b>	<b>\$ 0</b>	

<sup>1</sup> For the year ended June 30, 2015, includes a gross derivative liability of \$17,038 and a net loss of \$12,744 related to an interest rate exchange agreement on the University's debt portfolio. For the year ended June 30, 2014, includes a gross derivative liability of \$7,980 and a net loss of \$5,798 related to an interest rate exchange agreement on the University's debt portfolio. These positions are further discussed in Note 12.

<sup>2</sup> GAAP permits the netting of derivative assets and liabilities and the related cash collateral received and paid when a legally enforceable master netting agreement exists between the University and a derivative counterparty. Refer to Note 3 for information related to offsetting of certain other collateralized transactions.

<sup>3</sup> Included within the "Investment portfolio, at fair value" and "Securities lending and other liabilities associated with the investment portfolio" line items of the Balance Sheets.

<sup>4</sup> Included within "Realized and change in unrealized appreciation, net" within the Statements of Changes in Net Assets.

<sup>5</sup> Includes securities posted to meet initial margin requirements on exchange traded futures and centrally cleared derivatives.

<sup>6</sup> Includes collateral in transit of \$87,598 and \$26,780 as of June 30, 2015 and 2014, respectively, that settled within one to two business days subsequent to the transaction date.

<sup>7</sup> Excludes any over-collateralized amounts in accordance with ASC 210.



The following section details the accounting for each type of derivative contract, as well as the University's intended purpose for entering into each type of derivative instrument.

### Options

The University purchases and sells put and call options to take advantage of expected volatility in the price of underlying instruments. When purchasing an option, the University pays a premium, which is recorded as an asset and subsequently marked-to-market to reflect the current value of the option. When the University sells (writes) an option, the premium received is recorded as a liability and subsequently marked-to-market to reflect the current fair value of the option written. Premiums paid or received from options that expire unexercised are treated as realized losses and gains, respectively. When an option is closed before expiration or exercise, the University records a realized gain or loss equal to the difference between the proceeds paid/received upon closing and the original premium paid/received.

During fiscal years 2015 and 2014, the University transacted approximately 1,500 and 400 equity and fixed income option trades with an average transaction size of approximately 12,700 and 9,900 contracts, respectively. During the same period the University transacted approximately 400 and 200 currency option contracts with average USD equivalent notional amounts of approximately \$36.7 million and \$19.6 million per contract, respectively. Additionally, the University transacted approximately 300 and 700 commodity option trades with an average transaction size of approximately 1,100 and 300 contracts, respectively.

### Swap contracts

The University enters into swap contracts, which are contracts between two parties to exchange future cash flows at periodic intervals based on a notional principal amount, to increase or decrease its exposure to changes in the level of interest rates, underlying asset values and/or credit risk. Payments are exchanged at specified intervals, accrued daily commencing with the effective date of the contract and recorded as realized gains or losses. Gains or losses are realized in the event of an early termination of a swap contract. Risks of loss may include unfavorable changes in the returns of the underlying instruments or indexes, adverse fluctuations of interest rates, failure of the counterparty to perform under the terms of the agreement, and lack of liquidity in the market.

Collateral in the form of securities or cash may be posted to or received from the swap counterparty in accordance with the terms of the swap contract. Realized gains or losses are recorded relating to periodic payments received or made

on swap contracts and with respect to swaps that are closed prior to termination date. When the University enters into a swap transaction, it may make or receive a payment equal to the value of the swap on the entry date and amortizes such payments to realized gain or loss over the outstanding term of the swap. The terms of the swap contracts can vary, and they are reported at fair value based on a valuation model or a counterparty provided price.

In the normal course of its trading activities, the University enters into credit default, interest rate, and total return swap contracts.

### Credit default contracts

The University enters into credit derivatives to simulate long and short bond exposure that is either unavailable or considered to be less attractively priced in the bond market, or to hedge exposure obtained in the bond market. The University also uses these derivatives to reduce risk where it has exposure to the issuer, or to take an active long or short position with respect to the likelihood of an event of default. The underlying debt security on which the derivative is structured can be based on a single issuer, a "basket" of issuers, or an index. During fiscal years 2015 and 2014, the University transacted approximately 700 and 800 credit default contracts, respectively. These contracts had average notional amounts of approximately \$18.0 million and \$13.0 million in fiscal years 2015 and 2014, respectively.

In instances where the University has purchased credit protection on an underlying debt security, the University is obligated to pay the seller of the credit protection a periodic stream of payments over the term of the contract in return for a contingent payment upon the occurrence of a credit event with respect to the issuer of the debt security. The contingent payment may be a cash settlement or a physical delivery of the debt security in return for payment of the face amount of the obligation. The amount paid for purchased protection is typically a nominal percentage of the notional amount. In instances where the University has sold credit protection on an underlying debt security, the University receives a fixed rate of income throughout the term of the contract, which typically is between one month and five years, and in some instances up to ten years. In the case where the University sold credit protection, if a credit event occurs, the University may cash settle the contract or pay the purchaser of credit protection the full notional value of the contract in exchange for the debt security.

As of June 30, 2015, the University's purchased and written credit derivatives had gross notional amounts of \$1,935.7 million and \$1,761.3 million, respectively, for total net purchased protection of \$174.4 million in notional value.



As of June 30, 2014, the University's purchased and written credit derivatives had gross notional amounts of \$3,072.3 million and \$1,628.9 million, respectively, for total net purchased protection of \$1,443.4 million in notional value.

The table below summarizes certain information regarding credit protection purchased and written as of June 30, 2015 and 2014 (in thousands of dollars):

As of June 30, 2015								
Purchased protection			Written protection					
			Years to maturity – notional		Total written notional	Offsetting purchased notional <sup>2</sup>	Net written notional	Net written fair value
Credit rating on underlying	Purchased notional <sup>1</sup>	Purchased fair value	< 5 years	5-10 years				
A- to AAA	\$1,201,179	\$ (27,837)	\$ 105,000		\$ 105,000	\$ 5,000	\$ 100,000	\$ 770
BBB- to BBB+	451,340	(3,669)	834,764		834,764	5,000	829,764	(3,632)
Non-investment grade	125,599	5,195	821,568		821,568	147,568	674,000	1,167
<b>TOTAL</b>	<b>\$1,778,118</b>	<b>\$ (26,311)</b>	<b>\$ 1,761,332</b>		<b>\$1,761,332</b>	<b>\$ 157,568</b>	<b>\$ 1,603,764</b>	<b>\$ (1,695)</b>

As of June 30, 2014								
Purchased protection			Written protection					
			Years to maturity – notional		Total written notional	Offsetting purchased notional <sup>2</sup>	Net written notional	Net written fair value
Credit rating on underlying	Purchased notional <sup>1</sup>	Purchased fair value	< 5 years	5-10 years				
A- to AAA	\$1,028,748	\$ (11,143)	\$ 545,250	\$ 30,000	\$ 575,250	\$ 530,000	\$ 45,250	\$ 722
BBB- to BBB+	818,442	(10,818)	571,392		571,392	324,250	247,142	2,507
Non-investment grade	230,082	1,622	385,400	96,876	482,276	140,800	341,476	(23,073)
<b>TOTAL</b>	<b>\$2,077,272</b>	<b>\$ (20,339)</b>	<b>\$ 1,502,042</b>	<b>\$ 126,876</b>	<b>\$1,628,918</b>	<b>\$ 995,050</b>	<b>\$ 633,868</b>	<b>\$ (19,844)</b>

<sup>1</sup> Amounts shown are net of purchased credit protection that directly offsets written credit protection, as discussed in the note <sup>(2)</sup> below.

<sup>2</sup> Offsetting purchased credit derivatives represent the notional amount of purchased credit derivatives to the extent they hedge written credit derivatives with identical underlying debt securities.

Credit ratings on the underlying debt security, together with the period of expiration, are indicators of payment/performance risk. For example, the seller of credit protection is least likely to pay or otherwise be required to perform where the credit ratings are AAA and the period of expiration is "<5 years". The likelihood of payment or performance is generally greater as the credit ratings fall and period of expiration increases.

### Interest rate contracts

The University enters into interest rate swaps to hedge certain investment positions against interest rate fluctuations; to benefit from interest rate fluctuations; to obtain better interest rate terms than it would have been able to get without the swap; or to manage the interest, cost, and risk associated with its outstanding and/or future debt. Interest rate swaps involve the exchange by the University with another party of its respective commitments to pay or receive interest at specified intervals based on a notional amount of principal. During fiscal years 2015 and 2014, the University transacted approximately 4,700 and 3,500 interest rate swap and cap/floor contracts with average notional amounts of approximately \$251.0 million and \$206.0 million, respectively.

### Total return swaps

The University enters into total return swaps to manage its exposure to market fluctuations in various asset classes. Total return swaps involve commitments to pay interest in exchange for a market linked return, both based on notional amounts. To the extent the total return of the security or index underlying the transaction exceeds or falls short of the offsetting interest rate obligation, the University will receive a payment from or make a payment to the counterparty, respectively. During fiscal years 2015 and 2014, the University transacted approximately 200 and 700 commodity swap contracts with average notional amounts of approximately \$5.9 million and \$1.2 million; 1,500 and 2,600 equity swap contracts with average notional amounts of approximately \$5.2 million and \$0.4 million; and 200 and 100 currency swap contracts with average notional amounts of approximately \$30.0 million and \$32.0 million, respectively.

### Forward currency contracts

The University enters into forward currency contracts in connection with settling planned purchases or sales of securities, or to hedge the currency exposure associated with some or all of the University's portfolio securities. A forward currency contract is an agreement between two parties to buy and sell a currency at a set price on a future date. The value of a forward currency contract fluctuates with changes in forward currency exchange rates. Forward currency contracts are marked-to-market daily and the change in fair value is recorded by the University as an unrealized gain or loss. During fiscal years 2015 and 2014, the University transacted approximately 12,400 and 9,800 forward currency contracts with average USD equivalent notional amounts of approximately \$2.8 million and \$3.4 million, respectively.

### Futures contracts

The University uses futures contracts to manage its exposure to financial markets, including hedging such exposures. Buying futures tends to increase the University's exposure to the underlying instrument, while selling futures tends to decrease exposure to the underlying instrument. Upon entering into a futures contract, the University is required to deposit an amount of cash or securities with its prime broker in accordance with the initial margin requirements of the broker or exchange. Futures contracts are marked-to-market daily based on settlement prices established by the board of trade or exchange on which they are traded, and an appropriate payable or receivable for the change in fair value is recorded by the University. Gains and losses are realized when the contracts expire or are closed. During fiscal years 2015 and 2014, the University transacted approximately 23,500 and 32,600 futures trades with an average transaction size of approximately 170 and 60 contracts, respectively.

### Counterparty credit exposure

Financial instruments with off-balance sheet risk involve counterparty credit exposure. The policy of the University is to require collateral to the maximum extent possible under normal trading practices. Collateral, generally in the form of debt obligations issued by the US Treasury, is exchanged on a daily basis as required by fluctuations in the market. In the event of counterparty default, the University has the right to use the collateral held to offset any losses ensuing from the default event. Specific credit limits are established for counterparties based on their individual credit ratings. Credit limits are monitored daily by the University and are adjusted according to policy, as necessary. Some of the financial instruments entered into by the University contain credit-risk-related contingency features that allow the parties to the agreement to demand immediate payment for outstanding contracts and/or collateral. If material credit-risk-related contingency features were triggered on June 30, 2015, \$2.6 million in additional collateral would have been due to counterparties whereas at June 30, 2014, no additional collateral would have been due to counterparties for derivative contracts.

## 6. RECEIVABLES

The major components of receivables, net of reserves for doubtful accounts of \$12.8 million and \$15.6 million as of June 30, 2015 and 2014, respectively, were as follows (in thousands of dollars):

	2015	2014
Federal sponsored support	\$ 62,831	\$ 85,075
Publications	47,865	50,172
Executive education	28,163	20,406
Tuition and fees	21,119	15,780
Non-federal sponsored support	14,323	15,397
Gift receipts	19,458	10,825
Other	46,203	48,827
<b>TOTAL RECEIVABLES, NET</b>	<b>\$ 239,962</b>	<b>\$ 246,482</b>

## 7. NOTES RECEIVABLE

Notes receivable are recorded initially at face value plus accrued interest, which approximates fair value. Notes receivable, and related allowance for doubtful accounts, were as follows (in thousands of dollars):

	2015			2014		
	Receivable	Allowance	Net	Receivable	Allowance	Net
Student Loans:						
Government revolving	\$ 78,743	\$ 2,165	\$ 76,578	\$ 77,645	\$ 2,493	\$ 75,152
Institutional	88,105	2,384	85,721	89,335	2,812	86,523
Federally insured	425		425	592		592
Total student loans	\$ 167,273	\$ 4,549	\$ 162,724	\$ 167,572	\$ 5,305	\$ 162,267
Faculty and staff loans	202,837	422	202,415	199,291	422	198,869
Other loans	18,204	5,506	12,698	20,043	4,703	15,340
<b>TOTAL</b>	<b>\$ 388,314</b>	<b>\$ 10,477</b>	<b>\$ 377,837</b>	<b>\$ 386,906</b>	<b>\$ 10,430</b>	<b>\$ 376,476</b>

Government revolving loans are funded principally with federal advances to the University under the Perkins Loan Program and certain other programs. These advances totaled \$69.4 million and \$68.9 million as of June 30, 2015 and 2014, respectively, and are classified as liabilities in the *Balance Sheets*. Interest earned on the revolving and institutional loan programs is reinvested to support additional loans. The repayment and interest rate terms of the institutional loans vary considerably.

Faculty and staff notes receivable primarily consists of mortgage and educational loans. Mortgages include shared appreciation loans and loans that bear interest at the applicable federal rate. In addition, certain mortgages bear interest at the current market rate, which may be subsidized for an initial period. The educational loans are primarily zero-interest loans.

The University assesses the adequacy of the allowance for doubtful accounts by evaluating the loan portfolio, including such factors as the differing economic risks associated with each loan category, the financial condition of specific borrowers, the economic environment in which the borrowers operate, the level of delinquent loans, the value of any collateral, and, where applicable, the existence of any guarantees or indemnifications. In addition to these factors, the University reviews the aging of the loans receivable and the default rate in comparison to prior years. The allowance is adjusted based on these reviews. The University considers the allowance at June 30, 2015 and 2014 to be reasonable and adequate to absorb potential credit losses inherent in the loan portfolio.

