



**\$1,000,000,000**  
**PRESIDENT AND FELLOWS OF HARVARD COLLEGE**  
**Taxable Bonds, Series 2016B**

**\$500,000,000 3.150% Bonds, due July 15, 2046**  
**\$500,000,000 3.300% Bonds, due July 15, 2056**

**Yield: 3.159%**  
**Yield: 3.334%**

**CUSIP No. 740816AM5\***  
**CUSIP No. 740816AN3\***

**Interest payable: January 15 and July 15**

**Dated: Date of Delivery**

The President and Fellows of Harvard College Taxable Bonds, Series 2016B (the “Bonds”) will be issued pursuant to the terms of an Indenture of Trust, dated as of October 1, 2016 (the “Indenture”), by and between President and Fellows of Harvard College (the “Institution”) and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”). The proceeds of the Bonds will be used by the Institution to (1) refund a portion of the Institution’s Taxable Bonds, Series 2008D, (2) advance refund a portion of the Massachusetts Development Finance Agency Revenue Bonds, Harvard University Issue, Series 2010B-1, (3) refinance a portion of the Institution’s commercial paper program and (4) pay the costs of issuance of the Bonds.

The Bonds will be issued in fully-registered form in denominations of \$1,000 and any integral multiple thereof and, when issued, will be registered under a global book-entry system in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York (“DTC”). DTC will act as securities depository for the Bonds. Individual purchases will be made in book-entry form only, in principal amounts of \$1,000 and any integral multiple thereof. Purchasers of the Bonds will not receive physical certificates (except under certain circumstances described in the Indenture) representing their ownership interests in the Bonds purchased.

Interest on the Bonds will be payable on January 15 and July 15 of each year, commencing on January 15, 2017. So long as the Bonds are held by DTC, the principal, Redemption Price or Make-Whole Redemption Price (each as defined herein) of and interest on the Bonds will be payable by wire transfer to DTC, which in turn is required to remit such principal, Redemption Price or Make-Whole Redemption Price and interest to the Direct Participants (as defined herein) for subsequent disbursement to the Beneficial Owners of the Bonds, as more fully described in “BOOK-ENTRY ONLY SYSTEM AND GLOBAL CLEARANCE PROCEDURES” herein.

**The Bonds are subject to redemption prior to their stated maturity as described herein. See “THE BONDS – Redemption” herein.**

**Interest on and profit, if any, on the sale of the Bonds are not excludable from gross income for federal, state or local income tax purposes. See “CERTAIN UNITED STATES FEDERAL TAX CONSIDERATIONS” herein.**

**The Bonds constitute unsecured general obligations of the Institution. The Institution has other unsecured general obligations outstanding. See APPENDIX B – “HARVARD UNIVERSITY FINANCIAL REPORT - FISCAL YEAR 2015” attached hereto. Moreover, the Institution is not restricted by the Indenture 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 payment on the Bonds. See “SECURITY FOR THE BONDS” herein.**

***This cover page contains certain information for quick reference only. It is not intended to be a summary of this issue. Investors must read the entire Offering Memorandum to obtain information essential to the making of an informed investment decision.***

The Bonds are offered by the Underwriters, when, as and if issued by the Institution and accepted by the Underwriters, subject to the approval of legality by Ropes & Gray LLP, Boston, Massachusetts, counsel to the Institution. In addition, certain other legal matters will be passed upon for the Underwriters by their counsel, Orrick, Herrington & Sutcliffe LLP, New York, New York. It is expected that the Bonds will be available for delivery to DTC in New York, New York on or about October 13, 2016.

**Goldman, Sachs & Co.**  
**BofA Merrill Lynch**  
**HSBC**

**J.P. Morgan**  
**Barclays**

**Citigroup**

**Morgan Stanley**  
**Wells Fargo Securities**  
**TD Securities**

October 6, 2016

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# TABLE OF CONTENTS

	<u>Page</u>
GENERAL INFORMATION.....	i
SUMMARY OF THE OFFERING .....	viii
INTRODUCTION.....	1
Purpose of the Bonds and the Plan of Finance .....	1
The Institution .....	2
The Bonds .....	2
Security for the Bonds.....	2
Additional Bonds.....	2
Outstanding Indebtedness.....	2
Redemption .....	3
Book-Entry Only System and Global Clearance Procedures .....	3
Certain Information Related to this Offering Memorandum .....	3
PLAN OF FINANCE .....	4
ESTIMATED SOURCES AND USES OF FUNDS .....	5
THE BONDS.....	5
Description of the Bonds.....	5
Redemption .....	6
Partial Redemption of Bonds .....	8
Notice of Redemption .....	8
Effect of Redemption .....	9
Selection of Bonds for Redemption .....	9
BOOK-ENTRY ONLY SYSTEM AND GLOBAL CLEARANCE PROCEDURES .....	9
Clearing Systems.....	10
Clearing and Settlement Procedures.....	13
General .....	15
Certificated Bonds.....	15
SECURITY FOR THE BONDS.....	15
General .....	15
Certain Funds and Accounts Established by the Indenture .....	16
CERTAIN UNITED STATES FEDERAL TAX CONSIDERATIONS .....	16
Certain U.S. Federal Income Tax Consequences to U.S. Holders.....	18
Certain U.S. Federal Income and Estate Tax Consequences to Non-U.S. Holders .....	19
Foreign Account Tax Compliance Act.....	21
UNDERWRITING .....	21
CONTINUING DISCLOSURE.....	23
APPROVAL OF LEGALITY .....	23
FINANCIAL STATEMENTS.....	23
INDEPENDENT ACCOUNTANTS.....	23
RATINGS.....	24
MISCELLANEOUS.....	25
CERTAIN INFORMATION CONCERNING THE INSTITUTION .....	APPENDIX A
HARVARD UNIVERSITY FINANCIAL REPORT - FISCAL YEAR 2015 .....	APPENDIX B
SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE .....	APPENDIX C
PROPOSED FORM OF OPINION OF COUNSEL TO THE INSTITUTION.....	APPENDIX D
TABLE OF REFUNDED BONDS .....	APPENDIX E

## GENERAL INFORMATION

This Offering Memorandum does not constitute an offer to sell the Bonds in any jurisdiction in which or to any person to whom it is unlawful to make such an offer. No dealer, salesperson or other person has been authorized by Goldman, Sachs & Co., J.P. Morgan Securities LLC, Morgan Stanley & Co. LLC, Barclays Capital Inc., Citigroup Global Markets Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Wells Fargo Securities, LLC, HSBC Securities (USA) Inc. and TD Securities (USA) LLC (the “Underwriters”) or the Institution to give any information or to make any representations, other than those contained herein, in connection with the offering of the Bonds and, if given or made, such information or representations must not be relied upon.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the Bonds, or determined that this Offering Memorandum is accurate or complete. Any representation to the contrary is a criminal offense. The Bonds have not been and will not be registered under the Securities Act of 1933, as amended (the “Securities Act”), and are being issued in reliance on an exemption or on exemptions contained therein. The Bonds are not exempt in every jurisdiction in the United States; some jurisdictions’ securities laws (the “blue sky laws”) may require a filing and a fee to secure the Bonds’ exemption from registration.

The distribution of this Offering Memorandum and the offer or sale of Bonds may be restricted by law in certain jurisdictions. Neither the Institution nor the Underwriters represent that this Offering Memorandum may be lawfully distributed, or that any Bonds may be lawfully offered, in compliance with any applicable registration or other requirements in any such jurisdiction, or pursuant to an exemption available thereunder, or assume any responsibility for facilitating any such distribution or offering. In particular, no action has been taken by the Institution or the Underwriters which would permit a public offering of any of the Bonds or distribution of this Offering Memorandum in any jurisdiction where action for that purpose is required. Action may be required to secure exemptions from the blue sky registration requirements either for the primary distribution or any secondary sales that may occur. Accordingly, none of the Bonds may be offered or sold, directly or indirectly, and neither this Offering Memorandum nor any advertisement or other offering material may be distributed or published in any jurisdiction, except under circumstances that will result in compliance with any applicable laws and regulations.

All information set forth herein has been obtained from the Institution and other sources. Estimates and opinions are included and should not be interpreted as statements of fact. Summaries of documents do not purport to be complete statements of their provisions. The information and expressions of opinion herein are subject to change without notice, and neither the delivery of this Offering Memorandum nor any sale made hereunder will, under any circumstances, create any implication that there has been no change in the affairs of the Institution since the date hereof.

Certain statements included or incorporated by reference in this Offering Memorandum constitute “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995, Section 21E of the United States Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act. Such statements are generally identifiable by the terminology used such as “plan,” “expect,” “estimate,” “budget,” “intend,” “projection” or other similar words. Such forward-looking statements include, but are not limited to, certain statements contained in the information in APPENDIX A – “CERTAIN INFORMATION CONCERNING THE INSTITUTION” and APPENDIX B – “HARVARD UNIVERSITY FINANCIAL REPORT - FISCAL YEAR 2015.” A number of important factors, including factors affecting the Institution’s financial condition and factors which are otherwise unrelated thereto, could cause actual results to differ materially from those stated in such forward-looking statements. THE INSTITUTION DOES NOT PLAN TO ISSUE ANY UPDATES OR REVISIONS TO THOSE FORWARD-LOOKING STATEMENTS IF OR WHEN ITS EXPECTATIONS, OR EVENTS, CONDITIONS OR CIRCUMSTANCES ON WHICH SUCH STATEMENTS ARE BASED OCCUR.

The Underwriters have provided the following sentence for inclusion in this Offering Memorandum. The Underwriters have reviewed the information in this Offering Memorandum 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.

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

**INFORMATION CONCERNING OFFERING RESTRICTIONS  
IN CERTAIN JURISDICTIONS OUTSIDE THE UNITED STATES**

REFERENCES HEREIN TO THE “ISSUER” MEAN THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE AND REFERENCES TO “BONDS” OR “SECURITIES” MEAN THE BONDS OFFERED HEREBY.

**MINIMUM UNIT SALES**

THE BONDS WILL TRADE AND SETTLE ON A UNIT BASIS (ONE UNIT EQUALING ONE BOND OF \$1,000 PRINCIPAL AMOUNT). FOR ANY SALES MADE OUTSIDE THE UNITED STATES, THE MINIMUM PURCHASE AND TRADING AMOUNT IS 150 UNITS (BEING 150 BONDS IN AN AGGREGATE PRINCIPAL AMOUNT OF \$150,000).