## 8. PLEDGES RECEIVABLE

Unconditional promises to donate to the University in the future are initially recorded at fair value (pledge net of discount) and subsequently amortized over the expected payment period, net of an allowance for uncollectible pledges. The University's indicative 1- to 5-year taxable unsecured borrowing rate is used to discount pledges receivable upon receipt. Discounts of \$95.0 million and \$68.9 million for the years ended June 30, 2015 and 2014, respectively, were calculated using rates ranging from 1.1% to 1.8%.

Pledges receivable included in the financial statements as of June 30, 2015 and 2014 are expected to be realized as follows (in thousands of dollars):

	2015	2014
Within one year	\$ 327,074	\$ 257,380
Between one and five years	1,308,295	1,029,519
More than five years	780,981	439,344
Less: discount and allowance for uncollectible pledges	(171,151)	(135,485)
<b>TOTAL PLEDGES RECEIVABLE, NET</b>	<b>\$ 2,245,199</b>	<b>\$ 1,590,758</b>

Pledges receivable as of June 30, 2015 and 2014 have been designated for the following purposes (in thousands of dollars):

	2015	2014
General Operating Account balances:		
Gifts for current use	\$ 689,841	\$ 701,775
Non-federal sponsored awards	108,272	87,150
Loan funds and facilities	280,358	256,268
Total General Operating Account balances	1,078,471	1,045,193
Endowment	1,166,728	545,565
<b>TOTAL PLEDGES RECEIVABLE, NET</b>	<b>\$ 2,245,199</b>	<b>\$ 1,590,758</b>

Because of uncertainties with regard to realizability and valuation, bequest intentions and other conditional promises are only recognized as assets if and when the specified conditions are met. Non-bequest conditional pledges totaled \$76.9 million and \$71.1 million as of June 30, 2015 and 2014, respectively.

## 9. FIXED ASSETS

Fixed assets are reported at cost or, if a gift, at fair value as of the date of the gift, net of accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets.

The major categories of fixed assets as of June 30, 2015 and 2014 are summarized as follows (in thousands of dollars):

	2015	2014	Estimated useful life (in years)
Research facilities	\$ 2,181,191	\$ 2,172,456	*
Classroom and office facilities	1,734,276	1,675,892	35
Housing facilities	1,556,081	1,368,653	35
Other facilities	386,686	383,751	35
Service facilities	629,851	611,533	35
Libraries	465,673	460,914	35
Museums and assembly facilities	667,451	604,588	35
Athletic facilities	192,347	174,776	35
Land	671,582	672,787	N/A
Construction in progress	682,452	665,750	N/A
Equipment	1,160,853	1,108,206	**
<b>SUBTOTAL AT COST</b>	<b>10,328,443</b>	<b>9,899,306</b>	
Less: accumulated depreciation	(4,144,091)	(3,912,701)	
<b>FIXED ASSETS, NET</b>	<b>\$ 6,184,352</b>	<b>\$ 5,986,605</b>	

\* Estimated useful lives of components range from 10 to 45 years.

\*\* Estimated useful lives of equipment range from 3 to 8 years.

Certain University facilities are subject to restrictions as to use, structural modifications, and ownership transfer. Included in the fixed asset balances are restricted facilities with a net book value of \$226.4 million and \$214.9 million as of June 30, 2015 and 2014, respectively.

The costs of research facilities are separated into the shell, roof, finishes, fixed equipment, and services. These components are separately depreciated.

Equipment includes general and scientific equipment, computers, software, furniture, and vehicles.

The University has asset retirement obligations of \$86.6 million and \$74.5 million, which are included in "Deposits and other liabilities" in the *Balance Sheets* as of June 30, 2015 and 2014, respectively.

## 10. ENDOWMENT AND GENERAL OPERATING ACCOUNT NET ASSETS

The University's endowment consists of approximately 13,000 separate funds established over many years for a wide variety of purposes. Endowment fund balances, including funds functioning as endowment, are classified and reported as unrestricted, temporarily restricted, or permanently restricted net assets in accordance with donor specifications and state law. Net unrealized losses on permanently restricted endowment funds are classified as a reduction to unrestricted net assets until such time as the fair value equals or exceeds historic dollar value. Unrestricted net assets were reduced by \$1.1 million and \$6.0 million for such losses in fiscal 2015 and 2014, respectively. Although funds functioning as endowment are not subject to donor restrictions, decisions to spend their principal require the approval of the Corporation. All but a small fraction of the endowment is invested in the GIA (*Note 3*).

The University is also the beneficiary of certain irrevocable trusts held and administered by others. The estimated fair values of trust assets, which include the present values of expected future cash flows from outside trusts and the fair value of the underlying assets of perpetual trusts, are recognized as assets and increases in net assets when the required trust documentation is provided to the University. The fair values of these trusts are provided by the external trustees and are adjusted annually by the University. These are included as Level 3 investments in the fair value hierarchy table in *Note 4*.

The endowment consisted of the following as of June 30, 2015 and 2014 (in thousands of dollars):

	2015				2014
	Unrestricted	Temporarily restricted	Permanently restricted	Total	Total
Endowment funds	\$ (1,122)	\$ 20,877,551	\$ 6,128,992	\$ 27,005,421	\$ 26,444,294
Funds functioning as endowment	6,184,461	2,937,338		9,121,799	9,112,424
Pledge balances		679,684	487,044	1,166,728	545,565
Interests in trusts held by others		9,599	311,998	321,597	326,973
<b>TOTAL ENDOWMENT</b>	<b>\$ 6,183,339</b>	<b>\$ 24,504,172</b>	<b>\$ 6,928,034</b>	<b>\$ 37,615,545</b>	<b>\$ 36,429,256</b>

The University's endowment distribution policies are designed to preserve the value of the endowment in real terms (after inflation) and generate a predictable stream of available income. Each fall, the Corporation approves the endowment distribution for the following fiscal year. The endowment distribution is based on presumptive guidance from a formula that is intended to provide budgetary stability by smoothing the impact of annual investment gains and losses. The formula's inputs reflect expectations about long-term returns and inflation rates. For fiscal 2015, the endowment distribution approved by the Corporation (prior to decapitalizations) was equal to 4.6% of the fair value of the endowment invested in the GIA as of the beginning of the fiscal year. The total endowment distribution made available for operations was \$1.6 billion and \$1.5 billion in fiscal 2015 and 2014, respectively.

Each year the Corporation also approves certain decapitalizations from the endowment to support strategic, mission-critical activities or objectives that are typically

one-time or time-limited. These decapitalizations totaled \$192.9 million and \$241.3 million in fiscal 2015 and 2014, respectively. These additional decapitalizations, in combination with the endowment distribution, resulted in an aggregate payout rate of 5.1% and 5.6% in fiscal 2015 and 2014, respectively.

### General Operating Account

The GOA consists of the general or current funds of the University as well as the assets and liabilities related to student and faculty loans and facilities. The GOA accepts, manages, and pays interest on deposits made by University departments; invests surplus working capital; makes loans; and arranges external financing for major capital projects. It is used to manage, control, and execute all University financial transactions, except for those related to investment activities conducted by HMC.

The GOA consisted of the following as of June 30, 2015 and 2014 (in thousands of dollars):

	2015				2014
	Unrestricted	Temporarily restricted	Permanently restricted	Total	Total
General Operating Account	\$ 4,039,787	\$ 2,357,080	\$ 97,585	\$ 6,494,452	\$ 6,163,177

The temporarily restricted net assets consist primarily of unexpended income, gifts, and pledges. The permanently restricted net assets are loan funds.

# 11. SPLIT INTEREST AGREEMENTS

Under split interest agreements, donors enter into trust arrangements with the University in which the University receives benefits that are shared with other beneficiaries and institutions. Split interest agreement (SIA) investment assets are invested primarily in the GIA and publicly traded securities, a small segment is managed by an external advisor, and all are recorded in the "Investment portfolio, at fair value" in the University's *Balance Sheets*. Additional disclosures are included in *Notes 3 and 4*. The publicly traded securities are included as Level 1 and externally managed investments are included in investments measured using the practical expedient in the fair value

hierarchy table in *Note 4*. Associated liabilities are recorded at the present value of estimated future payments due to beneficiaries and other institutions. These liabilities were calculated using each gifts' IRS discount rate as specified in IRC 7520(a), ranging from 2.0% to 11.6% for gifts received prior to the adoption of ASC 820, and using the University's current taxable unsecured borrowing rate of 1.8% and 1.5% as of June 30, 2015 and 2014, respectively, for gifts received beginning in fiscal 2009.

The changes in split interest agreement net assets for fiscal 2015 and 2014 were as follows (in thousands of dollars):

	2015		2014	
	Temporarily restricted	Permanently restricted	Total	Total
Investment return:				
Investment income	\$ 3,989	\$ 12,248	\$ 16,237	\$ 15,652
Change in realized and unrealized appreciation, net	4,274	13,125	17,399	137,088
Total investment return	8,263	25,373	33,636	152,740
Gifts for capital ( <i>Note 16</i> ) <sup>1</sup>	8,612	6,185	14,797	14,478
Payments to annuitants	(15,442)	(47,419)	(62,861)	(61,249)
Transfers to endowment	(1,644)	(23,076)	(24,720)	(32,784)
Transfers between SIA and the GOA	(20,817)	(74)	(20,891)	(17,122)
Change in liabilities and other adjustments	(23,924)	(76,288)	(100,212)	(6,290)
<b>NET CHANGE DURING THE YEAR</b>	<b>(44,952)</b>	<b>(115,299)</b>	<b>(160,251)</b>	<b>49,773</b>
Total split interest agreement net assets, beginning of year	85,768	533,029	618,797	569,024
<b>TOTAL SPLIT INTEREST AGREEMENT NET ASSETS, end of year</b>	<b>\$ 40,816</b>	<b>\$ 417,730</b>	<b>\$ 458,546</b>	<b>\$ 618,797</b>

<sup>1</sup> Shown at net present value. The undiscounted value of these gifts was \$39,478 and \$33,817 for the years ended June 30, 2015 and 2014, respectively.

Split interest agreement net assets as of June 30, 2015 and 2014 consisted of the following (in thousands of dollars):

	2015	2014
Split interest agreement investments ( <i>Note 3</i> )		
Charitable remainder trusts	\$ 901,990	\$ 903,725
Charitable lead trusts	118,751	126,116
Charitable gift annuities	227,770	227,425
Pooled income funds	120,119	120,522
Total split interest agreement investments	1,368,630	1,377,788
Liabilities due under split interest agreements:		
Amounts due to beneficiaries	(780,566)	(628,483)
Amounts due to other institutions	(129,518)	(130,508)
Total liabilities due under split interest agreements	(910,084)	(758,991)
<b>TOTAL SPLIT INTEREST AGREEMENT NET ASSETS, end of year</b>	<b>\$ 458,546</b>	<b>\$ 618,797</b>

## 12. BONDS AND NOTES PAYABLE

Bonds and notes payable as of June 30, 2015 and 2014 were as follows (in thousands of dollars):

	Fiscal year of issue	Years to final maturity <sup>1</sup>	One-year yield <sup>2</sup>	Outstanding principal	
				2015 <sup>3</sup>	2014 <sup>4</sup>
<b>Tax-exempt bonds and notes payable:</b>					
Variable-rate bonds and notes payable:					
Series R - daily	2000-2006	17	0.1%	\$ 131,200	\$ 131,200
Series Y - weekly	2000	20	0.1%	117,905	117,905
Commercial paper	2014	<1	0.1%	289,350	289,350
Total variable-rate bonds and notes payable			0.1%	538,455	538,455
Fixed-rate bonds:					
Series N	1992	5	6.3%	79,513	79,412
Series 2005A	2005	21	4.8%	92,560	92,723
Series 2005B	2006	17	4.8%	103,759	103,947
Series 2005C	2006	20	4.9%	129,007	129,161
Series 2008B	2008	23	4.9%	215,036	215,301
Series 2009A	2009	21	5.5%	951,770	982,403
Series 2010A	2010	19	4.6%	495,019	506,847
Series 2010B	2011	25	4.7%	646,654	650,409
Total fixed-rate bonds			5.0%	2,713,318	2,760,203
<b>Total tax-exempt bonds and notes payable</b>			<b>4.2%</b>	<b>3,251,773</b>	<b>3,298,658</b>
<b>Taxable bonds and notes payable:</b>					
Variable-rate bonds and notes payable:					
Commercial paper	2012	<1	0.2%	158,915	158,655
Total variable-rate bonds and notes payable			0.2%	158,915	158,655
Fixed-rate bonds:					
Series 2008A	2008	23	5.6%	242,856	242,850
Series 2008C	2008	3	5.3%	125,205	125,205
Series 2008D	2009	24	6.3%	997,716	997,418
Series 2010C	2011	25	4.9%	298,306	298,239
Series 2013A	2013	22	3.4%	402,000	402,000
Total fixed-rate bonds			5.4%	2,066,083	2,065,712
<b>Total taxable bonds and notes payable</b>			<b>5.0%</b>	<b>2,224,998</b>	<b>2,224,367</b>
Other notes payable	Various	Various	Various	86,308	96,165
<b>TOTAL BONDS AND NOTES PAYABLE</b>			<b>4.6%</b>	<b>\$ 5,563,079</b>	<b>\$ 5,619,190</b>

<sup>1</sup> The weighted average maturity of the portfolio on June 30, 2015 was 15.6 years.

<sup>2</sup> Exclusive of interest rate exchange agreement. Inclusive of this agreement, the overall portfolio rate was 0.06% higher (4.64% vs. 4.58%).

<sup>3</sup> Series N, 2008A, 2008D, 2009A and 2010C principal amounts are net of \$0.5 million, \$0.1 million, \$2.3 million, \$18.2 million and \$1.7 million of discounts, respectively. Series 2005A, 2005B, 2005C, 2008B, 2010A and 2010B principal amounts include premiums of \$3.4 million, \$3.2 million, \$3.1 million, \$6.2 million, \$33.8 million and \$45.6 million, respectively.

<sup>4</sup> Series N, 2008A, 2008D, 2009A and 2010C principal amounts are net of \$0.6 million, \$0.1 million, \$2.6 million, \$17.6 million and \$1.8 million of discounts, respectively. Series 2005A, 2005B, 2005C, 2008B, 2010A and 2010B principal amounts include premiums of \$3.6 million, \$3.4 million, \$3.2 million, \$6.4 million, \$36.9 million and \$49.4 million, respectively.