## **NOTICE TO INVESTORS IN THE EUROPEAN ECONOMIC AREA**

THIS OFFERING MEMORANDUM IS NOT A PROSPECTUS FOR THE PURPOSES OF EUROPEAN COMMISSION REGULATION 809/2004 OR EUROPEAN COMMISSION DIRECTIVE 2003/71/EC (AS AMENDED, INCLUDING BY EUROPEAN COMMISSION DIRECTIVE 2010/73/EU, AS APPLICABLE) (THE “PROSPECTUS DIRECTIVE”). IT HAS BEEN PREPARED ON THE BASIS THAT ALL OFFERS OF THE BONDS WILL BE MADE PURSUANT TO AN EXEMPTION UNDER ARTICLE 3 OF THE PROSPECTUS DIRECTIVE, AS IMPLEMENTED IN MEMBER STATES OF THE EUROPEAN ECONOMIC AREA, FROM THE REQUIREMENT TO PRODUCE A PROSPECTUS FOR SUCH OFFERS. THIS OFFERING MEMORANDUM IS ONLY ADDRESSED TO AND DIRECTED AT PERSONS IN MEMBER STATES OF THE EUROPEAN ECONOMIC AREA WHO ARE “QUALIFIED INVESTORS” WITHIN THE MEANING OF ARTICLE 2(1)(E) OF THE PROSPECTUS DIRECTIVE AND ANY RELEVANT IMPLEMENTING MEASURE IN EACH MEMBER STATE OF THE EUROPEAN ECONOMIC AREA (“QUALIFIED INVESTORS”). THIS OFFERING MEMORANDUM MUST NOT BE ACTED ON OR RELIED ON IN ANY SUCH MEMBER STATE OF THE EUROPEAN ECONOMIC AREA BY PERSONS WHO ARE NOT QUALIFIED INVESTORS. ANY INVESTMENT OR INVESTMENT ACTIVITY TO WHICH THIS OFFERING MEMORANDUM RELATES IS AVAILABLE ONLY TO QUALIFIED INVESTORS IN ANY MEMBER STATE OF THE EUROPEAN ECONOMIC AREA AND WILL NOT BE ENGAGED IN WITH ANY OTHER PERSONS.

## **NOTICE TO PROSPECTIVE INVESTORS IN THE UNITED KINGDOM**

THIS OFFERING MEMORANDUM HAS NOT BEEN APPROVED FOR THE PURPOSES OF SECTION 21 OF THE FINANCIAL SERVICES AND MARKETS ACT 2000 (“FSMA”) AND DOES NOT CONSTITUTE AN OFFER TO THE PUBLIC IN ACCORDANCE WITH THE PROVISIONS OF SECTION 85 OF THE FSMA. IT IS FOR DISTRIBUTION ONLY TO, AND IS DIRECTED SOLELY AT, PERSONS WHO (I) ARE OUTSIDE THE UNITED KINGDOM, (II) ARE INVESTMENT PROFESSIONALS, AS SUCH TERM IS DEFINED IN ARTICLE 19(5) OF THE FINANCIAL SERVICES AND MARKETS ACT 2000 (FINANCIAL PROMOTION) ORDER 2005, AS AMENDED (THE “FINANCIAL PROMOTION ORDER”), (III) ARE PERSONS FALLING WITHIN ARTICLE 49(2)(A) TO (D) OF THE FINANCIAL PROMOTION ORDER, OR (IV) ARE PERSONS TO WHOM AN INVITATION OR INDUCEMENT TO ENGAGE IN INVESTMENT ACTIVITY (WITHIN THE MEANING OF SECTION 21 OF THE FSMA) IN CONNECTION WITH THE ISSUE OR SALE OF ANY SECURITIES MAY OTHERWISE BE LAWFULLY COMMUNICATED OR CAUSED TO BE COMMUNICATED (ALL SUCH PERSONS TOGETHER BEING REFERRED TO AS “RELEVANT PERSONS”). THIS OFFERING MEMORANDUM IS DIRECTED ONLY AT RELEVANT PERSONS AND MUST NOT BE ACTED ON OR RELIED ON BY PERSONS WHO ARE NOT RELEVANT PERSONS, INCLUDING IN CIRCUMSTANCES IN WHICH SECTION 21(1) OF THE FSMA APPLIES TO THE INSTITUTION. ANY INVESTMENT OR INVESTMENT ACTIVITY TO WHICH THIS OFFERING MEMORANDUM RELATES IS AVAILABLE ONLY TO RELEVANT PERSONS AND WILL BE ENGAGED IN ONLY WITH RELEVANT PERSONS. ANY PERSON WHO IS NOT A RELEVANT PERSON SHOULD NOT ACT OR RELY ON THIS OFFERING MEMORANDUM OR ANY OF ITS CONTENTS.

## **NOTICE TO PROSPECTIVE INVESTORS IN HONG KONG**

THE BONDS MAY NOT BE OFFERED OR SOLD IN HONG KONG BY MEANS OF ANY DOCUMENT OTHER THAN (I) IN CIRCUMSTANCES WHICH DO NOT CONSTITUTE AN OFFER TO THE PUBLIC WITHIN THE MEANING OF THE COMPANIES (WINDING UP AND MISCELLANEOUS PROVISIONS) ORDINANCE (CAP. 32 OF THE LAWS OF HONG KONG) (“COMPANIES (WINDING UP AND MISCELLANEOUS PROVISIONS) ORDINANCE”) OR WHICH DO NOT CONSTITUTE AN INVITATION TO THE PUBLIC WITHIN THE MEANING OF THE SECURITIES AND FUTURES ORDINANCE (CAP. 571 OF THE LAWS OF HONG KONG) (“SECURITIES AND FUTURES ORDINANCE”), OR (II) TO “PROFESSIONAL INVESTORS” AS DEFINED IN THE SECURITIES AND FUTURES ORDINANCE AND ANY RULES MADE THEREUNDER, OR (III) IN OTHER CIRCUMSTANCES WHICH DO NOT RESULT IN THE DOCUMENT BEING A “PROSPECTUS” AS DEFINED IN THE COMPANIES (WINDING UP AND MISCELLANEOUS PROVISIONS) ORDINANCE, AND NO ADVERTISEMENT, INVITATION OR DOCUMENT RELATING TO THE BONDS MAY BE ISSUED OR MAY BE IN THE POSSESSION OF ANY PERSON FOR THE PURPOSE OF ISSUE (IN EACH CASE WHETHER IN HONG KONG OR ELSEWHERE), WHICH IS DIRECTED AT, OR THE CONTENTS OF WHICH ARE LIKELY TO BE ACCESSED OR READ BY, THE PUBLIC IN HONG KONG (EXCEPT IF PERMITTED TO DO SO UNDER THE SECURITIES LAWS OF HONG KONG) OTHER THAN WITH RESPECT TO BONDS WHICH ARE OR ARE INTENDED TO BE DISPOSED OF ONLY TO PERSONS OUTSIDE HONG KONG OR ONLY TO “PROFESSIONAL INVESTORS” IN HONG KONG AS DEFINED IN THE SECURITIES AND FUTURES ORDINANCE AND ANY RULES MADE THEREUNDER.

## **NOTICE TO INVESTORS IN CANADA**

THE BONDS MAY BE SOLD IN CANADA ONLY TO PURCHASERS PURCHASING, OR DEEMED TO BE PURCHASING, AS PRINCIPAL THAT ARE ACCREDITED INVESTORS, AS DEFINED IN NATIONAL INSTRUMENT 45-106 PROSPECTUS EXEMPTIONS OR SUBSECTION 73.3(1) OF THE SECURITIES ACT (ONTARIO), AND ARE PERMITTED CLIENTS, AS DEFINED IN NATIONAL INSTRUMENT 31-103 REGISTRATION REQUIREMENTS, EXEMPTIONS AND ONGOING REGISTRANT OBLIGATIONS. ANY RESALE OF THE BONDS MUST BE MADE IN ACCORDANCE WITH AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE PROSPECTUS REQUIREMENTS OF APPLICABLE SECURITIES LAWS.

SECURITIES LEGISLATION IN CERTAIN PROVINCES OR TERRITORIES OF CANADA MAY PROVIDE A PURCHASER WITH REMEDIES FOR RESCISSION OR DAMAGES IF THIS OFFERING MEMORANDUM (INCLUDING ANY AMENDMENT THERETO) CONTAINS A MISREPRESENTATION, PROVIDED THAT THE REMEDIES FOR RESCISSION OR DAMAGES ARE EXERCISED BY THE PURCHASER WITHIN THE TIME LIMIT PRESCRIBED BY THE SECURITIES LEGISLATION OF THE PURCHASER'S PROVINCE OR TERRITORY. THE PURCHASER SHOULD REFER TO ANY APPLICABLE PROVISIONS OF THE SECURITIES LEGISLATION OF THE PURCHASER'S PROVINCE OR TERRITORY FOR PARTICULARS OF THESE RIGHTS OR CONSULT WITH A LEGAL ADVISOR.

PURSUANT TO SECTION 3A.3 OF NATIONAL INSTRUMENT 33-105 UNDERWRITING CONFLICTS (NI 33-105), THE UNDERWRITERS ARE NOT REQUIRED TO COMPLY WITH THE DISCLOSURE REQUIREMENTS OF NI 33-105 REGARDING UNDERWRITER CONFLICTS OF INTEREST IN CONNECTION WITH THIS OFFERING.



## **NOTICE TO INVESTORS IN KOREA**

THE BONDS HAVE NOT BEEN AND WILL NOT BE REGISTERED WITH THE FINANCIAL SERVICES COMMISSION OF KOREA FOR PUBLIC OFFERING IN KOREA UNDER THE FINANCIAL INVESTMENT SERVICES AND CAPITAL MARKETS ACT AND ITS SUBORDINATE DECREES AND REGULATIONS (COLLECTIVELY THE “FSCMA”). THE BONDS MAY NOT BE OFFERED, SOLD OR DELIVERED, DIRECTLY OR INDIRECTLY, OR OFFERED OR SOLD TO ANY PERSON FOR RE-OFFERING OR RESALE, DIRECTLY OR INDIRECTLY, IN KOREA OR TO ANY RESIDENT OF KOREA EXCEPT AS OTHERWISE PERMITTED UNDER THE APPLICABLE LAWS AND REGULATIONS OF KOREA, INCLUDING THE FSCMA AND THE FOREIGN EXCHANGE TRANSACTION LAW AND ITS SUBORDINATE DECREES AND REGULATIONS (COLLECTIVELY, THE “FETL”). WITHOUT PREJUDICE TO THE FOREGOING, THE NUMBER OF BONDS OFFERED IN KOREA OR TO A RESIDENT IN KOREA SHALL BE LESS THAN FIFTY AND FOR A PERIOD OF ONE YEAR FROM THE ISSUE DATE OF THE BONDS, NONE OF THE BONDS MAY BE DIVIDED RESULTING IN AN INCREASED NUMBER OF THE BONDS. FURTHERMORE, THE BONDS MAY NOT BE RESOLD TO KOREAN RESIDENTS UNLESS THE PURCHASER OF THE BONDS COMPLIES WITH ALL APPLICABLE REGULATORY REQUIREMENTS (INCLUDING BUT NOT LIMITED TO GOVERNMENT REPORTING REQUIREMENTS UNDER THE FETL) IN CONNECTION WITH THE PURCHASE OF THE BONDS.

## SUMMARY OF THE OFFERING

<b>Issuer</b>	President and Fellows of Harvard College
<b>Securities Offered</b>	\$500,000,000 3.150% Taxable Bonds, Series 2016B due July 15, 2046 and \$500,000,000 3.300% Taxable Bonds, Series 2016B due July 15, 2056
<b>Interest Accrual Dates</b>	Interest will accrue from the Date of Issuance
<b>Interest Payment Dates</b>	January 15 and July 15 of each year, commencing January 15, 2017
<b>Redemption</b>	The Bonds are subject to optional redemption (i) prior to the Par Call Date, at the Make-Whole Redemption Price, and (ii) on or after the Par Call Date, at the Redemption Price, all as discussed more fully herein.
<b>Date of Issuance</b>	October 13, 2016
<b>Authorized Denominations</b>	\$1,000 and any integral multiple thereof
<b>Form and Depository</b>	The Bonds will be delivered solely in registered form under a global book-entry system through the facilities of DTC.
<b>Use of Proceeds</b>	The Institution will use the net proceeds of the Bonds to (1) refund a portion of the Institution's outstanding Taxable Bonds, Series 2008D, (2) advance refund a portion of the outstanding Massachusetts Development Finance Agency Revenue Bonds, Harvard University Issue, Series 2010B-1, (3) refinance a portion of the Institution's commercial paper program and (4) pay the costs of issuance of the Bonds. See "PLAN OF FINANCE" herein.
<b>Ratings</b>	Moody's:                      Aaa S&P:                              AAA

# **OFFERING MEMORANDUM**

**Relating to**

**\$1,000,000,000**

## **PRESIDENT AND FELLOWS OF HARVARD COLLEGE TAXABLE BONDS, SERIES 2016B**

### **INTRODUCTION**

The purpose of this Offering Memorandum, which includes the cover page, the table of contents and appendices, is to provide certain information concerning the sale and delivery by President and Fellows of Harvard College (the “Institution”) of its \$1,000,000,000 aggregate principal amount of the President and Fellows of Harvard College Taxable Bonds, Series 2016B (the “Bonds”). This Introduction contains only a brief summary of certain of the terms of the Bonds being offered and a brief description of the Offering Memorandum. All statements contained in this Introduction are qualified in their entirety by reference to the entire Offering Memorandum.

### **Purpose of the Bonds and the Plan of Finance**

The proceeds of the Bonds will be used by the Institution to (1) refund a portion of the Institution’s outstanding Taxable Bonds, Series 2008D (the “Refunded Series 2008D Bonds”), (2) refund a portion of the outstanding Massachusetts Development Finance Agency Revenue Bonds, Harvard University Issue, Series 2010B-1 (the “Refunded Series 2010B-1 Bonds”), (3) refinance a portion of the Institution’s commercial paper program and (4) pay the costs of issuance of the Bonds.

The Institution expects that on or about October 20, 2016, the Massachusetts Development Finance Agency (“MDFA”) will issue on behalf of the Institution \$1,539,720,000 principal amount of its tax-exempt Revenue Bonds, Harvard University Issue, Series 2016A (the “Series 2016A Bonds”), in order to refund certain outstanding bonds. If issued, the Series 2016A Bonds will be special obligations of MDFA payable solely from payments made by the Institution under a Loan and Trust Agreement (the “Loan Agreement”), and the payment obligation of the Institution pursuant to the Loan Agreement will be an unsecured general obligation of the Institution. On or about the date of issuance of the Bonds, the Institution also expects to issue an additional estimated amount of approximately \$257,000,000 of taxable commercial paper, in order to refund certain outstanding bonds. If issued, the taxable commercial paper will be an unsecured general obligation of the Institution. The issuance of the Bonds is not contingent on the issuance of the Series 2016A Bonds and/or the taxable commercial paper, and the issuance of the Series 2016A Bonds and/or the taxable commercial paper is not contingent on the issuance of the Bonds.

See “PLAN OF FINANCE” and “ESTIMATED SOURCES AND USES OF FUNDS” herein and APPENDIX E – “TABLE OF REFUNDED BONDS.”

## **The Institution**

The Institution is an educational corporation existing under the laws of The Commonwealth of Massachusetts. Important information on the financial condition of the Institution is set forth in APPENDIX A – “CERTAIN INFORMATION CONCERNING THE INSTITUTION” and APPENDIX B – “HARVARD UNIVERSITY FINANCIAL REPORT - FISCAL YEAR 2015” attached hereto, both of which should be read in their entirety.

## **The Bonds**

The Bonds are being issued pursuant to an Indenture of Trust, dated as of October 1, 2016 (the “Indenture”), by and between the Institution and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”). Pursuant to the Indenture, on each Payment Date, until the principal of and interest on the Bonds shall have been paid or provision for such payment shall have been made as provided in the Indenture, the Institution will pay the Trustee a sum equal to the amount payable on such Payment Date as principal of or interest on the Bonds. See “THE BONDS” herein.

## **Security for the Bonds**

**The Bonds constitute unsecured general obligations of the Institution. The Institution has other unsecured general obligations outstanding. See “Outstanding Indebtedness” below. Moreover, the Institution is not restricted by the Indenture 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 payment on the Bonds. See “SECURITY FOR THE BONDS” herein.**

## **Additional Bonds**

The Institution may, from time to time, without the consent of the holders of the Bonds, issue additional bonds under the Indenture in addition to the Bonds (the “Additional Bonds”). If issued, the Additional Bonds will become part of the same series as the Bonds being offered by this Offering Memorandum and will have the same interest rate, redemption provisions, maturity date and CUSIP number as one or more of the Bonds.

## **Outstanding Indebtedness**

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 2016A Bonds and the taxable commercial paper and after taking into account the principal to be refunded with the proceeds of the Bonds, the Series 2016A Bonds and the taxable commercial paper, the total outstanding principal amount of indebtedness is expected to be approximately \$5.01 billion.

For additional information regarding the outstanding indebtedness of the Institution, see APPENDIX B – “HARVARD UNIVERSITY FINANCIAL REPORT - FISCAL YEAR 2015” attached hereto.

## **Redemption**

The Bonds are subject to optional redemption by the Institution prior to maturity at the Redemption Price or Make-Whole Redemption Price (as applicable), all as described herein. See “THE BONDS – Redemption” herein.

## **Book-Entry Only System and Global Clearance Procedures**

When delivered, the Bonds will be registered in the name of Cede & Co., the nominee of The Depository Trust Company (“DTC”). DTC will act as the securities depository for the Bonds. Purchases of the Bonds may be made in book-entry form only, through brokers and dealers who are, or who act through, Direct Participants (as defined herein). Beneficial Owners of the Bonds will not receive physical delivery of certificated securities (except under certain circumstances described in the Indenture). Payment of the principal, Redemption Price or Make-Whole Redemption Price of and interest on the Bonds are payable by the Trustee to DTC, which will in turn remit such payments to the Direct Participants, which will in turn remit such payments to the Beneficial Owners of the Bonds. In addition, so long as Cede & Co. is the registered owner of the Bonds, the right of any Beneficial Owner to receive payment for any Bond will be based only upon and subject to the procedures and limitations of the DTC book-entry system. Beneficial interests in the Bonds may be held through DTC, Clearstream Banking, S.A. (“Clearstream Banking”) or Euroclear Bank S.A./N.V. as operator of the Euroclear System (“Euroclear”), directly as a participant or indirectly through organizations that are participants in such system. See “BOOK-ENTRY ONLY SYSTEM AND GLOBAL CLEARANCE PROCEDURES” herein.

## **Certain Information Related to this Offering Memorandum**

The descriptions herein of the Indenture and other documents relating to the Bonds do not purport to be complete and are qualified in their entirety by reference to such documents, and the description herein of the Bonds is qualified in its entirety by the form thereof and the information with respect thereto included in such documents. See APPENDIX C – “SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE” attached hereto for a brief summary of the Indenture, including descriptions of certain duties of the Trustee, rights and remedies of the Trustee and the Bondholders upon an Event of Default, and provisions relating to amendments of the Indenture and procedures for defeasance of the Bonds.

All capitalized terms used in this Offering Memorandum and not otherwise defined herein have the same meanings as in the Indenture. See APPENDIX C – “SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE” attached hereto for definitions of certain words and terms used but not otherwise defined herein.

The information and expressions of opinion herein speak only as of their date and are subject to change without notice. Neither delivery of this Offering Memorandum nor any sale made hereunder nor any future use of this Offering Memorandum will, under any circumstances, create any implication that there has been no change in the affairs of the Institution.

## PLAN OF FINANCE

The proceeds of the Bonds, together with other monies of the Institution, will be applied to (1) refund 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 Bonds.

The proceeds of the Series 2016A Bonds will be applied to (1) advance refund all of the outstanding Revenue Bonds, Harvard University Issue, Series B (2008), originally issued by the Massachusetts Health and Educational Facilities Authority ("MHEFA") on behalf of the Institution (the "Refunded Series 2008B Bonds"), in the principal amount of \$208,870,000, (2) advance refund a portion of the outstanding Revenue Bonds, Harvard University Issue, Series 2009A, originally issued by MHEFA on behalf of the Institution (the "Refunded Series 2009A Bonds"), in the principal amount of \$641,695,000, (3) advance refund a portion of the outstanding Revenue Bonds, Harvard University Issue, Series 2010A, originally issued by MHEFA on behalf of the Institution (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 outstanding Massachusetts Development Finance Agency Revenue Bonds, Harvard University Issue, Series 2010B-2 (the "Refunded Series 2010B-2 Bonds") in the principal amount of \$178,195,000 and (6) pay the costs of issuance of the Series 2016A 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 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 E – "TABLE OF REFUNDED BONDS."

The portions of the proceeds of the Bonds, the Series 2016A 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 Bonds will be held by the trustee for the Refunded Series 2008D Bonds until such redemption date.

Causey Demgen & Moore, P.C. (the “Verification Agent”) will deliver to the Institution, on or before the settlement date of the Bonds, its verification reports indicating that it has verified, in accordance with attestation standards established by the American Institute of Certified Public Accountants, the mathematical accuracy of the mathematical computations of the adequacy of the cash and the maturing principal of and interest on the obligations held in such segregated account, to pay, when due, the maturing principal of and interest on 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. The verification performed by the Verification Agent will be solely based upon data, information and documents provided to the Verification Agent by the Institution, the Underwriters and their representatives. The Verification Agent 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.

## **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 .....	\$1,000,000,000
Less Net Original Issue Discount .....	<u>(4,560,000)</u>
Total Sources.....	<u><u>\$995,440,000</u></u>
Uses of Funds:	
Refunding of Refunded Series 2008D Bonds.....	\$500,000,000
Advance Refunding of Refunded Series 2010B-1 Bonds .....	41,598,877
Refinancing of Commercial Paper.....	449,575,000
Costs of Issuance <sup>(1)</sup> .....	<u>4,266,123</u>
Total Uses.....	<u><u>\$995,440,000</u></u>

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

## **THE BONDS**

### **Description of the Bonds**

The Bonds will be dated as of the date of their original issuance and will bear interest and mature (subject to prior redemption) as shown on the front cover page hereof. The Bonds will be delivered in the form of fully-registered Bonds in denominations of \$1,000 and any integral

multiple thereof. The Bonds will be registered initially in the name of “Cede & Co.,” as nominee of the Securities Depository and will be evidenced by one Bond in the total aggregate principal amount of the Bonds. Registered ownership of the Bonds, or any portions thereof, may not thereafter be transferred except as set forth in the Indenture. See APPENDIX C – “SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE.”