Interest expense related to bonds and notes payable was \$249.2 million and \$250.1 million for fiscal 2015 and 2014, respectively. The interest expense in the *Statement of Changes in Net Assets with General Operating Account Detail* includes additional components related to capital leases. Excluding maturity of commercial paper and unamortized discounts and premiums, scheduled principal payments are (in thousands of dollars):

Fiscal year	Principal payments
2016	\$ 38,601
2017	29,724
2018	29,716
2019	654,857
2020	122,059
Thereafter	4,167,381
<b>TOTAL PRINCIPAL PAYMENTS</b>	<b>\$ 5,042,338</b>

In fiscal 2015, the University entered into a \$1.0 billion unsecured, revolving credit facility with a syndicate of banks, which expires in January 2016, and a \$1.0 billion unsecured, revolving credit facility with the same syndicate of banks, which expires in January 2020. There was no outstanding balance on either of these credit facilities at June 30, 2015.

The University is rated Aaa by Moody's Investors Service and AAA by Standard & Poor's Ratings Services. Both ratings were re-affirmed in fiscal 2015.

As of June 30, 2015, the University had \$249.1 million of variable-rate demand bonds outstanding (excluding commercial paper) with either a daily or weekly interest rate reset, as noted in the bonds and notes payable table on page 42. In the event that the University receives notice of any optional tender on its variable-rate demand bonds, or if the bonds become subject to mandatory tender, the purchase price of the bonds will be paid from the remarketing of such bonds. However, if the remarketing proceeds are insufficient, the University will have a general obligation to purchase the bonds tendered with cash on hand.

The estimated fair value of the University's outstanding bonds and notes payable, including accrued interest, was \$6,278.3 million and \$6,404.7 million as of June 30, 2015 and June 30, 2014, respectively.

### 13. EMPLOYEE BENEFITS

The University offers current employees a choice of health plans, a dental plan, short-term and long-term disability plans, life insurance, tuition assistance, and a variety of other benefits such as subsidized passes for public transportation and for Harvard athletic facilities. In addition, the University has retirement plans covering substantially all employees.

The University uses a measurement date of June 30 for its pension and postretirement health plans.

#### Pension benefits

All eligible faculty members and staff are covered by retirement programs that include a defined benefit component, a defined contribution component, or a combination of the two.

In accordance with the Employee Retirement Income Security Act (ERISA) requirements, the University has established a trust to hold plan assets for its defined benefit pension plans. The fair value of the trust's assets was

The University determines the fair value of its existing fixed rate debt obligations based on trade data, broker/dealer quotes, and other observable market data. The carrying amounts of its variable rate debt obligations approximate fair value because the obligations are currently callable at a price equal to the carrying amounts. The University considers this to be a Level 2 fair value measurement.

In July 2015, the University redeemed the full outstanding amount of \$315.6 million of the Series 2005 bonds using cash on hand.

In August 2015, the University obtained reauthorization of its tax-exempt commercial paper program.

#### Interest rate exchange agreement

In fiscal 2015, the University had in place one interest rate exchange agreement, used to manage the interest cost and risk associated with a portion of its outstanding debt.

The fair value of the interest rate exchange agreement was \$(17.0) million and \$(8.0) million as of June 30, 2015 and 2014, respectively and is recorded in "Securities lending and other liabilities associated with the investment portfolio" on the University's *Balance Sheets*.

\$814.4 million and \$837.8 million as of June 30, 2015 and 2014, respectively. During fiscal years 2015 and 2014, the University made cash contributions to the defined benefit pension plan of \$11.0 million and \$6.0 million, respectively. The University recorded expenses for its defined contribution plans of \$124.1 million and \$120.2 million for fiscal 2015 and 2014, respectively.

#### Postretirement health benefits

The University provides postretirement health coverage and life insurance to substantially all of its employees. As of June 30, 2015, the University had internally designated and invested \$550.9 million to fund the postretirement health benefit accrued liability of \$809.5 million. As of June 30, 2014, the University had internally designated and invested \$492.0 million to fund the postretirement health benefit accrued liability of \$732.0 million.



The following table sets forth the pension and postretirement plans' funded status that is reported in the *Balance Sheets* as of June 30, 2015 and 2014 (in thousands of dollars):

	Pension benefits		Postretirement health benefits	
	2015	2014	2015	2014
Change in projected benefit obligation:				
Projected benefit obligation, beginning of year	\$ 943,176	\$ 838,893	\$ 731,957	\$ 673,966
Service cost	10,577	8,623	35,494	33,711
Interest cost	41,842	43,567	34,840	35,930
Plan participants' contributions			3,165	3,475
Plan change <sup>1</sup>				(15,537)
Gross benefits paid	(45,305)	(46,595)	(20,708)	(21,063)
Actuarial loss	11,578	52,816	24,751	21,475
Other adjustments		45,872		
<b>PROJECTED BENEFIT OBLIGATION, end of year<sup>2</sup></b>	<b>961,868</b>	<b>943,176</b>	<b>809,499</b>	<b>731,957</b>
Change in plan assets:				
Fair value of plan assets, beginning of year	837,772	758,902		
Actual return on plan assets	10,898	119,465		
Employer contributions	11,000	6,000		
Gross benefits paid	(45,305)	(46,595)		
<b>FAIR VALUE OF PLAN ASSETS, end of year</b>	<b>814,365</b>	<b>837,772</b>	<b>0</b>	<b>0</b>
<b>UNFUNDED STATUS</b>	<b>\$ (147,503)</b>	<b>\$ (105,404)</b>	<b>\$ (809,499)</b>	<b>\$ (731,957)</b>

<sup>1</sup> The postretirement plan change of \$(15.5) million reflects plan changes, effective January 1, 2014, that increased cost-sharing and the length of service needed for the maximum subsidy.

<sup>2</sup> Measurement of the University's pension benefit obligation including assumed salary increases (required by GAAP).

The accumulated pension benefit obligation (ABO) is a measurement of the University's pension benefit obligation, based on past and present compensation levels and does not include assumed salary increases. The ABO was \$801.9 million and \$774.2 million at June 30, 2015 and 2014, respectively. The funded status disclosed above has been prepared in accordance with pension accounting rules. When measured on an IRS funding basis, which informs the University's required cash contribution amount, the plan was overfunded at January 1, 2015.

### Net periodic benefit cost

Components of net periodic benefit (income)/cost recognized in operating activity and other amounts recognized in non-operating activity in unrestricted net assets in the *Statements of Changes in Net Assets with General Operating Account Detail* are summarized as follows for the years ended June 30, 2015 and 2014 (in thousands of dollars):

	Pension benefits		Postretirement health benefits	
	2015	2014	2015	2014
Components of net periodic benefit cost:				
Service cost	\$ 10,577	\$ 8,623	\$ 35,494	\$ 33,711
Interest cost	41,842	43,567	34,840	35,930
Expected return on plan assets	(50,168)	(47,046)		
Amortization of:				
Actuarial loss/(gain)	2,964	1,643	(7,351)	(9,822)
Prior service (credit)/cost	364	455	(4,483)	(3,179)
Other adjustments		45,872		
<b>Total net periodic benefit cost recognized in operating activity</b>	<b>5,579</b>	<b>53,114</b>	<b>58,500</b>	<b>56,640</b>
Other amounts recognized in non-operating activity in unrestricted net assets:				
Current year actuarial loss/(gain)	50,848	(19,603)	24,751	21,475
Current year net prior service credit				(15,537)
Amortization of:				
Prior service (cost)/credit	(364)	(455)	4,483	3,179
Actuarial (loss)/gain	(2,964)	(1,643)	7,351	9,822
<b>Total other amounts recognized in non-operating activity<sup>1</sup></b>	<b>47,520</b>	<b>(21,701)</b>	<b>36,585</b>	<b>18,939</b>
<b>Total recognized in Statements of Changes in Net Assets with General Operating Account Detail</b>	<b>\$ 53,099</b>	<b>\$ 31,413</b>	<b>\$ 95,085</b>	<b>\$ 75,579</b>

<sup>1</sup> These amounts totaling \$84.1 million in fiscal 2015 and \$(2.8) million in fiscal 2014 include gains and losses and other changes in the actuarially determined benefit obligations arising in the current period but that have not yet been reflected within net periodic benefit (income)/cost and are included in the "Change in Retirement Obligations" line in the Statements of Changes in Net Assets with General Operating Account Detail.

Cumulative amounts recognized as non-operating changes in unrestricted net assets are summarized as follows for the years ended June 30, 2015 and 2014 (in thousands of dollars):

	Pension benefits		Postretirement health benefits	
	2015	2014	2015	2014
Net actuarial loss/(gain)	\$ 70,788	\$ 22,904	\$ (146,083)	\$ (178,185)
Prior service cost/(credit)	2,331	2,695	(40,225)	(44,708)
<b>Cumulative amounts recognized in unrestricted net assets</b>	<b>\$ 73,119</b>	<b>\$ 25,599</b>	<b>\$ (186,308)</b>	<b>\$ (222,893)</b>

The estimated net actuarial loss and prior service cost for the defined benefit plan that will be amortized from unrestricted net assets into net periodic benefit (income)/cost in fiscal 2016 are \$3.7 million and \$0.3 million, respectively. The estimated net actuarial gain and estimated

prior service credit for the postretirement health benefit that will be amortized from unrestricted net assets into net periodic benefit (income)/cost in fiscal 2016 are (\$4.6) million and (\$4.5) million, respectively.

In fiscal year 2015, the University updated its mortality assumption to determine the June 30, 2015, year end obligation for the pension and postretirement health plans. Other assumptions and health care cost trend rates used in determining the year end obligation as well as the net periodic benefit (income)/cost of the pension and postretirement health plans are summarized as follows for fiscal 2015 and 2014:

	Pension benefits		Postretirement health benefits	
	2015	2014	2015	2014
Weighted-average assumptions used to determine benefit obligation as of June 30:				
Discount rate	4.65%	4.50%	4.75%	4.60%
Compensation increase trend:				
Initial rate	3.00%	3.00%	3.00%	3.00%
Ultimate rate	4.00%	4.00%	4.00%	4.00%
Years to ultimate rate	1	2	1	2
Health care cost trend rate:				
Initial rate	N/A	N/A	6.50%	7.00%
Ultimate rate	N/A	N/A	4.75%	4.75%
Years to ultimate rate	N/A	N/A	8	9
Weighted-average assumptions used to determine net periodic benefit (income)/cost:				
Discount rate	4.50%	4.95%	4.60%	5.15%
Expected long-term rate of return on plan assets	7.00%	7.00%	N/A	N/A
Compensation increase trend:				
Initial rate	3.00%	3.00%	3.00%	3.00%
Ultimate rate	4.00%	4.00%	4.00%	4.00%
Years to ultimate rate	1	2	1	2
Health care cost trend rate:				
Initial rate	N/A	N/A	7.00%	7.00%
Ultimate rate	N/A	N/A	4.75%	4.75%
Years to ultimate rate	N/A	N/A	9	10

As an indicator of sensitivity, a one percentage point change in assumed health care cost trend rate would affect 2015 as shown in the following table (in thousands of dollars):

	1% point increase	1% point decrease
Effect on 2015 postretirement health benefits service and interest cost	\$ 17,086	\$ (12,900)
Effect on postretirement health benefits obligation as of June 30, 2015	161,650	(125,792)

The expected return on pension plan assets is determined by utilizing HMC's capital markets model, which takes into account the expected real return, before inflation, for each of the pension portfolio's asset classes, as well as the correlation of any one asset class to every other asset class. This model calculates the real returns and correlations and derives an expected real return for the entire portfolio,

given the percentage weighting allocated to each asset class. After calculating the expected real return, an assessment is made to accommodate the expected inflation rate for the forthcoming period. The final expected return on assets is the aggregate of the expected real return plus the expected inflation rate.

## Plan assets

The actual asset allocation of the investment portfolio for the pension plan at June 30, 2015 and 2014, along with target allocations for June 30, 2016, is as follows:

	2016 Target	June 30, 2015	June 30, 2014
Asset allocation by category for pension plan:			
Equity securities	30 - 50%	31.5%	33.7%
Fixed income securities	30 - 50	45.1	45.2
Real estate	0 - 10	2.6	3.5
Absolute return	10 - 30	16.5	16.1
Cash	0 - 10	4.3	1.5
<b>TOTAL OF ASSET ALLOCATION CATEGORIES</b>		<b>100.0%</b>	<b>100.0%</b>

The University's investment strategy for the pension portfolio is to manage the assets across a broad and diversified range of investment categories, both domestic and international. The objective is to achieve a risk-adjusted return that is in line with the long-term obligations that the University has to the pension plan beneficiaries. During fiscal year 2015, the University maintained its allocation to fixed income securities to manage the interest rate volatility associated with its pension obligations. The University

expects to continue this strategy in future years. The investment program is also managed to comply with all ERISA regulations.

The following is a summary of the levels within the fair value hierarchy for the pension plan assets subject to fair value measurement as of June 30, 2015 and 2014 (in thousands of dollars):

	2015				2014			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
<b>PLAN ASSETS:</b>								
Cash and short-term investments	\$ 44,577			\$ 44,577	\$ 21,650			\$ 21,650
Domestic common and convertible equity	207			207	4,957			4,957
Domestic fixed income	39,706	\$ 240,170		279,876	51,787	\$ 234,500		286,287
Foreign fixed income		21,047		21,047		23,074		23,074
Due (to)/from broker	(1,072)	(259)		(1,331)	2	(3,069)		(3,067)
Emerging market equity and debt	51,852	11,165	\$ 925	63,942	53,155	7,502		60,657
Foreign common and convertible equity	86,335			86,335	99,537			99,537
<b>PLAN ASSETS SUBJECT TO FAIR VALUE LEVELING</b>	<b>\$ 221,605</b>	<b>\$ 272,123</b>	<b>\$ 925</b>	<b>494,653</b>	<b>\$ 231,088</b>	<b>\$ 262,007</b>	<b>\$ 0</b>	<b>493,095</b>
Investments measured using the practical expedient				313,219				326,919
Other assets not subject to fair value				6,493				17,758
<b>TOTAL PLAN ASSETS</b>				<b>\$ 814,365</b>				<b>\$ 837,772</b>

The following is a rollforward of Level 3 investments for the year ended June 30, 2015 (in thousands of dollars):

	Beginning balance as of July 1, 2014	Net realized gains/(losses)	Net change in unrealized gains/(losses)	Purchases/contributions	Sales/distributions	Transfers into Level 3	Transfers out of Level 3	Ending balance as of June 30, 2015
<b>PLAN ASSETS:</b>								
Emerging market equity and debt				\$ 925				\$ 925
<b>TOTAL PLAN ASSETS</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 925</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 925</b>

During 2015, the University elected to early adopt ASU No. 2015-07, *Fair Value Measurement (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share* (or Its Equivalent). See Note 2.

### Expected future benefit payments

Employer contributions of \$8.7 million are expected for fiscal 2016 to fund the pension benefit plan.

The following table summarizes expected benefit payments and subsidies for pension and other postretirement benefits for the University (in thousands of dollars):

Fiscal year	Expected benefit payments	
	Pension	Postretirement health
2016	\$ 49,369	\$ 20,600
2017	49,434	22,710
2018	52,233	24,631
2019	54,806	26,678
2020	57,195	28,856
Thereafter	317,228	181,947

## 14. STUDENT FINANCIAL AID

Financial aid granted to students in fiscal 2015 and 2014 is summarized as follows (in thousands of dollars):

	2015	2014
Scholarships and other student awards:		
Scholarships applied to student income	\$ 384,208	\$ 372,905
Scholarships and other student awards paid directly to students	135,693	129,743
Total scholarships and other student awards	519,901	502,648
Student employment	70,322	68,342
Student loans	26,527	24,530
Agency financial aid <sup>1</sup>	18,550	20,295
<b>TOTAL STUDENT FINANCIAL AID</b>	<b>\$ 635,300</b>	<b>\$ 615,815</b>

<sup>1</sup> Represents aid from sponsors for which the University acts as an agent for the recipient.

## 15. SPONSORED SUPPORT

Total expenditures funded by US government sponsors or by institutions that subcontract federally sponsored projects to the University were \$578.0 million and \$592.2 million in fiscal 2015 and 2014, respectively. The University's principal source of federal sponsored funds is the Department of Health and Human Services. The University also has many non-federal sources of sponsored awards and grants, including corporations, foundations, state and local governments, foreign governments, and research institutes.

Sponsored grants and contracts normally provide for the recovery of direct and indirect costs. The University recognizes revenue associated with direct costs as the related costs are incurred. Recovery of related indirect costs is generally recorded at fixed or predetermined rates negotiated with the federal government and other sponsors. Predetermined federal indirect cost rates have been established for the University Area and the Medical School (including the School of Dental Medicine) through fiscal year 2019. The T.H. Chan School of Public Health has had provisional indirect cost rates since the beginning of fiscal year 2014. Funds received for federally sponsored activity are subject to audit.

## 16. GIFTS

Gifts that are available for current purposes are classified as either "Gifts for current use" or "Non-federal sponsored grants," as appropriate. Gifts that have been restricted by the donor or designated by the Corporation for facilities, loan funds, endowment, or similar purposes are classified as "Gifts for capital." Gifts for current use, non-federal

sponsored grants, and gifts for capital are classified as unrestricted, temporarily restricted, or permanently restricted net assets in accordance with donor specifications.

Gifts received for the years ended June 30, 2015 and 2014 are summarized as follows (in thousands of dollars):

	2015			2014
	Gifts received	Donor redesignations/ other changes	Total	Total
Gifts for current use	\$ 418,875	\$ 16,774	\$ 435,649	\$ 419,171
Non-federal sponsored grants	123,492	(1,746)	121,746	115,873
Gifts for capital:				
Endowment funds*	360,986	(22,499)	338,487	512,853
Split interest agreements**	14,797		14,797	14,478
Loan funds and facilities	128,565	5,568	134,133	92,040
Total gifts for capital	504,348	(16,931)	487,417	619,371
<b>TOTAL GIFTS</b>	<b>\$ 1,046,715</b>	<b>\$ (1,903)</b>	<b>\$ 1,044,812</b>	<b>\$ 1,154,415</b>

\* Gift receipts include non-cash gifts of \$0.8 million and \$142.9 million for the years ended June 30, 2015 and 2014, respectively.

\*\* Shown at net present value. The undiscounted value of these gifts was \$39,478 and \$33,817 for the years ended June 30, 2015 and 2014, respectively.

## 17. OTHER INCOME

The major components of other income for the years ended June 30, 2015 and 2014 were as follows (in thousands of dollars):

	2015	2014
Rental and parking <sup>1</sup>	\$ 143,930	\$ 137,520
Publication and royalties from copyrights	208,374	206,517
Services income	105,599	94,000
Health and clinic fees	45,722	42,672
Sales income	38,806	44,059
Interest income	9,724	9,517
Other student income	5,865	5,669
Other	60,980	59,834
<b>TOTAL OTHER INCOME</b>	<b>\$ 619,000</b>	<b>\$ 599,788</b>

<sup>1</sup> The University is the lessor of space and facilities under operating leases, the income from which is included in rental and parking.

## 18. OTHER EXPENSES

The major components of other expenses for the years ended June 30, 2015 and 2014 were as follows (in thousands of dollars):

	2015	2014
Subcontract expenses under sponsored projects	\$ 142,852	\$ 151,425
Travel	90,644	87,908
Publishing	45,913	48,017
Taxes and Fees	30,583	30,405
Advertising	26,485	24,920
Postage	19,884	20,776
Insurance	16,471	14,010
Telephone	13,618	13,042
Other	69,344	104,884
<b>TOTAL OTHER EXPENSES</b>	<b>\$ 455,794</b>	<b>\$ 495,387</b>

## 19. FUNCTIONAL CLASSIFICATION OF OPERATING EXPENSES

Operating expenses are allocated functionally on a direct basis. Interest, depreciation, and operations and maintenance expenses are allocated based on square footage.

Operating expenses by functional classification for the years ended June 30, 2015 and 2014 were as follows (in thousands of dollars):

	2015	2014
Instruction	\$ 1,193,258	\$ 1,158,404
Research	875,900	786,353
Institutional support	735,606	720,062
Academic support	541,309	607,600
Auxiliary services	547,275	534,981
Libraries	239,255	238,024
Student services	194,793	190,733
Scholarships and other student awards	135,693	129,743
<b>TOTAL EXPENSES</b>	<b>\$ 4,463,089</b>	<b>\$ 4,365,900</b>

## 20. COMMITMENTS AND CONTINGENCIES

### Lease commitments

The University is the lessee of equipment and space under operating (rental) and capital leases. Rent expense related to leases was \$61.7 million and \$61.1 million in fiscal 2015 and 2014, respectively.

Future minimum payments under these operating and capital leases are as follows (in thousands of dollars):

	Operating	Capital
2016	\$ 65,061	\$ 9,541
2017	56,596	9,730
2018	48,588	9,735
2019	40,581	13,800
2020	32,226	8,888
Thereafter	195,979	155,186
<b>TOTAL FUTURE MINIMUM PAYMENTS</b>	<b>\$ 439,031</b>	<b>\$ 206,880</b>

### Fixed asset-related commitments

The University has various commitments for capital projects involving construction and renovation of certain facilities, real estate acquisitions, and equipment purchases, for which the outstanding commitments as of June 30, 2015 totaled approximately \$232.8 million.

### Environmental remediation

The University is subject to laws and regulations concerning environmental remediation and has established reserves for potential obligations that management considers to be probable and for which reasonable estimates can be made. These estimates may change substantially depending on new information regarding the nature and extent of contamination, appropriate remediation technologies, and regulatory approvals. Costs of future environmental remediation have been discounted to their net present value. Management is not aware of any existing conditions that it believes are likely to have a material adverse effect on the University's financial position, changes in net assets, or cash flows.

### Utilities purchase commitments

The University has entered into Power Purchase Agreements (PPAs) with a series of utilities providers to purchase natural gas and electricity for various quantities and time periods. As of June 30, 2015, future obligations under the PPAs are as follows (in thousands of dollars):

2016	\$ 29,233
2017	15,515
2018	9,378
2019	7,290
2020	4,820
Thereafter	19,813
<b>TOTAL UTILITY FUTURE PURCHASE OBLIGATIONS</b>	<b>\$ 86,049</b>

### General

The University is a defendant in various legal actions arising from the normal course of its operations. While it is not possible to predict accurately or determine the eventual outcome of such actions, management believes that the outcome of these proceedings will not have a material adverse effect on the University's financial position, changes in net assets, or cash flows.

The University has evaluated subsequent events through October 29, 2015, the date the financial statements were issued. The University has concluded that no material events have occurred that are not accounted for in the accompanying financial statements or disclosed in the accompanying notes.

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## **APPENDIX C**

### **DEFINITIONS OF CERTAIN TERMS AND SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT**

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## DEFINITIONS OF CERTAIN TERMS

In addition to terms defined elsewhere in the Official Statement, the following terms have the following meanings in the Loan and Trust Agreement dated as of October 1, 2016 (the “Agreement”) among the Issuer, the Institution and the Trustee, unless the context otherwise requires:

“Bond Counsel” means any attorney at law or firm of attorneys selected by the Institution and satisfactory to the Issuer, of nationally recognized standing in matters pertaining to the federal tax exemption of interest on bonds issued by states and political subdivisions, and duly admitted to practice law before the highest court of any state of the United States.

“Bond Year” means each one year period (or shorter period from the date of issue of the Bonds) ending on June 30.

“Bondowners” or “Owners” means the registered owners of the Bonds from time to time as shown in the books kept by the Trustee as bond registrar and transfer agent.

“Bonds” means the Massachusetts Development Finance Agency Revenue Bonds, Harvard University Issue, Series 2016A dated the date of original delivery and any Bond or Bonds duly issued in exchange or replacement therefor.

“Business Day” means a day on which banks in the city in which the principal corporate trust office of the Trustee at which the Agreement is principally administered is located (which on the date of the Agreement is Everett, Massachusetts) is not required or authorized to remain closed and on which the New York Stock Exchange is not closed.

“Continuing Disclosure Agreement” means the Continuing Disclosure Agreement dated as of the date of issuance of the Bonds between the Institution and the Trustee, as dissemination agent, as originally executed and as it may be amended from time to time in accordance with its terms.

“Government or Equivalent Obligations” means (i) obligations issued or guaranteed by the United States; (ii) obligations, debentures, notes or other evidence of indebtedness issued or guaranteed by the Federal Home Loan Mortgage Corporation, the Federal National Mortgage Association, the Federal Home Loan Bank System, the Farm Credit System, or any other agency or instrumentality of the United States of America; (iii) certificates evidencing ownership of the right to the payment of the principal of and interest on obligations described in clause (i), provided that such obligations are held in the custody of a bank or trust company satisfactory to the Trustee or the Issuer, as the case may be, in a special account separate from the general assets of such custodian; (iv) shares of any open-end or closed-end management type investment company or trust registered under 15 U.S.C. §80(a)-1 et seq., provided that the portfolio of such investment company or trust is limited to obligations described in clause (i) and repurchase agreements fully collateralized by such obligations, and provided further that such investment company or trust shall take custody of such collateral either directly or through a custodian satisfactory to the Trustee or the Issuer; and (v) tax-exempt obligations of any state or instrumentality, agency or political subdivision thereof, which are fully secured by, or payments of principal and interest on which shall be made from, obligations described in clause (i) above.

“IRC” means the Internal Revenue Code of 1986, as it may be amended and applied to the Bonds from time to time.

“Moody’s” means Moody’s Investors Service, Inc., or any successor rating agency.

“Opinion of Bond Counsel” means an opinion of Bond Counsel to the effect that the matter or action in question will not have an adverse impact on the tax-exempt status of the Bonds for federal income tax purposes.

## APPENDIX C

“Outstanding,” when used to modify Bonds, refers to Bonds issued under the Agreement, excluding: (i) Bonds that have been exchanged or replaced, or delivered to the Trustee for credit against a principal payment or a sinking fund installment; (ii) Bonds that have been paid; (iii) Bonds that have become due and for the payment of which moneys have been duly provided; and (iv) Bonds for which there have been irrevocably set aside sufficient funds, or Government or Equivalent Obligations described in clause (i), (ii) or (iv) of the definition thereof bearing interest at such rates, and with such maturities as will provide sufficient funds, to pay or redeem them, provided, however, that if any such Bonds are to be redeemed prior to maturity, the Issuer shall have taken all action necessary to redeem such Bonds and notice of such redemption shall have been duly mailed in accordance with the Agreement or irrevocable instructions so to mail shall have been given to the Trustee.

“Project” means the acquisition of land, site development, construction or alteration of buildings or the acquisition or installation of furnishings and equipment, or any combination of the foregoing, in connection with the project described in the Agreement.

The word “Project” also refers to the facilities that result or have resulted from the foregoing activities. The scope of the Project may be increased only upon (i) approval by the Issuer and (ii) receipt by the Issuer and the Trustee of an Opinion of Bond Counsel regarding the increase in scope.

“Revenues” means all rates, payments, fees, charges, and other income and receipts, including proceeds of insurance, eminent domain and sale, and including proceeds derived from any security provided under the Agreement, payable to the Issuer or the Trustee under the Agreement, excluding administrative fees of the Issuer, fees of the Trustee, reimbursements to the Issuer or the Trustee for expenses incurred by the Issuer or the Trustee, and indemnification of the Issuer and the Trustee.

“S&P” means Standard & Poor’s Ratings Group, Inc., or any successor rating agency.

“Tax Certificate” means the Tax Certificate and Agreement between the Issuer and the Institution dated the date of original issuance of the Bonds, as amended or supplemented from time to time.

“UCC” means the Massachusetts Uniform Commercial Code.

Words importing persons include firms, associations and corporations, and the singular and plural forms of words shall be deemed interchangeable wherever appropriate.

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## SUMMARY OF CERTAIN PROVISIONS OF THE AGREEMENT

*The following is a summary, prepared by Hinckley, Allen & Snyder LLP, Bond Counsel, of certain provisions of the Agreement. This summary does not purport to be complete and reference is made to the Agreement for full and complete statements of such and all provisions.*

### Establishment of Funds

The following funds have been established and shall be maintained with the Trustee for the account of the Institution, to be held in trust by the Trustee and applied subject to the provisions of the Agreement:

Debt Service Fund;  
Redemption Fund; and  
Expense Fund

(Sections 303, 304, 305 and 306)

### Debt Service Fund

A Debt Service Fund is established with the Trustee and moneys shall be deposited therein as provided in the Agreement. The moneys in the Debt Service Fund and any investments held as part of such fund shall be held in trust and, except as otherwise provided, shall be applied solely to the payment of the principal (including sinking fund installments, if any), redemption premium, if any, Make-Whole Redemption Price, if any, and interest on the Bonds. Promptly after July 15 of each Bond Year, if the amount deposited by the Institution in the Debt Service Fund during the preceding Bond Year pursuant to the Agreement was in excess of the amount required to be so deposited, the Trustee shall transfer such excess to the Institution unless there is then an Event of Default known to the Trustee with respect to payments to the Debt Service Fund or to the Trustee or the Issuer, in which case the excess shall be applied to such payments. (Section 303)

### Redemption Fund

A Redemption Fund is established with the Trustee and moneys shall be deposited therein as provided in the Agreement. The moneys in the Redemption Fund and any investments held as a part of such fund shall be held in trust and, except as otherwise provided, shall be applied by the Trustee on behalf of the Issuer solely to the redemption of the Bonds. The Trustee may, and upon written direction of the Institution for specific purchases shall, apply moneys in the Redemption Fund to the purchase of Bonds for cancellation at prices not exceeding the price at which they are then redeemable (or next redeemable if they are not then redeemable), but not within the forty-five (45) days preceding a redemption date.