Interest on the Bonds will be payable on January 15 and July 15 of each year (each, an “Interest Payment Date”), commencing on January 15, 2017, and will be calculated on the basis of a three hundred sixty (360) day year consisting of twelve (12) thirty (30) day months.

The principal and Redemption Price or Make-Whole Redemption Price (as applicable) of the Bonds will be payable by check or by wire transfer of immediately available funds in lawful money of the United States of America at the Designated Office of the Trustee.

Interest on the Bonds will be payable from the later of (i) the date of issuance and (ii) the most recent Interest Payment Date to which interest has been paid or duly provided for. Payment of the interest on each Interest Payment Date will be made to the Person whose name appears on the bond registration books of the Trustee as the Holder thereof as of the close of business on the Record Date for each Interest Payment Date, such interest to be paid by check mailed by first class mail to such Holder at its address as it appears on such registration books, or, upon the written request of any Holder of at least \$1,000,000 in aggregate principal amount of Bonds, submitted to the Trustee at least one (1) Business Day prior to the Record Date, by wire transfer in immediately available funds to an account within the United States designated by such Holder. Notwithstanding the foregoing, as long as Cede & Co. is the Holder of all or part of the Bonds in Book-Entry Form, said principal, Redemption Price, Make-Whole Redemption Price and interest payments will be made to Cede & Co. by wire transfer in immediately available funds.

## **Redemption**

### *Optional Redemption at Par*

The Bonds will be subject to optional redemption prior to maturity on or after the applicable Par Call Date, at the direction of the Institution, in whole or in part (and, if in part, in Authorized Denominations and on a pro rata basis, subject to the provisions described below under “Selection of Bonds for Redemption”), on any Business Day, in such order of maturity as directed by the Institution, at the Redemption Price. “Redemption Price” means 100% of the principal amount of a Bond to be redeemed plus accrued and unpaid interest on such Bond to the redemption date. “Par Call Date” means (i) with respect to the Bonds maturing on July 15, 2046, January 15, 2046 and (ii) with respect to the Bonds maturing on July 15, 2056, January 15, 2056.

### *Optional Redemption at Make-Whole Redemption Price*

Prior to the applicable Par Call Date, the Bonds will be subject to optional redemption prior to maturity, at the direction of the Institution, in whole or in part (and, if in part, in Authorized Denominations and on a pro rata basis, subject to the provisions described below under “Selection of Bonds for Redemption”), on any Business Day, in such order of maturity as directed by the Institution, at the Make-Whole Redemption Price. The Institution shall retain an independent accounting firm or an independent financial advisor to determine the Make-Whole



Redemption Price and perform all actions and make all calculations required to determine the Make-Whole Redemption Price. The Trustee and the Institution may conclusively rely on such accounting firm's or financial advisor's calculations in connection with, and its determination of, the Make-Whole Redemption Price, and neither the Trustee nor the Institution will have any liability for their reliance. The determination of the Make-Whole Redemption Price by such accounting firm or financial advisor shall be conclusive and binding on the Trustee, the Institution and the Holders of the Bonds.

"Make-Whole Redemption Price" means the greater of (i) 100% of the principal amount of a Bond to be redeemed and (ii) the sum of the present value of the remaining scheduled payments of principal and interest to the maturity date of such Bond, not including any portion of those payments of interest accrued and unpaid as of the date on which such Bond is to be redeemed, discounted to the date on which such Bond is to be redeemed on a semi-annual basis assuming a 360-day year consisting of twelve 30-day months at the adjusted Treasury Rate plus fifteen (15) basis points, plus, in each case, accrued and unpaid interest on such Bond to the redemption date.

"Treasury Rate" means, with respect to any redemption date, the rate per annum equal to the semiannual equivalent yield to maturity or interpolated (on a day count basis) of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for such redemption date.

"Comparable Treasury Issue" means the United States Treasury security or securities selected by a Designated Investment Banker as having an actual or interpolated maturity comparable to the remaining term of the Bonds to be redeemed that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of a comparable maturity to the remaining term of such Bonds.

"Comparable Treasury Price" means, with respect to any redemption date, the average of the Primary Treasury Dealer Quotations for such redemption date or, if the Designated Investment Banker obtains only one Primary Treasury Dealer Quotation, such Primary Treasury Dealer Quotation.

"Designated Investment Banker" means a Primary Treasury Dealer appointed by the Institution.

"Primary Treasury Dealer" means one or more entities appointed by the Institution, which, in each case, is a primary U.S. Government securities dealer in The City of New York, New York, and its successors.

"Primary Treasury Dealer Quotations" means, with respect to each Primary Treasury Dealer and any redemption date, the average, as determined by the Designated Investment Banker, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Designated Investment Banker by such Primary Treasury Dealer at 3:30 p.m. New York time on the third Business Day preceding such redemption date.

"Business Day" means any day other than (A) a Saturday or Sunday or legal holiday or a day on which banking institutions in the city or cities in which the Designated Office of the

Trustee is located are authorized by law or executive order to close or (B) a day on which the New York Stock Exchange is closed.

### **Partial Redemption of Bonds**

Upon surrender of any Bond redeemed in part only, the Institution will execute (but need not prepare) and the Trustee will prepare or cause to be prepared, authenticate and deliver to the Holder thereof, at the expense of the Institution, a new Bond or Bonds of Authorized Denominations, equal in aggregate principal amount to the unredeemed portion of the Bond surrendered.

### **Notice of Redemption**

Notice of redemption will be mailed by the Trustee by first class mail, or sent by electronic means, not less than twenty (20) days, nor more than sixty (60) days prior to the redemption date, to the respective Holders of any Bonds designated for redemption at their addresses appearing on the bond registration books of the Trustee. If the Bonds are no longer held by the Securities Depository or its successor or substitute, the Trustee shall also give notice of redemption by electronic means to such securities depositories and/or securities information services as shall be designated in a certificate of the Institution. Each notice of redemption shall state the date of such notice, the date of issue of the Bonds, the redemption date, the Redemption Price or manner of determining the Make-Whole Redemption Price (as applicable), the place or places of redemption (including the name and appropriate address or addresses of the Trustee), the maturity (including CUSIP number, if any), and, in the case of Bonds to be redeemed in part only, the portion of the principal amount thereof to be redeemed. Each such notice will also state that on said date there will become due and payable on each of said Bonds the Redemption Price or Make-Whole Redemption Price (as applicable) thereof or of said specified portion of the principal amount thereof in the case of a Bond to be redeemed in part only, and that from and after such redemption date interest thereon shall cease to accrue, and shall require that such Bonds be then surrendered.

Failure by the Trustee to give notice as described above to any one or more of the securities information services or depositories designated by the Institution, or the insufficiency of any such notice will not affect the sufficiency of the proceedings for redemption. Failure by the Trustee to mail notice of redemption to any one or more of the respective Holders of any Bonds designated for redemption will not affect the sufficiency of the proceedings for redemption with respect to the Holders to whom such notice was mailed.

The Institution may instruct the Trustee to provide conditional notice of redemption, which may be conditioned upon the receipt of moneys or any other event. Additionally, any such notice may be rescinded by written notice given to the Trustee by the Institution no later than two (2) Business Days prior to the date specified for redemption. The Trustee will give notice of such rescission, as soon thereafter as practicable, in the same manner, to the same Persons, as notice of such redemption was given.

The Trustee will not be required to transfer or exchange (i) any Bond during the fifteen (15) days next preceding the selection of Bonds for redemption or (ii) any Bond called for redemption.

## **Effect of Redemption**

Notice of redemption having been duly given as provided in the Indenture and as described above, and moneys for payment of the Redemption Price or Make-Whole Redemption Price (as applicable) of the Bonds (or portion thereof) so called for redemption being held by the Trustee, on the date fixed for redemption designated in such notice, the Bonds (or portion thereof) so called for redemption shall become due and payable at the Redemption Price or Make-Whole Redemption Price (as applicable) specified in such notice, interest on the Bonds so called for redemption shall cease to accrue, said Bonds (or portion thereof) will cease to be entitled to any benefit or security under the Indenture, and the Holders of said Bonds will have no rights in respect thereof except to receive payment of said Redemption Price or Make-Whole Redemption Price from funds held by the Trustee for such payment.

## **Selection of Bonds for Redemption**

If less than all of the Bonds are called for optional redemption, the Institution will select the maturity or maturities from which the Bonds are to be redeemed. If the Bonds are registered in book-entry only form and so long as DTC or a successor securities depository is the sole registered owner of the Bonds, if less than all of the Bonds of a maturity are called for prior redemption, the particular Bonds or portions thereof to be redeemed shall be selected on a pro rata pass-through distribution of principal basis in accordance with DTC procedures, provided that, so long as the Bonds are held in book-entry form, the selection for redemption of such Bonds shall be made in accordance with the operational arrangements of DTC then in effect.

It is the Institution's intent that redemption allocations made by DTC be made on a pro rata pass-through distribution of principal basis as described above. However, neither the Institution nor the Underwriters can provide any assurance that DTC, DTC's Direct and Indirect Participants (as defined herein) or any other intermediary will allocate the redemption of Bonds on such basis. If the DTC operational arrangements do not allow for the redemption of the Bonds on a pro rata pass-through distribution of principal basis as discussed above, then the Bonds will be selected for redemption, in accordance with DTC procedures.

## **BOOK-ENTRY ONLY SYSTEM AND GLOBAL CLEARANCE PROCEDURES**

The information set out below is subject to any change in or reinterpretation of the rules, regulations and procedures of DTC, Euroclear or Clearstream Banking (DTC, Euroclear and Clearstream Banking together, the "Clearing Systems") currently in effect. The information in this section concerning the Clearing Systems has been obtained from sources that the Institution believes to be reliable, but none of the Institution, the Trustee or the Underwriters take any responsibility for the accuracy, completeness or adequacy of the information in this section. Investors wishing to use the facilities of any of the Clearing Systems are advised to confirm the continued applicability of the rules, regulations and procedures of the relevant Clearing System. The Institution will not have any responsibility or liability for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the Bonds held through the facilities of any Clearing System or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

NEITHER THE INSTITUTION NOR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATIONS TO DIRECT PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE PAYMENTS TO OR THE PROVIDING OF NOTICE FOR DIRECT PARTICIPANTS, INDIRECT PARTICIPANTS OR BENEFICIAL OWNERS.

SO LONG AS CEDE & CO. IS THE REGISTERED OWNER OF THE BONDS, AS NOMINEE OF DTC, REFERENCES HEREIN TO THE BONDHOLDERS OR REGISTERED OWNERS OF THE BONDS SHALL MEAN CEDE & CO. AND SHALL NOT MEAN THE BENEFICIAL OWNERS OF THE BONDS.