If on any date the amount in the Debt Service Fund is less than the amount then required to be applied by the Trustee to pay the principal (including sinking fund installments, if any) and interest then due on the Bonds, the Trustee shall apply the amount in the Redemption Fund (other than any sum irrevocably set aside for the redemption of particular Bonds or required to purchase Bonds under outstanding purchase contracts) to the Debt Service Fund to the extent necessary to meet the deficiency. The Institution shall remain liable for any sums which it has not paid into the Debt Service Fund and any subsequent payment thereof shall be used to restore the funds so applied.

If any moneys in the Redemption Fund are invested in accordance with the Agreement and a loss results therefrom so that there are insufficient funds to pay the redemption price of Bonds called for redemption in accordance with the Agreement, then the Institution shall immediately supply the deficiency. (Section 304)

## APPENDIX C

### Expense Fund

An Expense Fund is established to be held by the Trustee and proceeds of the Bonds shall be deposited therein as provided in the Agreement. The moneys in the Expense Fund and any investments held as part of such fund shall be held in trust and, except as otherwise provided in the Agreement, shall be applied by the Trustee at the written direction of the Institution solely to the payment or reimbursement of the costs of issuing the Bonds. The Trustee shall pay from the Expense Fund at the direction of the Institution the costs of issuing the Bonds, the reasonable fees and expenses of financial consultants and bond counsel, the reasonable fees and expenses of the Trustee incurred prior to the completion of the Project in accordance with the Agreement, any recording or similar fees and any expenses of the Institution in connection with the issuance of the Bonds as directed by the Institution. Earnings on the Expense Fund shall not be applied to pay costs of issuance of the Bonds, but shall be transferred to the Debt Service Fund. To the extent the Expense Fund is insufficient to pay any of the above costs, the Institution shall be liable for the deficiency. (Section 306)

### Rebate

No later than sixty (60) days after the close of the fifth Bond Year following the date of issue of the Bonds (or any earlier date that may be required to comply with IRC §148(f) and the regulations thereunder (the "Rebate Provision")) and the close of each fifth Bond Year thereafter, the Institution shall pay to the United States on behalf of the Issuer the full amount of rebate then required to be paid under the Rebate Provision. Within sixty (60) days after the Bonds have been paid in full, the Institution shall pay to the United States on behalf of the Issuer the full amount then required to be paid under the Rebate Provision. Each such payment shall be made to the Internal Revenue Service Center, Ogden, Utah 84201 or any successor location specified by the Internal Revenue Service, accompanied by a Form 8038-T (or other similar information reporting form) prepared by the Institution.

No later than fifteen (15) days prior to each date on which a payment could become due under the foregoing paragraph (a "Rebate Payment Date"), the Institution shall deliver to the Issuer and the Trustee a certificate either summarizing the determination that no amount is required to be paid or specifying the amount then required to be paid pursuant to the foregoing paragraph. If the certificate specifies an amount to be paid, (A) such certificate shall be accompanied by (i) a rebate report in form acceptable to the Issuer prepared by a rebate consultant acceptable to the Issuer, (ii) a completed Form 8038-T, in a form acceptable to the Issuer, which is to be signed by an officer of the Issuer, and (iii) a certification of the Institution stating that the Form 8038-T is accurate and complete, and (B) no later than ten (10) days after the Rebate Payment Date the Institution shall furnish to the Issuer and the Trustee a certificate stating that such amount has been timely paid. (Section 305)

### Application of Moneys

If available moneys in the Debt Service Fund after any required transfers from the Redemption Fund are not sufficient on any day to pay all principal (including sinking fund installments, if any), redemption price and interest on the Outstanding Bonds then due or overdue, such moneys (other than any sum in the Redemption Fund irrevocably set aside for the redemption of particular Bonds or required to purchase Bonds under outstanding purchase contracts) shall, after payment of all charges and disbursements of the Trustee in accordance with the Agreement, be applied (in the order such funds are named in this paragraph) first to the payment of interest, including interest on overdue principal, in the order in which the same became due (pro rata with respect to interest which became due at the same time) and second to the payment of principal (including sinking fund installments, if any) and redemption premiums, if any, or Make-Whole Redemption Price (as applicable) without regard to the order in which the same became due (in proportion to the amounts due). For this purpose interest on overdue principal shall be treated as coming due on the first day of each month. Whenever moneys are to be applied pursuant to the provisions described in this paragraph, such moneys shall be applied at such times, and from time to time, as the Trustee in its discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future. Whenever the Trustee shall exercise such discretion it shall fix the date (which shall be the first of a month unless the Trustee shall deem another date more suitable) upon which such application is to be made, and upon such date interest on the amounts of principal paid on such date shall cease to accrue. The Trustee shall give such notice as it may deem

appropriate of the fixing of any such date. When interest or a portion of the principal is to be paid on an overdue Bond, the Trustee may require presentation of the Bond for endorsement of the payment. (Section 307)

Payments by the Institution

Not later than the opening of business on the Business Day next preceding the date on which a payment of principal (including sinking fund installments, if any) or interest is due on the Bonds, the Institution shall pay to the Trustee for deposit in the Debt Service Fund an amount equal to such payment less the amount, if any, in the Debt Service Fund and available therefor.

At any time when any principal (including sinking fund installments, if any) of the Bonds is overdue, the Institution shall also have a continuing obligation to pay to the Trustee for deposit in the Debt Service Fund an amount equal to interest on the overdue principal. Redemption premiums, if any, shall not bear interest.

Payments by the Institution to the Trustee for deposit in the Debt Service Fund under the Agreement shall discharge the obligation of the Institution to the extent of such payments; provided, that if any moneys are invested in accordance with the Agreement and a loss results therefrom so that there are insufficient funds to pay principal (including sinking fund installments, if any) and interest on the Bonds when due, the Institution shall supply the deficiency. (Section 308)

Unconditional Obligation

To the extent permitted by law, the obligation of the Institution to make payments to the Issuer and the Trustee under the Agreement shall be absolute and unconditional, shall be binding and enforceable in all circumstances whatsoever, shall not be subject to setoff, recoupment or counterclaim and shall be a general obligation of the Institution to which the full faith and credit of the Institution are pledged. (Section 309)

Investments

Pending their use under the Agreement, moneys in the funds and accounts established pursuant to the Agreement may be invested by the Trustee in Permitted Investments (as defined below) maturing or redeemable at the option of the holder at or before the time when such moneys are expected to be needed and shall be so invested pursuant to written direction of the Institution if there is not then an Event of Default known to the Trustee, provided that the Institution shall not request, authorize or permit any investment that would cause any Bonds to be classified as "arbitrage bonds" as defined in IRC Section 148. Any investments shall be held by the Trustee as a part of the applicable fund and shall be sold or redeemed to the extent necessary to make payments or transfers or anticipated payments or transfers from such fund, subject to the notice provisions of the UCC to the extent applicable. In the absence of such investment direction by the Institution, the Trustee shall not be under any obligation to invest (or otherwise pay interest on) any funds held under the Agreement. The Trustee shall not be responsible for any loss on any Permitted Investment, to the extent the Trustee has acted at the written direction of the Institution with respect to such investment.

Except as set forth below, any interest realized on investments in any fund and any profit realized upon the sale or other disposition thereof shall be credited to the fund with respect to which they were earned and any loss shall be charged thereto. Earnings (which for this purpose include net profit and are after deduction of net loss) on proceeds from the sale of Bonds deposited in the Expense Fund shall be transferred to the Debt Service Fund not less often than quarterly. Earnings on the Redemption Fund shall be transferred to the Debt Service Fund and credited against payments otherwise required to be made thereto not less often than quarterly.

The term "Permitted Investments" means (A) Government or Equivalent Obligations; (B) "tax exempt bonds" as defined in IRC Section 150(a)(6), other than "specified private activity bonds" as defined in IRC Section 57(a)(5)(C), rated at least "AA" or "Aa2" by S&P and Moody's, respectively, or the equivalent by any other nationally recognized rating agency, at the time of acquisition thereof, or shares of a so-called money market or

## APPENDIX C

mutual fund that do not constitute “investment property” within the meaning of IRC Section 148(b)(2), provided either that the fund has all of its assets invested in such “tax exempt bonds” of such rating quality or, if such obligations are not so rated, that the fund has comparable creditworthiness through insurance or otherwise and which fund is rated “Aam” or “AAm-G” if rated by S&P, at the time of acquisition thereof; (C) Obligations of any state or political subdivision thereof rated at least “AA-” and “Aa3” by S&P and Moody’s, respectively, at the time of acquisition thereof; (D) negotiable certificates of deposit maturing not more than two years after the date of purchase, and interest-bearing deposit accounts of a national association or state-chartered bank or a state or federal savings and loan association or by a state-licensed branch of a foreign bank, which (i) has assets of not less than \$1,000,000,000, provided that the senior debt obligations of the issuing institution are rated in the highest category by Moody’s or S&P at the time of acquisition thereof, or (ii) funds are guaranteed by the Federal Deposit Insurance Corporation, or (iii) funds are fully collateralized by Government or Equivalent Obligations; (E) bills of exchange or time drafts drawn on and accepted by a commercial bank (otherwise known as bankers acceptances), provided that such bankers acceptances may not exceed 180 days maturity, and provided further that the accepting bank has the highest short-term letter and numerical rating as provided by Moody’s or S&P at the time of acquisition thereof; (F) Repurchase Agreements; (G) (i) the Massachusetts Development Finance Agency Short Term Asset Reserve (STAR) Fund (formerly known as the Massachusetts Health and Educational Facilities Authority Short Term Asset Reserve (STAR) Fund), or any other similar fund established by, or on behalf of, the Issuer, which is rated “AAAm-G,” “AAAm” or “AAm” by S&P at the time of acquisition thereof, and (ii) money market funds which have a rating of “AAAm-G,” “AAAm” or “AAm” by S&P at the time of acquisition thereof, provided that the fund is registered under the Federal Investment Company Act of 1940 and whose shares are registered under the Federal Securities Act of 1933; (H) investment agreements with providers rated not lower than the second highest category (without regard to gradations within such category), at the time of acquisition thereof, by at least one nationally recognized rating agency, provided that if the investment agreement is guaranteed by a third party, then such rating requirement shall apply to the guarantor only, and provided further that if the provider is downgraded by one or more nationally recognized rating agency to below the second highest category, the agreement shall (i) be fully collateralized at 104% by Government or Equivalent Obligations or 105% by securities outlined in clause (J) of this definition of permitted investments, or (ii) terminate; (I) collateralized investment agreements with providers rated not lower than the third highest category (without regard to gradations within such category), at the time of acquisition thereof, by at least one nationally recognized rating agency, provided that if the investment agreement is guaranteed by a third party, then such rating requirement shall apply to the guarantor only, and provided further that in all cases such rating requirements shall apply only at the time the investment agreement is executed; (J) forward purchase and sale agreements with providers rated not lower than the third highest category (without regard to gradations within such category), at the time of acquisition thereof, by at least one nationally recognized rating agency, provided that if the investment agreement is guaranteed by a third party, then such rating requirement shall apply to the guarantor only, and provided further that in all cases such rating requirements shall apply only at the time the investment agreement is executed; (K) senior debt obligations and participation certificates issued by an agency or instrumentality established by an act of Congress, including but not limited to the Federal National Mortgage Association, Federal Home Loan Bank, Federal Home Loan Mortgage Corporation, Federal Farm Credit Bank System, Student Loan Marketing Association, World Bank or Federal Agricultural Mortgage Corporation (“Federal Agency Securities”), in each case rated not lower than the second highest category (without regard to gradations within such category), at the time of acquisition thereof, by at least one nationally recognized rating agency; (L) commercial paper that is rated at the time of purchase at least “A-1+” by S&P or “P-1” by Moody’s at the time of acquisition thereof and that matures not more than 270 days after the date of purchase; and (M) notes issued by corporate entities rated at least “AA-” and “Aa3” by S&P and Moody’s, respectively, at the time of acquisition thereof. The term “Repurchase Agreement” shall mean a written agreement under which a bank or trust company which has a capital and surplus of not less than \$50,000,000 or a government bond dealer reporting to, trading with, and recognized as a primary dealer by the Federal Reserve Bank of New York sells to, and agrees to repurchase from the Trustee obligations issued or guaranteed by the United States; provided that the market value of such obligations is at the time of entering into the agreement at least one hundred and three percent (103%) of the repurchase price specified in the agreement and that such obligations are segregated from the unencumbered assets of such bank or trust company or government bond dealer; and provided further that unless the agreement is with a bank or trust company, such agreement shall require the repurchase to occur on demand or on a date certain which is not later than one (1) year after such agreement is entered into and shall expressly authorize the Trustee to liquidate the purchased obligations in the event of the insolvency of the party required to repurchase such obligations or the commencement against such party of a case under the federal Bankruptcy Code or the appointment of or taking possession by a trustee or custodian in a case



against such party under the Bankruptcy Code. Any such investments may be purchased from or through the Trustee. (Section 311)

### The Project

#### *Use of Project.*

Compliance with Law. In the acquisition, construction, maintenance, improvement and operation of the Project, the Institution covenants that it has complied and will comply in all material respects with all applicable building, zoning, land use, environmental protection, historical preservation, sanitary, safety and educational laws, rules and regulations, and all applicable grant, reimbursement and insurance requirements, and will not permit a nuisance thereon; but it shall not be a breach of this subsection if the Institution fails to comply with such laws, rules, regulations and requirements (other than Chapter 21E of the Massachusetts General Laws, as amended) during any period in which the Institution is diligently and in good faith contesting the validity thereof.

Payment of Lawful Charges. The Institution shall make timely payment of all taxes and assessments and other municipal or governmental charges and all claims and demands for work, labor, services, materials or other objects which, if unpaid, might by law become a lien on the Project or any part thereof; but it shall not be a breach of this subsection if the Institution fails to pay any such item during any period in which the Institution is diligently and in good faith contesting the validity thereof, provided that the laws applicable to contesting its validity do not require payment thereof and proceedings for a refund.

Permitted Purposes. The Institution agrees that the Project shall be used only for the purposes described in the Act. The Institution acknowledges that it is fully familiar with the physical condition of the Project and that it is not relying on any representation of any kind by the Issuer or the Trustee concerning the nature or condition thereof. Neither the Issuer nor the Trustee shall be liable to the Institution or any other person for any latent or patent defect in the Project. The Institution further agrees that no part of the Project shall be used for any purpose which would cause the Issuer's financing and refinancing of the Project to constitute a violation of the First Amendment of the United States Constitution. In particular, the Institution agrees that no part of the Project, so long as it is owned or controlled by the Institution, shall be used for any sectarian instruction or as a place of religious worship or in connection with any part of a program of a school or department of divinity for any religious denomination; and any proceeds of any sale, lease, taking by eminent domain of the Project or other disposition thereof shall not be used for, or to provide a place for, such instruction, worship or program. (Section 401)

### Repair and Current Expenses

The Institution agrees that it will maintain and repair the Project and keep the same in good and serviceable condition and in at least as good condition and repair (reasonable wear and tear and casualty loss excepted) as it was on the date the same was placed in service. The Institution shall pay all costs of maintaining and operating the Project. (Section 402)

### Insurance

The Institution shall maintain insurance with insurance companies authorized to transact business in The Commonwealth of Massachusetts on such of its properties, in such amounts and against such risks as is customarily maintained by similar institutions of higher education operating in the area and promptly file with the Trustee upon request from time to time certificates of all such insurance. (Section 403)

## APPENDIX C

### Default and Remedies

#### ***Default by the Institution.***

Events of Default; Default. “Event of Default” in the Agreement means any one of the events set forth below and “default” means any Event of Default without regard to any lapse of time or notice.

*Debt Service.* Any principal or Make-Whole Redemption Price of, interest or redemption premium on the Bonds shall not be paid when due (whether at maturity, by acceleration, upon redemption or otherwise) or the Institution shall fail to make payment of principal or interest or payment of interest on overdue principal required of it under the Agreement when the same becomes due and payable.

*Other Obligations.* The Institution shall fail to make any other required payment to the Trustee, and such failure is not remedied within seven (7) days after written notice thereof is given by the Trustee or the Issuer to the Institution, or the Institution shall fail to perform its obligations under the Agreement to maintain insurance, and such failure is not remedied within seven (7) days after written notice thereof is given by the Trustee or the Issuer to the Institution; or the Institution shall fail to observe or perform any of its other agreements, covenants or obligations under the Agreement and such failure is not remedied within sixty (60) days after written notice thereof is given by the Trustee or the Issuer to the Institution.

*Warranties.* There shall be a material breach of warranty made in the Agreement by the Institution as of the date it was intended to be effective and the breach is not cured within sixty (60) days after written notice thereof is given by the Trustee or the Issuer to the Institution.

*Voluntary Bankruptcy.* The Institution shall commence a voluntary case under the federal bankruptcy laws, or shall become insolvent or unable to pay its debts as they become due, or shall make an assignment for the benefit of creditors, or shall apply for, consent to or acquiesce in the appointment of, or taking possession by, a trustee, receiver, custodian or similar official or agent for itself or any substantial part of its property.

*Appointment of Receiver.* A trustee, receiver, custodian or similar official or agent shall be appointed for the Institution or for any substantial part of its property and such trustee or receiver shall not be discharged within sixty (60) days.

*Involuntary Bankruptcy.* The Institution shall have an order or decree for relief in an involuntary case under the federal bankruptcy laws entered against it, or a petition seeking reorganization, readjustment, arrangement, composition, or other similar relief as to it under the federal bankruptcy laws or any similar law for the relief of debtors shall be brought against it and shall be consented to by it or shall remain undismissed for sixty (60) days.

*Breach of Other Agreements.* A breach shall occur (and continue beyond any applicable grace period) with respect to the payment of other indebtedness of the Institution for borrowed money with respect to loans exceeding \$10,000,000, or with respect to the performance of any agreement securing such other indebtedness or pursuant to which the same was issued or incurred, or an event shall occur with respect to provisions of any such agreement relating to matters of the character referred to in this paragraph, so that a holder or holders of such indebtedness or a trustee or trustees under any such agreement accelerates any such indebtedness; but an Event of Default shall not be deemed to be in existence or to be continuing under this clause (vii) if (A) the Institution is in good faith contesting the existence of such breach or event and if such acceleration is being stayed by judicial proceedings or (B) such breach or event is remedied and the acceleration is wholly annulled. The Institution shall notify the Issuer and the Trustee of any such breach or event immediately upon the Institution’s becoming aware of its occurrence and shall from time to time furnish such information as the Issuer or the Trustee may reasonably request for the purpose of determining whether a breach or event described in this clause (vii) has occurred and whether acceleration continues to be in effect.

Waiver. If the Trustee determines that a default has been cured before the entry of any final judgment or decree with respect to it, the Trustee may waive the default and its consequences, including any acceleration, by written notice to the Institution and shall do so, with the written consent of the Issuer, upon written instruction of the Owners of at least twenty-five percent (25%) in principal amount of the Outstanding Bonds. (Section 501)

***Remedies for Events of Default.*** If an Event of Default occurs and is continuing:

Acceleration. The Trustee may by written notice to the Institution and the Issuer declare immediately due and payable the principal amount of the Outstanding Bonds and the payments to be made by the Institution therefor, and accrued interest on the foregoing, whereupon the same shall become immediately due and payable without any further action or notice.

If, at any time after such declaration and before the entry of a judgment or decree for payment of the money due, all amounts payable under the Agreement except principal and interest on the Bonds that are due solely by reason of such declaration and acceleration shall have been paid or provided for by deposit with the Trustee and all existing Events of Default shall have been cured, then, unless otherwise directed in writing by the registered owners of Bonds representing a majority of the principal amount of the Outstanding Bonds, the Trustee shall rescind and annul such declaration and acceleration, but no such rescission shall affect any subsequent Event of Default or the consequences thereof.

Rights as a Secured Party. The Trustee may exercise all of the rights and remedies of a secured party under the UCC with respect to the securities in the funds held by it under the Agreement, including the right to sell or redeem such securities and the right to retain the securities in satisfaction of the obligations of the Institution under the Agreement. Notice sent by registered or certified mail, postage prepaid, or delivered during business hours, to the Institution at least seven (7) days before an event under the UCC, or any successor provision of law shall constitute reasonable notification of such event. (Section 502)

#### Court Proceedings

The Trustee may enforce the obligations under the Agreement by legal proceedings for the specific performance of any covenant, obligation or agreement contained in the Agreement, whether or not an Event of Default exists, or for the enforcement of any other appropriate legal or equitable remedy, and may recover damages caused by any breach of the provisions of the Agreement, including (to the extent the Agreement may lawfully provide) court costs, reasonable attorneys' fees and other costs and expenses incurred in enforcing the obligations under the Agreement. (Section 503)

#### Revenues after Default

The proceeds from the exercise of the rights and remedies under the Agreement shall be remitted to the Trustee upon receipt and in the form received. After payment or reimbursement of the reasonable expenses of the Trustee and the Issuer in connection therewith, the same shall be allocated to the Bonds. The portion allocable to the Bonds shall be applied, first to the remaining obligations of the Institution under the Agreement (other than obligations to make payments to the Issuer for its own use) in such order as may be determined by the Trustee, and second, to any unpaid sums due the Issuer for its own use. Any surplus thereof shall be paid to the Institution. (Section 504)

#### Remedies Cumulative

The rights and remedies under the Agreement shall be cumulative and shall not exclude any other rights and remedies allowed by law, provided there is no duplication of recovery. The failure to insist upon a strict performance of any of the obligations of the Institution or to exercise any remedy for any violation thereof shall not be taken as a waiver for the future of the right to insist upon strict performance by the Institution or of the right to exercise any remedy for the violation. (Section 505)

## APPENDIX C

### Resignation or Removal of the Trustee

The Trustee may resign on not less than thirty (30) days' notice given in writing to the Issuer, the Bondowners and the Institution, but such resignation shall not take effect until a successor has been appointed. The Trustee will promptly certify to the Issuer that it has mailed such notice to all Bondowners and such certificate will be conclusive evidence that such notice was given in the manner required by the Agreement. The Trustee may be removed upon thirty (30) days written notice (i) by written notice from the Owners of a majority in principal amount of the Outstanding Bonds to the Trustee, the Issuer and the Institution; (ii) with or without cause by the Institution with the approval of the Issuer if the Institution is not in default or (iii) with cause by the Issuer. (Section 604)

### The Bondowners

Action by Bondowners. Any request, authorization, direction, notice, consent, waiver or other action provided by the Agreement to be given or taken by Bondowners may be contained in and evidenced by one or more writings of substantially the same tenor signed by the requisite number of Bondowners or their attorneys duly appointed in writing.

Any request, consent or vote of the Owner of any Bond shall bind all future Owners of such Bond. Bonds owned or held by or for the account of the Issuer or the Institution shall not be deemed Outstanding Bonds for the purpose of any consent or other action by Bondowners. (Section 801)

Proceedings by Bondowners. No Bondowner shall have any right to institute any legal proceedings for the enforcement of the Agreement or any applicable remedy under the Agreement, unless the Bondowners have directed the Trustee to act and furnished the Trustee indemnity as provided in the Agreement and have afforded the Trustee reasonable opportunity to proceed, and the Trustee shall thereafter fail or refuse to take such action.

Subject to the foregoing, any Bondowner may by any available legal proceedings enforce and protect its rights under the Agreement and under the laws of The Commonwealth of Massachusetts. (Section 802)

### The Institution

Corporate Organization, Authorization and Powers. The Institution represents and warrants that it is a corporation duly organized on May 30, 1650 by act of the Colony of Massachusetts Bay confirmed, as amended, in the Constitution of 1780 of The Commonwealth of Massachusetts, with the power to enter into and perform the Agreement; that it is a nonprofit educational institution within the Commonwealth authorized by law to provide a program of education beyond the high school level and that by proper corporate action it has duly authorized the execution and delivery of the Agreement. The Institution further represents and warrants that the execution and delivery of the Agreement and the consummation of the transactions contemplated in the Agreement will not conflict with or constitute a breach of or default under any bond, indenture, note or other evidence of indebtedness of the Institution, the charter or by-laws of the Institution, any gifts, bequests or devises pledged to or received by the Institution, or any contract, lease or other instrument to which the Institution is a party or by which it is bound or cause the Institution to be in violation of any applicable statute or rule or regulation of any governmental authority. (Section 901)

Tax Matters. The Institution represents and warrants that (i) it is an organization described in Section 501(c)(3) of the IRC and it is not a "private foundation" as defined in Section 509 of the IRC; (ii) it has received letters from the Internal Revenue Service to that effect; (iii) such letters have not been modified, limited or revoked; (iv) it is in compliance with all terms, conditions and limitations, if any, contained in such letters; and (v) it is exempt from federal income taxes under Section 501(a) of the IRC. (b) The Institution shall not take or omit to take any action if such action or omission would (i) cause the Bonds to be "arbitrage bonds" under Section 148 of the IRC, including, without limitation, as a result of computing the yield on any investment acquired with Bond proceeds other than on the basis of the "fair market value" (within the meaning of Treas. Reg. §1.148-5(d)(6)) of such investment at the time of acquisition, (ii) cause the Bonds to not meet any of the requirements of Section 149 of the IRC, or (iii) cause the Bonds to cease to be "qualified 501(c)(3) bonds" under Section 145 of the IRC. Without

limiting the foregoing, the Institution shall not permit the \$150,000,000 nonhospital bond limitation of IRC §145(b) to be exceeded. To the extent consistent with its status as a nonprofit educational institution, the Institution agrees that it will not take any action or omit to take any action if such action or omission would cause any revocation or adverse modification of such federal income tax status of the Institution. Partly in furtherance of the foregoing, the Issuer and the Institution are entering into the Tax Certificate with respect to matters of federal tax law pertaining to the Bonds issued under the Agreement. (Section 902)

Securities Law Status. The Institution represents and warrants that it is an organization organized and operated exclusively for charitable purposes and not for pecuniary profit; and that no part of its net earnings inures to the benefit of any person, private stockholder or individual, all within the meaning of the Securities Act of 1933, as amended. The Institution shall not take any action or omit to take any action if such action or omission would change its status as set forth in this paragraph. (Section 903)

Annual Reports and Other Current Information. The Institution shall from time to time render such other reports concerning the condition of the Project or compliance with the Agreement as the Issuer or the Trustee may reasonably request. Not later than March 1 of each year, the Institution shall furnish to the Trustee and the Issuer, and to Bondowners requesting the same, copies of its audited financial statements unless such audited financial statements are available for public access on the Electronic Municipal Market Access (“EMMA”) website or the Institution’s website. If such statements are not so available, then copies of the reports and statements required to be filed with the Trustee pursuant to this paragraph shall be filed with the Trustee in sufficient quantity to permit the Trustee to retain at least one copy for inspection by Bondowners and to permit the Trustee to mail a copy to each Bondowner who requests it. The Trustee shall maintain a list of Bondowners who have made such a request. The Institution shall furnish to the agencies rating the Bonds such information as they may reasonably require for current reports to their subscribers. The Trustee shall have no obligation or duty to review any financial statements (audited or otherwise) filed with it and shall not be deemed to have notice of the content of such statements or a default based on such content and shall have no obligation or duty to verify the accuracy of such statements. (Section 904)

Maintenance of Corporate Existence. The Institution shall maintain its existence as a nonprofit corporation qualified to do business in Massachusetts and shall not dissolve, dispose of or spin off all or substantially all of its assets, or consolidate with or merge into another entity or entities, or permit one or more other entities to consolidate with or merge into it, except that it may consolidate with or merge into one or more other entities or permit one or more other entities to consolidate with or merge into it, or transfer all or substantially all of its assets to one or more other entities (and thereafter dissolve or not dissolve as it may elect), if (a) the surviving, resulting or transferee entity or entities each is a corporation having the status and powers set forth in the Agreement, (b) the transaction does not result in a conflict, breach or default referred to in the Agreement, (c) the surviving, resulting or transferee entity or entities each (i) assumes by written agreement with the Issuer and the Trustee all the obligations of the Institution under the Agreement, (ii) notifies the Issuer and the Trustee of any change in the name of the Institution, and (iii) executes, delivers, registers, records and files such other instruments as the Issuer or the Trustee may reasonably require to confirm, perfect or maintain any security granted under the Agreement. (Section 905)

#### Amendment

The Agreement may be amended by the parties without Bondowner consent for any of the following purposes: (a) to subject additional property to the lien of the Agreement, (b) to provide for the establishment or amendment of a book entry system of registration for the Bonds through a securities depository (which may or may not be DTC), (c) to add to the covenants and agreements of the Institution or to surrender or limit any right or power of the Institution, or (d) to cure any ambiguity or defect, or to add provisions which are not inconsistent with the Agreement and which do not impair the security for the Bonds.