## **Clearing Systems**

### *DTC Book-Entry Only System*

DTC will act as 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 the Bonds in their aggregate principal amount 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. Subject to the provisions described above in "THE BONDS—Selection of Bonds for Redemption," if less than all of the Bonds are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such 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 Institution 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, Redemption Price and Make-Whole Redemption Price and interest payments 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 Institution 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 or the Institution, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal, Redemption Price, 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 Institution 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 Institution 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 Institution 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 Institution and the Underwriters believe to be reliable, but 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 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 Bondholders or registered owners of the Bonds 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 Institution, 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 Institution 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 Institution or restricted registration is no longer in effect, Bond certificates will be delivered.

**NONE OF THE INSTITUTION, THE UNDERWRITERS 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 INDENTURE; (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 REDEMPTION PREMIUM, IF ANY, 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.

### *Euroclear and Clearstream Banking*

Euroclear and Clearstream Banking each hold securities for their customers and facilitate the clearance and settlement of securities transactions by electronic book-entry transfer between their respective account holders. Euroclear and Clearstream Banking provide various services including safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Euroclear and Clearstream Banking also deal with domestic securities markets in several countries through established depository and custodial relationships. Euroclear and Clearstream Banking have established an electronic bridge between their two systems across which their respective participants may settle trades with each other.

Euroclear and Clearstream Banking customers are worldwide financial institutions, including underwriters, securities brokers and dealers, banks, trust companies and clearing corporations. Indirect access to Euroclear and Clearstream Banking is available to other institutions that clear through or maintain a custodial relationship with an account holder of either system, either directly or indirectly.

### **Clearing and Settlement Procedures**

The Bonds sold in offshore transactions will be initially issued to investors through the book-entry facilities of DTC, or Clearstream Banking and Euroclear in Europe if the investors are participants in those systems, or indirectly through organizations that are participants in the systems. For any of such Bonds, the record holder will be DTC's nominee. Clearstream Banking and Euroclear will hold omnibus positions on behalf of their participants through customers' securities accounts in Clearstream Banking's and Euroclear's names on the books of their respective depositories.

The depositories, in turn, will hold positions in customers' securities accounts in the depositories' names on the books of DTC. Because of time zone differences, the securities account of a Clearstream Banking or Euroclear participant as a result of a transaction with a participant, other than a depository holding on behalf of Clearstream Banking or Euroclear, will be credited during the securities settlement processing day, which must be a business day for Clearstream Banking or Euroclear, as the case may be, immediately following the DTC settlement date. These credits or any transactions in the securities settled during the processing will be reported to the relevant Euroclear participant or Clearstream Banking participant on that business day. Cash received in Clearstream Banking or Euroclear as a result of sales of securities by or through a Clearstream Banking participant or Euroclear participant to a Direct Participant, other than the depository for Clearstream Banking or Euroclear, will be received with value on the DTC

settlement date but will be available in the relevant Clearstream Banking or Euroclear cash account only as of the business day following settlement in DTC.

Transfers between participants will occur in accordance with DTC rules. Transfers between Clearstream Banking participants or Euroclear participants will occur in accordance with their respective rules and operating procedures. Cross-market transfers between persons holding directly or indirectly through DTC, on the one hand, and directly or indirectly through Clearstream Banking participants or Euroclear participants, on the other, will be effected in DTC in accordance with DTC rules on behalf of the relevant European international clearing system by the relevant depositories; however, cross-market transactions will require delivery of instructions to the relevant European international clearing system by the counterparty in the system in accordance with its rules and procedures and within its established deadlines in European time. The relevant European international clearing system will, if the transaction meets its settlement requirements, deliver instructions to its depository to take action to effect final settlement on its behalf by delivering or receiving securities in DTC, and making or receiving payment in accordance with normal procedures for same day funds settlement applicable to DTC. Clearstream Banking participants or Euroclear participants may not deliver instructions directly to the depositories.

The Institution will not impose any fees in respect of holding the Bonds; however, holders of book-entry interests in the Bonds may incur fees normally payable in respect of the maintenance and operation of accounts in the Clearing Systems.

#### *Initial Settlement*

Interests in the Bonds will be in uncertified book-entry form. Purchasers electing to hold book-entry interests in the Bonds through Euroclear and Clearstream Banking accounts will follow the settlement procedures applicable to conventional Eurobonds. Book-entry interests in the Bonds will be credited to Euroclear and Clearstream Banking participants' securities clearance accounts on the business day following the date of delivery of the Bonds against payment (value as on the date of delivery of the Bonds). Direct Participants acting on behalf of purchasers electing to hold book-entry interests in the Bonds through DTC will follow the delivery practices applicable to securities eligible for DTC's Same Day Funds Settlement system. Direct Participants' securities accounts will be credited with book-entry interests in the Bonds following confirmation of receipt of payment to the Institution on the date of delivery of the Bonds.

#### *Secondary Market Trading*

Secondary market trades in the Bonds will be settled by transfer of title to book-entry interests in the Clearing Systems. Title to such book-entry interests will pass by registration of the transfer within the records of Euroclear, Clearstream Banking or DTC, as the case may be, in accordance with their respective procedures. Book-entry interests in the Bonds may be transferred within Euroclear and within Clearstream Banking and between Euroclear and Clearstream Banking in accordance with procedures established for these purposes by Euroclear and Clearstream Banking. Book-entry interests in the Bonds may be transferred within DTC in accordance with procedures established for this purpose by DTC. Transfer of book-entry interests in the Bonds between Euroclear or Clearstream Banking and DTC may be effected in accordance with procedures established for this purpose by Euroclear, Clearstream Banking and DTC.



## **General**

None of Euroclear, Clearstream Banking or DTC is under any obligation to perform or continue to perform the procedures referred to above, and such procedures may be discontinued at any time.

Neither the Institution nor any of their agents will have any responsibility for the performance by Euroclear, Clearstream Banking or DTC or their respective direct or indirect participants or account holders of their respective obligations under the rules and procedures governing their operations or the arrangements referred to above.

The information herein concerning Euroclear, Clearstream Banking and DTC has been obtained from sources that the Institution and the Underwriters believe to be reliable, but the Institution and the Underwriters take no responsibility for the accuracy thereof.

## **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 Institution or the Trustee. In addition, the Institution 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 Indenture, 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 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, and the Trustee may also require the Bondowners requesting such exchange to pay a reasonable sum to cover any expenses incurred by the Institution in connection with such exchange. The Trustee will not be required to exchange (i) any Bond during the fifteen (15) days next preceding the selection of Bonds for redemption or (ii) any Bond called for redemption.

## **SECURITY FOR THE BONDS**

### **General**

The Indenture provides that, on or before each Payment Date, the Institution will pay the Trustee a sum equal to the amount payable on such Payment Date as principal of and interest on the Bonds. In addition, the Indenture provides that each such payment made will at all times be sufficient to pay the total amount of principal (whether at maturity or upon acceleration) and interest becoming due and payable on the Bonds on such Payment Date. If on any Payment Date, the amounts held by the Trustee in the accounts within the Bond Fund (as described below) are insufficient to make any required payments of principal of (whether at maturity or upon acceleration) and interest on the Bonds as such payments become due, the Institution is required to pay such deficiency to the Trustee. Upon the receipt thereof, the Trustee will deposit all payments

received from the Institution into certain funds and accounts established pursuant to the Indenture. See “Certain Funds and Accounts Established by the Indenture” below.

The Bonds constitute unsecured general obligations of the Institution. The Bonds are not secured by a reserve fund, mortgage lien or security interest on or in any funds or other assets of the Institution, except for funds held from time to time by the Trustee for the benefit of the Holders of the Bonds under the Indenture. As described above, the Institution is not required to deposit with the Trustee amounts necessary to pay the principal of and interest on the Bonds until the Payment Date on which such amounts become due and payable; therefore, the funds held from time to time by the Trustee for the benefit of the Holders of the Bonds under the Indenture are expected to be minimal.

The Institution has other unsecured general obligations outstanding. See APPENDIX B – “HARVARD UNIVERSITY FINANCIAL REPORT - FISCAL YEAR 2015” attached hereto. Moreover, the Institution is not restricted by the Indenture 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 payment on the Bonds. The Indenture 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 Indenture to produce revenues at any specified level or to obtain any insurance with respect to its property or operations.

### **Certain Funds and Accounts Established by the Indenture**

Under the Indenture, the Trustee has established for the sole benefit of the Bondholders, a master fund referred to as the “Indenture Fund,” containing the Series 2016B Bond Fund and the Series 2016B Redemption Fund and each of the funds and accounts contained therein. The Institution has pledged, assigned and transferred the Indenture Fund and all amounts held therein to the Trustee for the benefit of the Bondholders to secure the full payment of the principal, Redemption Price or Make-Whole Redemption Price of and interest on the Bonds in accordance with their terms and the provisions of the Indenture. The Indenture Fund and all amounts on deposit therein constitute collateral security to secure the full payment of the principal, Redemption Price or Make-Whole Redemption Price of and interest on the Bonds in accordance with their terms and provisions of the Indenture. Due to the timing of payments by the Institution to the Trustee, in general there is not expected to be any money in the Indenture Fund except for a brief period of time on the Interest Payment Dates.

For information on other funds and accounts established by the Indenture, see APPENDIX C – “SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE” attached hereto.

### **CERTAIN UNITED STATES FEDERAL TAX CONSIDERATIONS**

The following discussion summarizes certain U.S. federal tax considerations generally applicable to holders of the Bonds. The discussion below is based upon current provisions of the Internal Revenue Code of 1986, as amended (the “Code”), current final, temporary and proposed Treasury regulations, judicial authority and current administrative rulings and pronouncements of the Internal Revenue Service (the “IRS”). There can be no assurance that the IRS will not take a contrary view, and no ruling from the IRS has been, or is expected to be, sought on the issues

discussed herein. Legislative, judicial, or administrative changes or interpretations may occur that could alter or modify the statements and conclusions set forth herein. Any such changes or interpretations may or may not be retroactive and could adversely affect the tax consequences discussed below.

The summary is not a complete analysis or description of all potential U.S. federal tax considerations that may be relevant to, or of the actual tax effect that any of the matters described herein will have on, particular holders of Bonds and does not address U.S. federal gift or (for U.S. Holders, as defined below) estate tax consequences or alternative minimum, foreign, state, local or other tax consequences. This summary does not purport to address special classes of taxpayers (such as S corporations, mutual funds, insurance companies, financial institutions, small business investment companies, regulated investment companies, real estate investment trusts, grantor trusts, former citizens of the United States, broker-dealers, traders in securities and tax-exempt organizations) that are subject to special treatment under the federal income tax laws, or persons that hold Bonds that are a hedge against, or that are hedged against, currency risk or that are part of a hedge, straddle, conversion or other integrated transaction, or U.S. Holders whose functional currency is not the U.S. dollar. This summary also does not address the tax consequences to an owner of Bonds held through a partnership or other pass-through entity treated as a partnership for U.S. federal income tax purposes or the tax consequences applicable to such partnership or other pass-through entity. In addition, this discussion is limited to persons purchasing the Bonds for cash in this offering at their “issue price” within the meaning of Section 1273 of the Code (i.e., the first price at which a substantial amount of Bonds are sold to the public for cash), and it does not address the tax consequences to holders that purchase the Bonds after their original issuance. This discussion assumes that the Bonds will be held as capital assets within the meaning of section 1221 of the Code.