Except as provided in the foregoing paragraph, the Agreement may be amended only with the written consent of the Owners of at least a majority in principal amount of the Outstanding Bonds; provided, however, that no amendment of the Agreement may be made without the unanimous written consent of the affected Bondowners for any of the following purposes: (i) to extend the maturity of any Bond, (ii) to reduce the principal amount or

## APPENDIX C

interest rate of any Bond, (iii) to make any Bond redeemable other than in accordance with its terms, (iv) to create a preference or priority of any Bond or Bonds over any other Bond or Bonds, or (v) to reduce the percentage of the Bonds required to be represented by the Bondowners giving their consent to any amendment.

Any amendment of the Agreement shall be accompanied by an opinion of Bond Counsel (which shall include the Trustee as an addressee or shall expressly permit reliance by the Trustee) to the effect that the amendment (i) is permitted by the Agreement and (ii) will not adversely affect the exclusion of interest on the Bonds from gross income for federal income tax purposes.

When the Trustee determines that the requisite number of consents have been obtained for an amendment that requires Bondowner consent, it shall, within ninety (90) days, file a certificate to that effect in its records and mail notice to the Bondowners. No action or proceeding to invalidate the amendment shall be instituted or maintained unless it is commenced within sixty (60) days after such mailing. The Trustee will promptly certify to the Issuer that it has mailed such notice to all Bondowners and such certificate will be conclusive evidence that such notice was given in the manner required by the Agreement. A consent to an amendment may be revoked by a notice given by the Bondowner and received by the Trustee prior to the Trustee's certification that the requisite consents have been obtained. (Section 1001)

### Defeasance

When there are in the Debt Service Fund and the Redemption Fund sufficient funds, or Government or Equivalent Obligations described in clause (i), (ii), (iii) or (v) of the definition thereof in such principal amounts, bearing interest at such rates and with such maturities as will provide sufficient funds to pay or redeem the Bonds in full, and when all the rights under the Agreement of the Issuer and the Trustee have been provided for, upon written notice from the Institution to the Issuer and the Trustee, the Bondowners shall cease to be entitled to any benefit or security under the Agreement except the right to receive payment of the funds deposited and held for payment and other rights which by their nature cannot be satisfied prior to or simultaneously with termination of the lien of the Agreement, the security interests created by the Agreement (except in such funds and investments) shall terminate, and the Issuer and the Trustee shall execute and deliver such instruments as may be necessary to discharge the lien and security interests created under the Agreement; provided, however, that if any such Bonds are to be redeemed prior to the maturity thereof, the Trustee and the Institution, as applicable, shall have taken all action necessary to redeem such Bonds and notice of such redemption shall have been duly mailed in accordance with the Agreement or irrevocable instructions so to mail shall have been given to the Trustee. Upon such defeasance, the funds and investments required to pay or redeem the Bonds in full shall be irrevocably set aside for that purpose, subject, however, to the provisions of the Agreement regarding unclaimed moneys, and moneys held for defeasance shall be invested only as provided above in this section. To the extent allowed by applicable law, any funds or property held by the Trustee and not required for payment or redemption of the Bonds in full shall, after satisfaction of all the rights of the Issuer and the Trustee and after allowance for payment to the United States under IRC Section 148(b), be distributed to the Institution upon such indemnification, if any, as the Issuer or the Trustee may reasonably require. (Section 202)

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**PROPOSED FORM OF BOND COUNSEL OPINION**

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**APPENDIX D****[PROPOSED FORM OF BOND COUNSEL OPINION]**

[Delivery Date of Bonds]

Massachusetts Development Finance Agency  
99 High Street, 11<sup>th</sup> Floor  
Boston, MA 02110

\$1,539,720,000  
Massachusetts Development Finance Agency  
Revenue Bonds  
Harvard University Issue, Series 2016A  
Dated their Date of Delivery

We have acted as bond counsel to the Massachusetts Development Finance Agency (the “Agency”) in connection with the issuance of the above-referenced bonds (the “Bonds”). In such capacity, we have examined the law and such certified proceedings and other papers as deemed necessary to render this opinion, including the Loan and Trust Agreement dated as of October 1, 2016 (the “Agreement”) among the Agency, President and Fellows of Harvard College (the “Institution”) and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”).

As to questions of fact material to our opinion we have relied upon representations and covenants of the Agency and the Institution contained in the Agreement and in the certified proceedings and other certifications of public officials furnished to us, and certifications of officials of the Institution and others, without undertaking to verify the same by independent investigation.

The Bonds are issued pursuant to the Agreement. The Bonds are payable solely from funds to be provided therefor by the Institution pursuant to the Agreement. Under the Agreement, the Institution has agreed to make payments sufficient to pay when due the principal (including sinking fund installments) and purchase or redemption price of and interest on the Bonds. Such payments and other moneys payable to the Agency or the Trustee under the Agreement, including proceeds derived from any security provided thereunder (collectively the “Revenues”), and the rights of the Agency under the Agreement to receive the same (excluding, however, certain administrative fees,

## APPENDIX D

indemnification and reimbursements), are pledged and assigned by the Agency as security for the Bonds. The Bonds are payable solely from the Revenues.

We express no opinion with respect to compliance by the Institution with applicable legal requirements with respect to the Agreement or in connection with the operation of the Project (as defined in the Agreement) being refinanced by the Bonds.

Reference is made to an opinion of even date of Ropes & Gray LLP, counsel to the Institution, with respect to, among other matters, the corporate existence of the Institution, the power of the Institution to carry out the Project, the power of the Institution to enter into and perform its obligations under the Agreement and the authorization, execution and delivery of the Agreement by the Institution. We have relied on such opinion with regard to such matters and to the other matters addressed therein, including, without limitation, the current qualification of the Institution as an organization described in Section 501(c)(3) of the Internal Revenue Code of 1986 (the "Code"). We note that such opinion is subject to the limitations and conditions described therein. Failure of the Institution to maintain its status as an organization described in Section 501(c)(3) of the Code or to use the Project in activities of the Institution that do not constitute unrelated trades or businesses of the Institution within the meaning of Section 513 of the Code may result in interest on the Bonds being included in gross income for federal income tax purposes, possibly from the date of issuance of the Bonds.

Based on our examination, we are of the opinion, under existing law, as follows:

1. The Agency is a duly created and validly existing body corporate and politic and a public instrumentality of The Commonwealth of Massachusetts with the power to enter into and perform the Agreement and to issue the Bonds.
2. The Agreement has been duly authorized, executed and delivered by the Agency and is a valid and binding obligation of the Agency enforceable against the Agency. As provided in Chapter 23G of the General Laws of The Commonwealth of Massachusetts, the Agreement creates a valid lien on the Revenues and on the rights of the Agency or the Trustee on behalf of the Agency to receive Revenues under the Agreement (except certain rights to indemnification, reimbursements and fees).
3. The Bonds have been duly authorized, executed and delivered by the Agency and are valid and binding special obligations of the Agency, payable solely from the Revenues.
4. Interest on the Bonds is excluded from the gross income of the owners of the Bonds for federal income tax purposes. In addition, interest on the Bonds is not a specific preference item for purposes of the federal individual or corporate alternative minimum taxes. However, such interest is included in adjusted current earnings when calculating corporate alternative minimum taxable income. In rendering the opinions set forth in this paragraph, we have assumed compliance by the Agency and the Institution with all requirements of the Code that must be satisfied subsequent to the issuance of

the Bonds in order that interest thereon be, and continue to be, excluded from gross income for federal income tax purposes. The Institution and, to the extent necessary, the Agency have covenanted in the Agreement to comply with all such requirements. Failure by the Agency or the Institution to comply with certain of such requirements may cause interest on the Bonds to become included in gross income for federal income tax purposes retroactive to the date of issuance of the Bonds. We express no opinion regarding any other federal tax consequences arising with respect to the Bonds.

5. Interest on the Bonds is exempt from Massachusetts personal income taxes and the Bonds are exempt from Massachusetts personal property taxes. We express no opinion regarding any other Massachusetts tax consequences arising with respect to the Bonds or any tax consequences arising with respect to the Bonds under the laws of any state other than Massachusetts.

This opinion is expressed as of the date hereof, and we neither assume nor undertake any obligation to update, revise, supplement or restate this opinion to reflect any action taken or omitted, or any facts or circumstances or changes in law or in the interpretation thereof, that may hereafter arise or occur, or for any other reason.

The rights of the holders of the Bonds and the enforceability of the Bonds and the Agreement may be subject to bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting creditors' rights heretofore or hereafter enacted to the extent constitutionally applicable, and their enforcement may also be subject to the exercise of judicial discretion in appropriate cases.

HINCKLEY, ALLEN & SNYDER LLP

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## **APPENDIX E**

### **FORM OF CONTINUING DISCLOSURE AGREEMENT**

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## FORM OF CONTINUING DISCLOSURE AGREEMENT

This Continuing Disclosure Agreement (the “Disclosure Agreement”) is executed and delivered by the President and Fellows of Harvard College (the “Institution”) and The Bank of New York Mellon Trust Company, N.A. (the “Trustee”) in connection with the issuance of \$1,539,720,000 Massachusetts Development Finance Agency Revenue Bonds, Harvard University Issue, Series 2016A (the “Bonds”). The Bonds are being issued pursuant to a Loan and Trust Agreement dated as of October 1, 2016 among the Massachusetts Development Finance Agency (the “Issuer”), the Trustee and the Institution (the “Agreement”), and the proceeds of the Bonds are being loaned by the Issuer to the Institution pursuant to the Agreement. The Institution and the Trustee covenant and agree as follows.

SECTION 1. Purpose of the Disclosure Agreement. This Disclosure Agreement is being executed and delivered by the Institution and the Trustee for the benefit of the Bondowners and in order to assist the Participating Underwriters (defined below) in complying with the Rule (defined below). The Institution and the Trustee acknowledge that the Issuer has undertaken no responsibility with respect to any reports, notices or disclosures provided or required under this Disclosure Agreement, and has no liability to any person, including any Bondowner, with respect to any such reports, notices or disclosures. The Trustee, except as provided in Section 3(c), has undertaken no responsibility with respect to any reports, notices or disclosures provided or required under this Disclosure Agreement, and has no liability to any person, including any Bondowner, with respect to any such reports, notices or disclosures except for its negligent failure to comply with its obligations under Section 3(c).

SECTION 2. Definitions. In addition to the definitions set forth in the Agreement, which apply to any capitalized term used in this Disclosure Agreement unless otherwise defined in this Section, the following capitalized terms shall have the following meanings:

“Annual Report” shall mean any Annual Report provided by the Institution pursuant to, and as described in, Sections 3 and 4 of this Disclosure Agreement.

“Bondowner” shall mean the registered owner of a Bond and any beneficial owner thereof, as established to the reasonable satisfaction of the Trustee or Institution.

“Dissemination Agent” shall mean any Dissemination Agent or successor Dissemination Agent designated in writing by the Institution and which has filed with the Institution, the Trustee and the Issuer a written acceptance of such designation. The same entity may serve as both Trustee and Dissemination Agent. The initial Dissemination Agent shall be the Trustee. In the absence of a third-party Dissemination Agent, the Institution shall serve as the Dissemination Agent.

“Listed Events” shall mean any of the events listed in Section 5(a) of this Disclosure Agreement.

“MSRB” means the Municipal Securities Rulemaking Board established pursuant to Section 15B(b)(1) of the Securities Exchange Act of 1934, or any successor thereto or to the functions of the MSRB contemplated by this Disclosure Agreement. Filing information relating to the MSRB is set forth in Exhibit B hereto.

“Participating Underwriter” shall mean any of the original underwriters of the Bonds required to comply with the Rule in connection with offering of the Bonds.

“Rule” shall mean Rule 15c2-12(b)(5) adopted by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as the same may be amended from time to time.

SECTION 3. Provision of Annual Reports.

(a) The Dissemination Agent, not later than March 1 of each year, commencing in 2017 (the “Filing Deadline”), shall provide to the MSRB an Annual Report which is consistent with the requirements of Section 4 of this Disclosure Agreement. Not later than five (5) Business Days prior to said date, the Institution (if it

is not the Dissemination Agent) shall provide the Annual Report to the Dissemination Agent. In each case, the Annual Report may be submitted as a single document or as separate documents comprising a package, and may cross-reference other information as provided in Section 4 of this Disclosure Agreement; provided that the audited financial statements of the Institution may be submitted separately from, and at a later date than, the balance of the Annual Report if such audited financial statements are not available as of the date set forth above. If the Dissemination Agent submits the audited financial statements of the Institution at a later date, it shall provide unaudited financial statements by the above-specified deadline and shall provide the audited financial statements as soon as practicable after the audited financial statements become available. The Institution shall submit the audited financial statements to the Dissemination Agent and the Trustee as soon as practicable after they become available and the Dissemination Agent shall submit the audited financial statements to the MSRB as soon as practicable thereafter. The Institution shall provide a copy of the Annual Report to the Issuer and the Trustee.

(b) The Dissemination Agent shall file a report with the Institution, the Issuer and the Trustee certifying that the Annual Report has been provided pursuant to this Disclosure Agreement and stating the date it was provided (the "Compliance Certificate"); such report shall include a certification from the Institution that the Annual Report complies with the requirements of this Disclosure Agreement.

(c) If the Trustee has not received a Compliance Certificate by the Filing Deadline, the Trustee shall send, and the Institution hereby authorizes and directs the Trustee to submit on its behalf, a notice to the MSRB in substantially the form attached as Exhibit A.

(d) If the Dissemination Agent has not provided the Annual Report to the MSRB by the Filing Deadline, the Institution shall send, or cause the Dissemination Agent to send, a notice substantially in the form of Exhibit A irrespective of whether the Trustee submits such notice.

SECTION 4. Content of Annual Reports. The Institution's Annual Report shall contain or incorporate by reference the following:

(a) Quantitative information for the preceding fiscal year of the type presented under the heading captioned "Student Applications and Enrollment" in Appendix A to the Issuer's Official Statement dated October 6, 2016.

(b) Quantitative information for the preceding fiscal year of the type presented in the tables captioned "Summary of Financial Results," and general information with respect to endowment assets, and income and expenses as found in Appendix B to the Issuer's Official Statement dated October 6, 2016.

In the event the Borrower's audited financial statements provided pursuant to Section 3 of this Disclosure Agreement contain any of the information described in clauses (a) and (b) above, the requirement of this Section 4 shall be deemed to be satisfied with respect to including such information in the Borrower's Annual Report.

The financial statements provided pursuant to Sections 3 and 4 of this Disclosure Agreement shall be prepared in conformity with generally accepted accounting principles, as in effect from time to time. Any or all of the items listed above may be incorporated by reference from other documents, including official statements of debt issues with respect to which the Institution is an "obligated person" (as defined by the Rule), which (i) are available to the public on the MSRB Internet Web site, or (ii) have been filed with the Securities and Exchange Commission. The Institution shall clearly identify each such other document so incorporated by reference.

SECTION 5. Reporting of Significant Events.

(a) This Section 5 shall govern the giving of notices of the occurrence of any of the following events:

1. Principal and interest payment delinquencies;
2. Non-payment related defaults, if material;



3.       Unscheduled draws on debt service reserves reflecting financial difficulties;
4.       Unscheduled draws on credit enhancements reflecting financial difficulties;
5.       Substitution of credit or liquidity providers, or their failure to perform;
6.       Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices of determinations with respect to the tax status of the Bonds, or other material events affecting the tax status of the Bonds;
7.       Modifications to rights of Bondowners, if material;
8.       Bond calls, if material, and tender offers;
9.       Defeasances;
10.      Release, substitution, or sale of property securing repayment of the Bonds, if material;
11.      Rating changes;
12.      Bankruptcy, insolvency, receivership or similar event of the Institution;<sup>1</sup>
13.      The consummation of a merger, consolidation, or acquisition involving the Institution or the sale of all or substantially all of the assets of the Institution, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; and
14.      Appointment of a successor or additional trustee or the change of name of the Trustee, if material.

(b)       Upon the occurrence of a Listed Event, the Institution shall, in a timely manner not in excess of ten (10) business days after the occurrence of the event, file or cause to be filed a notice of such occurrence with the MSRB. The Institution shall provide a copy of each such notice to the Issuer and the Trustee. The Dissemination Agent, if other than the Institution, shall have no duty to file a notice of an event described hereunder unless it is directed in writing to do so by the Institution, and shall have no responsibility for verifying any of the information in any such notice or determining the materiality of the event described in such notice.

SECTION 6.    Transmission of Information and Notices. Unless otherwise required by law, all notices, documents and information provided to the MSRB shall be provided in electronic format as prescribed by the MSRB and shall be accompanied by identifying information as prescribed by the MSRB.

SECTION 7.    Termination of Reporting Obligation. The Institution's obligations under this Disclosure Agreement shall terminate upon the defeasance, prior redemption or payment in full of all of the Bonds or upon delivery to the Trustee of an opinion of counsel expert in federal securities laws selected by the Institution to the effect that compliance with this Disclosure Agreement no longer is required by the Rule. If the Institution's obligations under the Agreement are assumed in full by some other entity, such person shall be responsible for

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<sup>1</sup> For the purposes of this Listed Event, the Listed Event is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent or similar officer for the Institution in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the Institution, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the Institution.

compliance with this Disclosure Agreement in the same manner as if it were the Institution and the original Institution shall have no further responsibility hereunder.

SECTION 8. Dissemination Agent. The Institution may, from time to time with written notice to the Trustee and the Issuer appoint or engage a third-party Dissemination Agent to assist it in carrying out its obligations under this Disclosure Agreement, and may, with written notice to the Trustee and the Issuer, discharge any such third-party Dissemination Agent, with or without appointing a successor Dissemination Agent. The Dissemination Agent (if other than the Institution) may resign upon 30 days' written notice to the Institution, the Trustee and the Issuer.

SECTION 9. Amendment; Waiver. Notwithstanding any other provision of this Disclosure Agreement, the Institution and the Trustee may amend this Disclosure Agreement (and, subject to the last sentence of this Section 9, the Trustee shall agree to any amendment so requested by the Institution) and any provision of this Disclosure Agreement may be waived, if such amendment or waiver is supported by an opinion of counsel expert in federal securities laws acceptable to the Institution to the effect that such amendment or waiver would not, in and of itself, violate the Rule. Without limiting the foregoing, the Institution and the Trustee may amend this Disclosure Agreement if (a) such amendment is made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature or status of the Institution or of the type of business conducted by the Institution, (b) this Disclosure Agreement, as so amended, would have complied with the requirements of the Rule at the time the Bonds were issued, taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and (c) (i) the Trustee receives an opinion of counsel expert in federal securities laws to the effect that, the amendment does not materially impair the interests of the Bondowners or (ii) the amendment is consented to by the Bondowners as though it were an amendment to the Agreement pursuant to Section 1001 of the Agreement. The annual financial information containing the amended operating data or financial information will explain, in narrative form, the reasons for the amendment and the impact of the change in the type of operating data or financial information being provided. Neither the Trustee nor the Dissemination Agent shall be required to accept or acknowledge any amendment of this Disclosure Agreement if the amendment adversely affects its respective rights or immunities or increases its respective duties hereunder.

SECTION 10. Additional Information. Nothing in this Disclosure Agreement shall be deemed to prevent the Institution from disseminating any other information, using the means of dissemination set forth in this Disclosure Agreement or any other means of communication, or including any other information in any Annual Report or notice of occurrence of a Listed Event, in addition to that which is required by this Disclosure Agreement. If the Institution chooses to include any information in any Annual Report or notice of occurrence of a Listed Event in addition to that which is specifically required by this Disclosure Agreement, the Institution shall have no obligation under this Disclosure Agreement to update such information or include it in any future Annual Report or notice of occurrence of a Listed Event.

SECTION 11. Default. In the event of a failure of the Institution or the Dissemination Agent to comply with any provision of this Disclosure Agreement, the Trustee may (and, at the request of Bondowners representing at least 25% in aggregate principal amount of Outstanding Bonds, shall), take such actions as may be necessary and appropriate, including seeking specific performance by court order, to cause the Institution or the Dissemination Agent, as the case may be, to comply with its obligations under this Disclosure Agreement. Without regard to the foregoing, any Bondowner may take such actions as may be necessary and appropriate, including seeking specific performance by court order, to cause the Institution or the Dissemination Agent, as the case may be, to comply with its obligations under this Disclosure Agreement. A default under this Disclosure Agreement shall not be deemed an Event of Default under the Agreement, and the sole remedy under this Disclosure Agreement in the event of any failure of the Institution or the Dissemination Agent to comply with this Disclosure Agreement shall be an action to compel performance.

SECTION 12. Duties, Immunities and Liabilities of Trustee and Dissemination Agent. As to the Trustee, Article VI of the Agreement is hereby made applicable to this Disclosure Agreement as if this Disclosure Agreement were (solely for this purpose) contained in the Agreement. In the event that the Trustee serves as Dissemination Agent, the same privileges and protections afforded to the Trustee under Article VI of the Agreement shall be equally applicable to the Trustee in the performance of its duties as Dissemination Agent hereunder. The Dissemination Agent (if other than the Institution) shall have only such duties as are specifically set forth in this

Disclosure Agreement, and the Institution agrees to indemnify and save the Dissemination Agent (if other than the Institution), its officers, director, employees and agents, harmless against any loss, expense and liabilities which it may incur arising out of or in the exercise or performance of its powers and duties hereunder, including the costs and expenses (including attorneys' fees) of defending against any claim of liability, but excluding liabilities due to the Dissemination Agent's negligence or willful misconduct. The obligations of the Institution under this Section shall survive resignation or removal of the Dissemination Agent and payment of the Bonds. The Institution covenants that whenever it is serving as Dissemination Agent, it shall take any action required of the Dissemination Agent under this Disclosure Agreement. Neither the Trustee nor the Dissemination Agent (if other than the Institution) shall have a duty to review the Annual Report, nor shall they be deemed to have notice of the contents of such Annual Report or a default based on such content, nor shall they have a duty to verify the accuracy of such Annual Report.

The Trustee shall have no obligation under this Disclosure Agreement to report any information to the MSRB or any Bondowner. If an officer of the Trustee obtains actual knowledge of the occurrence of an event described in Section 5 hereunder, whether or not such event is material, the Trustee shall timely notify the Institution of such occurrence, provided, however, that any failure by the Trustee to give such notice to the Institution shall not affect the Institution's obligations under this Disclosure Agreement or give rise to any liability by the Trustee for such failure.

SECTION 13. Beneficiaries. This Disclosure Agreement shall inure solely to the benefit of the Institution, the Trustee, the Dissemination Agent, the Participating Underwriters and the Bondowners, and shall create no rights in any other person or entity.

SECTION 14. Disclaimer. No Annual Report or notice of a Listed Event filed by or on behalf of the Institution under this Disclosure Agreement shall obligate the Institution to file any information regarding matters other than those specifically described in Section 4 and Section 5 hereof, nor shall any such filing constitute a representation by the Institution or raise any inference that no other material events have occurred with respect to the Institution or the Bonds or that all material information regarding the Institution or the Bonds has been disclosed. The Institution shall have no obligation under this Disclosure Agreement to update information provided pursuant to this Disclosure Agreement except as specifically stated herein.

SECTION 15. Notices. Unless otherwise expressly provided, all notices to the Issuer, the Institution, the Trustee and the Dissemination Agent shall be in writing and shall be deemed sufficiently given if sent by registered or certified mail, postage prepaid, or delivered or sent by facsimile during business hours to such parties at the address specified in Section 1003 of the Agreement or, as to all of the foregoing, to such other address as the addressee shall have indicated by prior written notice to the party giving notice.

SECTION 16. Counterparts. This Disclosure Agreement may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

[Remainder of page intentionally left blank]

SECTION 17. Governing Law. This instrument shall be governed by the laws of the Commonwealth of Massachusetts

Date: October \_\_, 2016

PRESIDENT AND FELLOWS OF HARVARD COLLEGE

By: \_\_\_\_\_  
Name:  
Title:

THE BANK OF NEW YORK MELLON  
TRUST COMPANY, N.A.,  
as Trustee

By: \_\_\_\_\_  
Name:  
Title:

**EXHIBIT A**

**NOTICE TO MSRB OF FAILURE TO FILE ANNUAL REPORT**

Name of Issuer: Massachusetts Development Finance Agency

Name of Bond Issue: Revenue Bonds, Harvard University Issue, Series 2016A

Name of Obligated Person: President and Fellows of Harvard College

Date of Issuance: October \_\_, 2016

NOTICE IS HEREBY GIVEN that the President and Fellows of Harvard College (the "Institution") has not provided an Annual Report with respect to the above-named Bonds as required by the Continuing Disclosure Agreement dated October \_\_, 2016 between the Institution and The Bank of New York Mellon Trust Company, N.A.

Dated: \_\_\_\_\_

THE BANK OF NEW YORK MELLON TRUST  
COMPANY, N.A. on behalf of PRESIDENT AND  
FELLOWS OF HARVARD COLLEGE

cc: Institution

## **EXHIBIT B**

Filing information relating to the Municipal Securities Rulemaking Board is as follows:

Municipal Securities Rulemaking Board  
<http://emma.msrb.org>

## APPENDIX F

### TABLE OF REFUNDED BONDS

<u>Refunded Bond Series</u>	<u>CUSIP</u>	<u>Refunded Par Amount</u>	<u>Maturity Date</u>	<u>Refunding Bond Series</u>
2008B	57586C6U4	\$208,870,000	Oct. 1, 2038	2016A
2009A	57586ECT6	7,355,000	Nov. 15, 2016	Taxable Commercial Paper
2009A	57586ECV1	7,355,000	Nov. 15, 2017	Taxable Commercial Paper
2009A	57586ECX7	7,355,000	Nov. 15, 2018	Taxable Commercial Paper
2009A	57586ECY5	7,355,000	Nov. 15, 2019	Taxable Commercial Paper
2009A	57586ECZ2	7,355,000	Nov. 15, 2020	Taxable Commercial Paper
2009A	57586EDA6	7,355,000	Nov. 15, 2021	Taxable Commercial Paper
2009A	57586EDB4	7,355,000	Nov. 15, 2022	Taxable Commercial Paper
2009A	57586EDC2	7,355,000	Nov. 15, 2023	Taxable Commercial Paper
2009A	57586EDD0	171,530,000	Nov. 15, 2036	Taxable Commercial Paper
2009A	57586ECY5	22,645,000	Nov. 15, 2019	2016A
2009A	57586ECZ2	22,645,000	Nov. 15, 2020	2016A
2009A	57586EDA6	22,645,000	Nov. 15, 2021	2016A
2009A	57586EDB4	22,645,000	Nov. 15, 2022	2016A
2009A	57586EDC2	22,645,000	Nov. 15, 2023	2016A
2009A	57586EDD0	528,470,000	Nov. 15, 2036	2016A
2010A	57586EQR5	25,280,000	Dec. 15, 2024	2016A
2010A	57586EQC8	3,330,000	Dec. 15, 2024	2016A
2010A	57586EQD6	30,665,000	Dec. 15, 2025	2016A
2010A	57586EQF1	32,845,000	Dec. 15, 2026	2016A
2010A	57586EQT1	34,250,000	Dec. 15, 2027	2016A
2010A	57586EQG9	1,225,000	Dec. 15, 2027	2016A
2010A	57586EQH7	44,150,000	Dec. 15, 2028	2016A
2010A	57586EQJ3	33,850,000	Dec. 15, 2029	2016A
2010A	57586EQU8	38,485,000	Dec. 15, 2030	2016A
2010A	57586EQL8	1,300,000	Dec. 15, 2030	2016A
2010A	57586EQK0	43,145,000	Dec. 15, 2031	2016A
2010A	57586EQS3	108,670,000	Dec. 15, 2034	2016A
2010A	57586EQE4	5,645,000	Dec. 15, 2034	2016A
2010B-1	57583R5K7	6,000,000	Oct. 15, 2028	2016A
2010B-1	57583R5M3	10,650,000	Oct. 15, 2030	2016A
2010B-1	57583R5N1	127,080,000	Oct. 15, 2039	2016A
2010B-1	57583R5N1	133,595,000	Oct. 15, 2040	2016A
2010B-1	57583R5K7	17,195,000	Oct. 15, 2028	2016B
2010B-1	57583R5L5	18,100,000	Oct. 15, 2029	2016B
2010B-2	57583R5Q4	178,195,000	Feb. 1, 2034	2016A
2008D	740816AE3	494,800,000	Jan. 15, 2019	2016B
2008D	U7410EAA3	5,200,000	Jan. 15, 2019	2016B
Commercial Paper	Various	449,575,000	Various	2016B