As used herein, the term “U.S. Holder” means a beneficial owner of Bonds that is (i) an individual citizen or resident of the United States for U.S. federal income tax purposes, (ii) a corporation (or other entity classified as a corporation for U.S. federal tax purposes) created or organized in or under the laws of the United States or any state thereof or the District of Columbia, (iii) an estate, the income of which is includible in gross income for U.S. federal income tax purposes regardless of its source, or (iv) a trust if (a) a U.S. court can exercise primary supervision over the administration of such trust and one or more United States persons (within the meaning of the Code) have the authority to control all of the substantial decisions of such trust or (b) the trust has made a valid election under applicable Treasury regulations to be treated as a United States person (within the meaning of the Code). As used herein, the term “Non-U.S. Holder” means a beneficial owner of Bonds that is not a U.S. Holder.

If the liability of the Institution in respect of a Bond ceases as a result of an election by the Institution to pay and discharge the indebtedness on such Bond by depositing with the Trustee sufficient cash and/or obligations to pay or redeem and discharge the indebtedness on such Bond (a “legal defeasance”), under current tax law a Holder will be deemed to have sold or exchanged such Bond. In the event of such a legal defeasance, a Holder generally will recognize gain or loss on the deemed exchange of the Bond. Ownership of the Bond after a deemed sale or exchange as a result of a legal defeasance may have tax consequences different from those described in this “Certain United States Federal Income Tax Considerations” section and each Holder should consult its own tax advisor regarding the consequences to such Holder of a legal defeasance of a Bond.

BECAUSE INDIVIDUAL CIRCUMSTANCES MAY DIFFER, PROSPECTIVE HOLDERS OF THE BONDS ARE STRONGLY URGED TO CONSULT THEIR OWN TAX ADVISORS WITH RESPECT TO THEIR PARTICULAR TAX SITUATIONS AND AS TO ANY FEDERAL, FOREIGN, STATE, LOCAL OR OTHER TAX CONSIDERATIONS (INCLUDING ANY POSSIBLE CHANGES IN TAX LAW) AFFECTING THE PURCHASE, HOLDING AND DISPOSITION OF THE BONDS.

### **Certain U.S. Federal Income Tax Consequences to U.S. Holders**

This section describes certain U.S. federal income tax consequences to U.S. Holders. Non-U.S. Holders should see the discussion under the heading “—Certain Federal Income Tax Consequences to Non-U.S. Holders” for a discussion of certain tax consequences applicable to them.

*Interest.* Interest on the Bonds will generally be taxable to a U.S. Holder as ordinary interest income at the time such amounts are accrued or received, in accordance with the U.S. Holder’s method of accounting for U.S. federal income tax purposes.

*Disposition of the Bonds.* Unless a nonrecognition provision of the Code applies, the sale, exchange, redemption (including pursuant to an offer by the Institution) or other taxable disposition of a Bond, will be a taxable event for U.S. federal income tax purposes. In such event, in general, a U.S. Holder of Bonds will recognize gain or loss equal to the difference between (i) the amount of cash plus the fair market value of property received (except to the extent attributable to accrued but unpaid interest on the Bonds which will be taxed in the manner described above under “Interest”) and (ii) the U.S. Holder’s adjusted tax basis in the Bonds (generally, the purchase price paid by the U.S. Holder for the Bonds). Any such gain or loss generally will be long-term capital gain or loss, provided the Bonds have been held for more than one year at the time of the disposition. The deductibility of capital losses is subject to limitations.

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. 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. U.S. Holders of Bonds 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.

*Tax on Net Investment Income.* Certain non-corporate U.S. Holders of Bonds will be subject to a 3.8% tax on the lesser of (1) the U.S. Holder’s “net investment income” (in the case of

individuals) or “undistributed net investment income” (in the case of estates and certain trusts) for the relevant taxable year and (2) the excess of the U.S. Holder’s “modified adjusted gross income” (in the case of individuals) or “adjusted gross income” (in the case of estates and certain trusts) for the taxable year over a certain threshold. A U.S. Holder’s calculation of net investment income generally will include its interest income on the Bonds and its net gains from the disposition of the Bonds, unless such interest income or net gains are derived in the ordinary course of the conduct of a trade or business (other than a trade or business that consists of certain passive or trading activities). U.S. Holders that are individuals, estates or trusts are urged to consult their own tax advisors regarding the applicability of this tax to income and gains in respect of their investment in the Bonds.

*Information Reporting and Backup Withholding.* The Institution or its paying agent, if any (the “payor”) must report annually to the IRS and to each U.S. Holder any interest that is payable to the U.S. Holder, subject to certain exceptions. Under section 3406 of the Code and applicable Treasury Regulations, a non-corporate U.S. Holder of the Bonds may be subject to backup withholding with respect to “reportable payments,” which include interest paid on the Bonds and the gross proceeds of a sale, exchange, redemption or retirement of the Bonds. The payor will be required to deduct and withhold the prescribed amounts if (i) the payee fails to furnish a taxpayer identification number (“TIN”) to the payor in the manner required, (ii) the IRS notifies the payor that the TIN furnished by the payee is incorrect, (iii) there has been a “notified payee underreporting” described in section 3406(c) of the Code or (iv) there has been a failure of the payee to certify under penalty of perjury that the payee is not subject to withholding under section 3406(a)(1)(C) of the Code. Amounts withheld under the backup withholding rules do not constitute an additional tax and will be credited against the U.S. Holder’s federal income tax liabilities (and possibly result in a refund), so long as the required information is provided to the IRS in a timely manner.

### **Certain U.S. Federal Income and Estate Tax Consequences to Non-U.S. Holders**

This section describes certain U.S. federal income and estate tax consequences to Non-U.S. Holders.

*Interest.* If, under the Code, interest on the Bonds is “effectively connected with the conduct of a trade or business within the United States” by a Non-U.S. Holder, such interest will be subject to U.S. federal income tax in a similar manner as if the Bonds were held by a U.S. Holder, as described above, and in the case of Non-U.S. Holders that are corporations may be subject to U.S. branch profits tax at a rate of up to 30%, unless an applicable tax treaty provides otherwise. Such Non-U.S. Holder will not be subject to withholding taxes, however, if it provides a properly executed IRS Form W-8ECI to the payor.

Subject to the discussion below regarding applicable income tax treaties, interest on the Bonds held by other Non-U.S. Holders may be subject to withholding taxes of up to 30% of each payment made to the Non-U.S. Holders unless the “portfolio interest” exemption applies. In general, interest paid on the Bonds to a Non-U.S. Holder may qualify for the portfolio interest exemption, and thus will not be subject to U.S. federal withholding tax, if (1) such Non-U.S. Holder is not a “controlled foreign corporation” (within the meaning of section 957 of the Code) related, directly or indirectly, to the Institution; (2) the Non-U.S. Holder is not actually or constructively a “10-percent shareholder” under Section 871(h) of the Code; (3) the Non-U.S.

Holder is not a bank receiving interest described in Section 881(c)(3)(A) of the Code; (4) the interest is not effectively connected with the conduct by the Non-U.S. Holder of a trade or business in the United States under Section 871(b) or Section 882 of the Code; and (5) either (A) the payor receives from the Non-U.S. Holder who is the beneficial owner of the obligation a statement signed by such person under penalties of perjury, on IRS Form W-8BEN or on IRS Form W-8BEN-E (or successor form), certifying that such owner is not a U.S. Holder and providing such owner's name and address or (B) a securities clearing organization, bank or other financial institution that holds the Bonds on behalf of such Non-U.S. Holder in the ordinary course of its trade or business certifies to the payor, under penalties of perjury, that such an IRS Form W-8BEN or IRS Form W-8BEN-E (or a successor form) has been received from the beneficial owner by it and furnishes the payor with a copy thereof. Alternative methods may be applicable for satisfying the certification requirement described above. Foreign trusts and their beneficiaries are subject to special rules, and such persons should consult their own tax advisors regarding the certification requirements.

If a Non-U.S. Holder does not claim, or does not qualify for, the benefit of the portfolio interest exemption, the Non-U.S. Holder may be subject to a 30% withholding tax on interest payments on the Bonds. However, the Non-U.S. Holder may be able to claim the benefit of a reduced withholding tax rate under an applicable income tax treaty between the Non-U.S. Holder's country of residence and the U.S. Non-U.S. Holders are urged to consult their own tax advisors regarding their eligibility for treaty benefits. The required information for claiming treaty benefits is generally submitted on IRS Form W-8BEN or on IRS Form W-8BEN-E. In addition, a Non-U.S. Holder may under certain circumstances be required to obtain a U.S. taxpayer identification number.

*Disposition of the Bonds.* A Non-U.S. Holder will generally not be subject to U.S. federal income tax or withholding tax on gain recognized on a sale, exchange, redemption or other disposition of a Bond. (Such gain does not include proceeds attributable to accrued but unpaid interest on the Bonds, which will be treated as interest.) A Non-U.S. Holder may, however, be subject to U.S. federal income tax on such gain if: (1) the Non-U.S. Holder is a nonresident alien individual who was present in the United States for 183 days or more in the taxable year of the disposition and certain other conditions are met; or (2) the gain is effectively connected with the conduct of a U.S. trade or business, as provided by applicable U.S. tax rules (in which case the U.S. branch profits tax may also apply), unless an applicable tax treaty provides otherwise.

*Information Reporting and Backup Withholding.* The payor must report annually to the IRS and to each Non-U.S. Holder any interest that is subject to U.S. withholding taxes or that is exempt from U.S. withholding taxes pursuant to an income tax treaty or certain provisions of the Code. Copies of these information returns may also be made available under the provisions of a specific income tax treaty or agreement with the tax authorities of the country in which the Non-U.S. Holder resides.

A Non-U.S. Holder generally will not be subject to backup withholding with respect to payments of interest on the Bonds as long as the Non-U.S. Holder (i) has furnished to the payor a valid IRS Form W-8BEN or IRS Form W-8BEN-E certifying, under penalties of perjury, its status as a non-U.S. person, (ii) has furnished to the payor other documentation upon which it may rely to treat the payments as made to a non-U.S. person in accordance with Treasury regulations, or (iii) otherwise establishes an exemption. A Non-U.S. Holder may be subject to information

reporting and/or backup withholding on a sale of the Bonds through the United States office of a broker and may be subject to information reporting (but generally not backup withholding) on a sale of the Bonds through a foreign office of a broker that has certain connections to the United States, unless the Non-U.S. Holder provides the certification described above or otherwise establishes an exemption. Non-U.S. Holders should consult their own tax advisors regarding their qualification for exemption from backup withholding and the procedure for obtaining such an exemption.

Amounts withheld under the backup withholding rules may be refunded or credited against the Non-U.S. Holder's U.S. federal income tax liability, if any, provided that the required information is timely furnished to the IRS.

*U.S. Federal Estate Tax.* A Bond held or beneficially owned by an individual who, for estate tax purposes, is not a citizen or resident of the United States at the time of death will not be includable in the decedent's gross estate for U.S. estate tax purposes, provided that, at the time of death, payments with respect to such Bond would not have been effectively connected with the conduct by such individual of a trade or business in the United States. In addition, the U.S. estate tax may not apply with respect to such Bond under the terms of an applicable estate tax treaty.

### **Foreign Account Tax Compliance Act**

Certain withholding rules imposed under Section 1471 through 1474 of the Code (otherwise known as the "Foreign Account Tax Compliance Act") generally would impose a 30% U.S. withholding tax on (i) payments of interest made and gross proceeds from the sale, exchange or retirement of debt obligations paid after December 31, 2019 and (ii) certain "pass-thru" payments received no earlier than January 1, 2019. "Foreign financial institution" is defined very broadly for this purpose, and includes any foreign entity that accepts deposits in the ordinary course of a banking or similar business; as a substantial portion of its business, holds financial assets for the account of others; or is engaged, or holds itself out as being engaged, primarily in the business of investing, reinvesting or trading in (or in interests in) securities, partnership interests or commodities. Investors are encouraged to consult with their own tax advisors regarding the implications of this legislation and the applicable regulations on their investment in a Bond.

THE FOREGOING SUMMARY IS INCLUDED HEREIN FOR GENERAL INFORMATION ONLY AND DOES NOT DISCUSS ALL ASPECTS OF U.S. FEDERAL INCOME TAXATION THAT MAY BE RELEVANT TO A PARTICULAR HOLDER OF BONDS IN LIGHT OF THE HOLDER'S PARTICULAR CIRCUMSTANCES AND INCOME TAX SITUATION. PROSPECTIVE INVESTORS ARE URGED TO CONSULT THEIR OWN TAX ADVISORS AS TO ANY TAX CONSEQUENCES TO THEM FROM THE PURCHASE, OWNERSHIP AND DISPOSITION OF BONDS, INCLUDING THE APPLICATION AND EFFECT OF STATE, LOCAL, FOREIGN AND OTHER TAX LAWS.

### **UNDERWRITING**

The Institution has entered into a purchase contract with the Underwriters listed on the cover hereof for whom Goldman, Sachs & Co. is acting as representative, pursuant to which the Underwriters have agreed to purchase the Bonds from the Institution at a purchase price of

\$991,662,950 (representing the principal amount of the Bonds, less an aggregate original issue discount of \$4,560,000 and less an underwriting discount of \$3,777,050).

The purchase contract pursuant to which the Bonds are being sold provides that the Underwriters will purchase not less than all of the Bonds. The Underwriters' obligation to make such purchase is subject to certain terms and conditions set forth in the purchase contract, the approval of certain legal matters by counsel and certain other conditions.

The Underwriters may offer and sell the Bonds to certain dealers and others at a price lower than the initial offering price. The offering price of Bonds may be changed from time to time by the Underwriters.

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 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 has been supplied by Wells Fargo Securities, LLC: 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 Securities, LLC, member NYSE, FINRA, NFA, and SIPC.

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.



The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities.

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 Institution.

### **CONTINUING DISCLOSURE**

The Institution covenants in the Indenture to furnish to the Trustee copies of its audited financial statements not later than March 1 of each year unless available on EMMA (defined below) or any successor thereto or to functions thereof. Except for providing such annual audited financial statements, the Institution has not undertaken either to supplement or update the information included in this Offering Memorandum.

The Institution has entered into continuing disclosure undertakings (the “Continuing Disclosure Undertakings”) in connection with tax-exempt revenue bonds issued for the benefit of the Institution. See APPENDIX B – “HARVARD UNIVERSITY FINANCIAL REPORT - FISCAL YEAR 2015.” Holders and prospective purchasers of the Bonds may obtain copies of the information provided by the Institution under those Continuing Disclosure Undertakings on the Municipal Securities Rulemaking Board’s Electronic Municipal Market Access system (“EMMA”). Each Continuing Disclosure Undertaking terminates when the related tax-exempt revenue bonds are paid or deemed paid in full.

### **APPROVAL OF LEGALITY**

Legal matters incident to validity of the Bonds and certain other matters are subject to the approving opinion of Ropes & Gray LLP, counsel to the Institution. The proposed form of opinion of counsel to the Institution relating to the validity of the issuance of the Bonds and certain other matters is attached hereto as Appendix D. In addition, certain other legal matters will be passed upon for the Underwriters by their counsel, Orrick, Herrington & Sutcliffe LLP.

### **FINANCIAL STATEMENTS**

The financial statements of the Institution presented in Appendix B hereto present the balance sheet, changes in net assets and cash flows for the year ended June 30, 2015. These financial statements should be read in their entirety.

### **INDEPENDENT ACCOUNTANTS**

The financial statements of the Institution as of June 30, 2015, included in Appendix B to this Offering Memorandum, have been audited by PricewaterhouseCoopers LLP, independent accountants, as stated in their report appearing in Appendix B hereto.

## **RATINGS**

Moody's assigned a rating of "Aaa" and Standard & Poor's assigned a rating of "AAA" on the Bonds. Any explanation of the significance of such ratings may only be obtained from Moody's and Standard & Poor's. Generally, rating agencies base their ratings on information and materials furnished and on investigation, studies, and assumptions by the rating agencies. There is no assurance that the rating mentioned above will remain in effect for any given period of time or that a rating might not be lowered or withdrawn entirely, if in the judgment of the rating agency originally establishing the rating, circumstances so warrant. Any such downward change in or withdrawal of a rating might have an adverse effect on the market price or marketability of the Bonds.

## MISCELLANEOUS

All quotations from and summaries and explanations of the Indenture and of other statutes and documents contained herein do not purport to be complete, and reference is made to said documents and statutes for full and complete statements of their provisions. Copies of the Indenture may be obtained upon request directed to the Underwriters or the Institution.

Any statements in this Offering Memorandum involving matters of opinion are intended as such and not as representations of fact. This Offering Memorandum is not to be construed as a contract or agreement between the Institution and Holders of any of the Bonds.

The execution and delivery of this Offering Memorandum has been duly authorized by the Institution.

PRESIDENT AND FELLOWS OF HARVARD COLLEGE

By: /s/ Thomas J. Hollister  
Vice President for Finance and Chief Financial Officer

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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:

Name	Title
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 Hausammann	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.)

<b>Student Enrollment</b>			
<b>Academic Year</b>	<b>Undergraduate</b>	<b>Graduate</b>	<b>Total</b>
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.

<b>Tuition, Fees and Room &amp; Board</b>			
<b>Academic Year</b>	<b>Tuition and Fees</b>	<b>Average Room and Board</b>	<b>Total</b>
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.

<b>Student Loans Outstanding (net of reserves for bad debt)</b>				
<i>(in \$ millions)</i>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
\$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.

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## **APPENDIX B**

### **HARVARD UNIVERSITY FINANCIAL REPORT - FISCAL YEAR 2015**

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# FINANCIAL REPORT

FISCAL YEAR 2015

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**HARVARD**  
UNIVERSITY

2	<u>MESSAGE FROM THE PRESIDENT</u>
3	<u>FINANCIAL OVERVIEW</u>
9	<u>A LETTER FROM THE PRESIDENT AND CEO</u> <u>OF HARVARD MANAGEMENT COMPANY</u>
20	<u>INDEPENDENT AUDITOR'S REPORT</u>
21	<u>FINANCIAL STATEMENTS</u>
25	<u>NOTES TO FINANCIAL STATEMENTS</u>



# 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

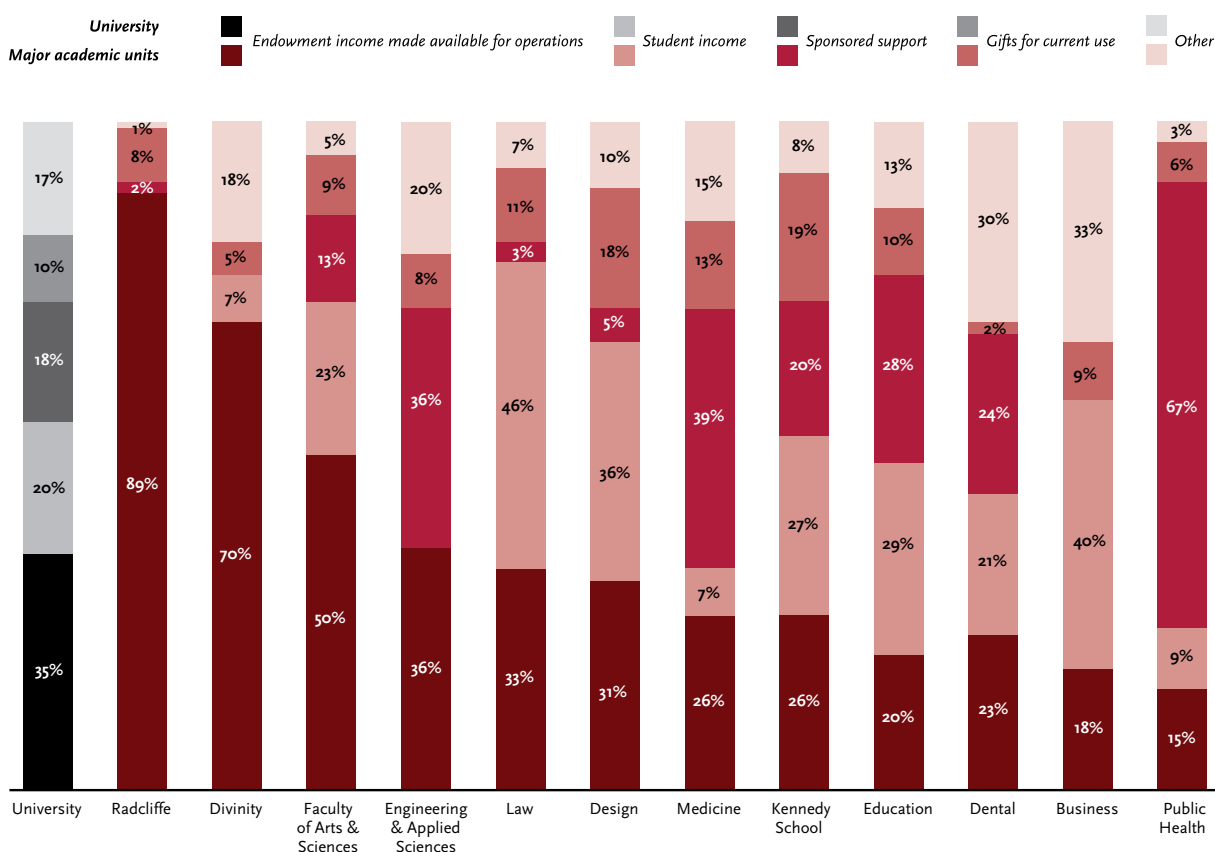
Total operating revenue increased 3% to \$4.5 billion. The largest drivers were the annual endowment distribution as well as increased revenue from continuing and executive education programs, the result of a continued focus on revenue diversification and online learning initiatives.

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.

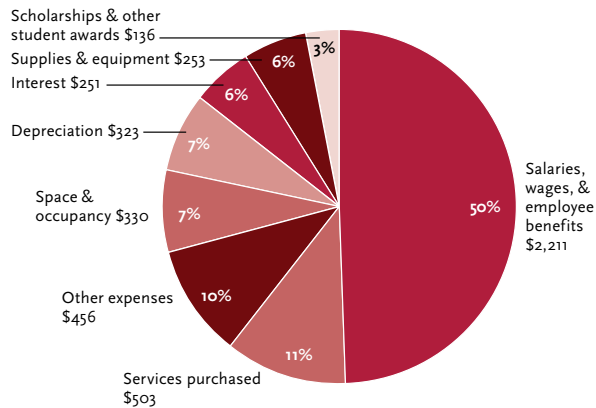
Salaries and wages increased by 5%, or \$85 million, to \$1.7 billion in fiscal 2015 due to increases in strategic areas of focus such as online learning, technology investments, and continuing and executive education programs, as well as the University's merit increase programs.

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**

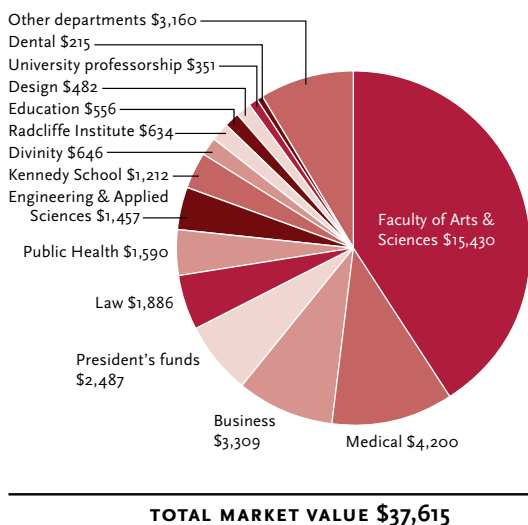
## BALANCE SHEET

### 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***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.

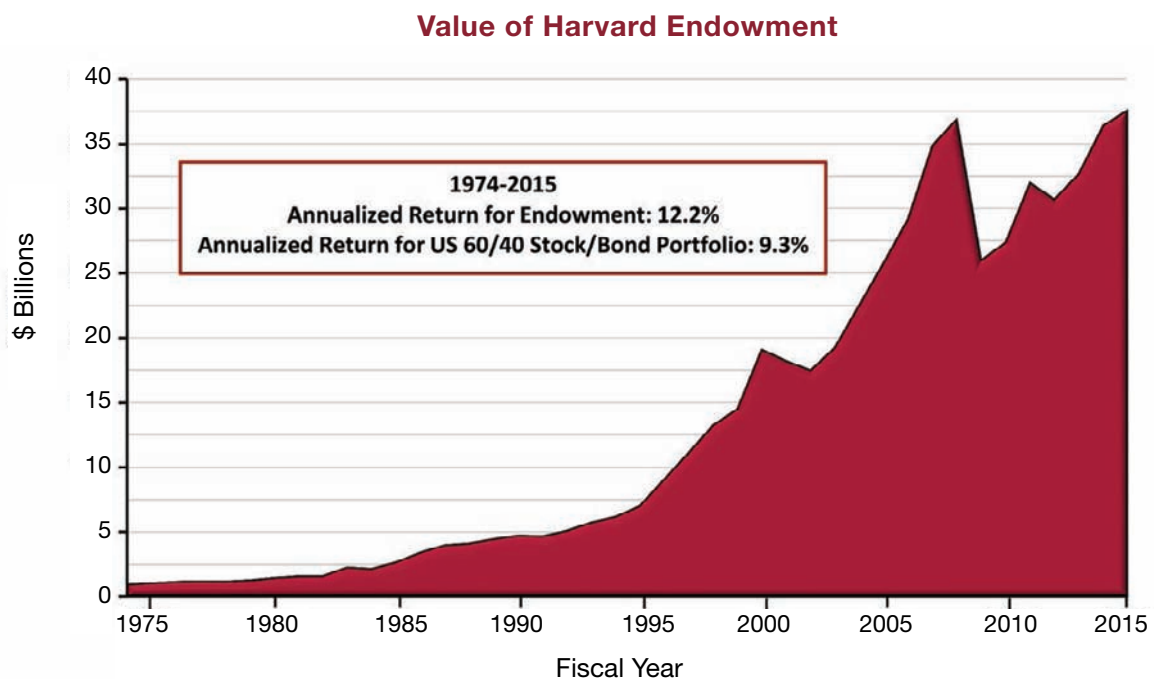
## A Letter from Stephen Blyth PhD '92 President and CEO of Harvard Management Company

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

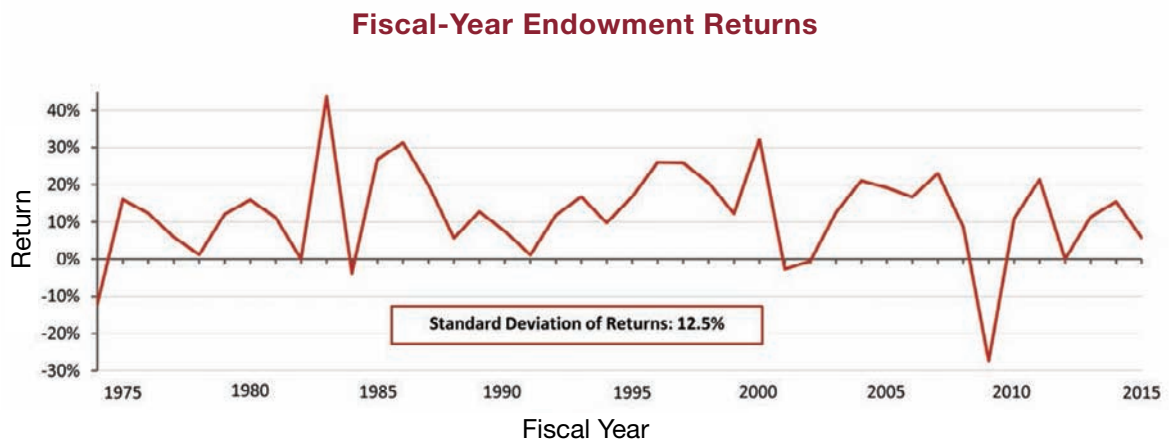
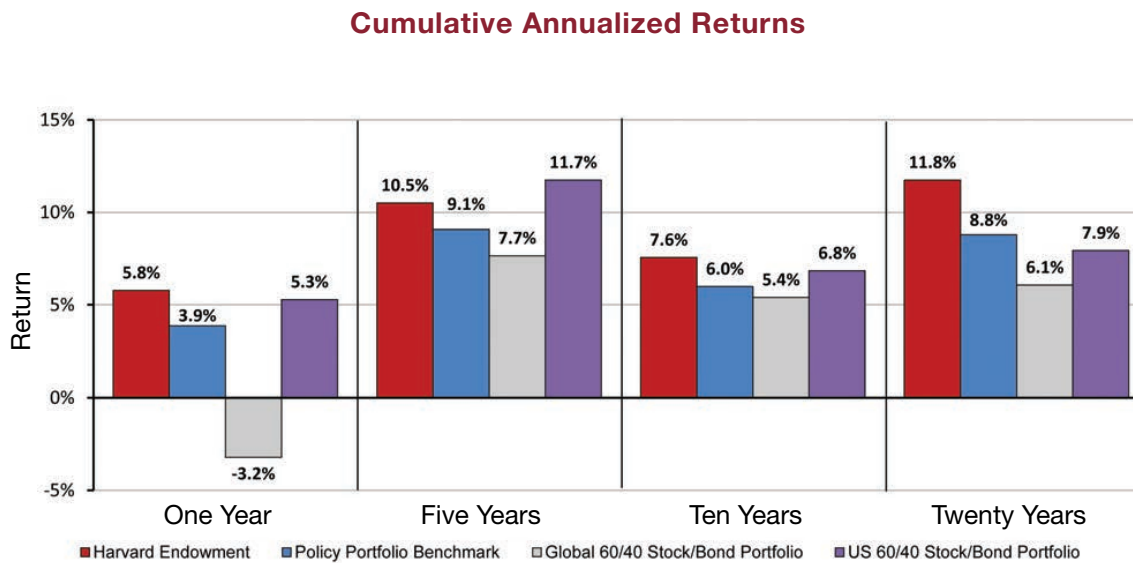


Figure 3



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

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.

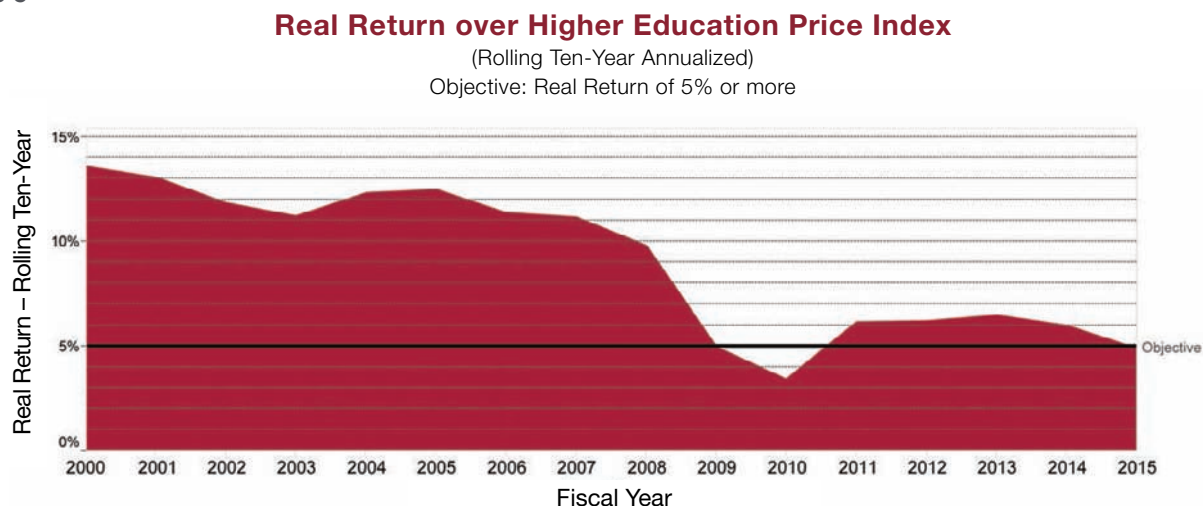
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<sup>1</sup> HEPI is designed specifically for use by institutions of higher education, and measures the average relative level in the price of a fixed market basket of goods and services purchased by colleges and universities. A comparison between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

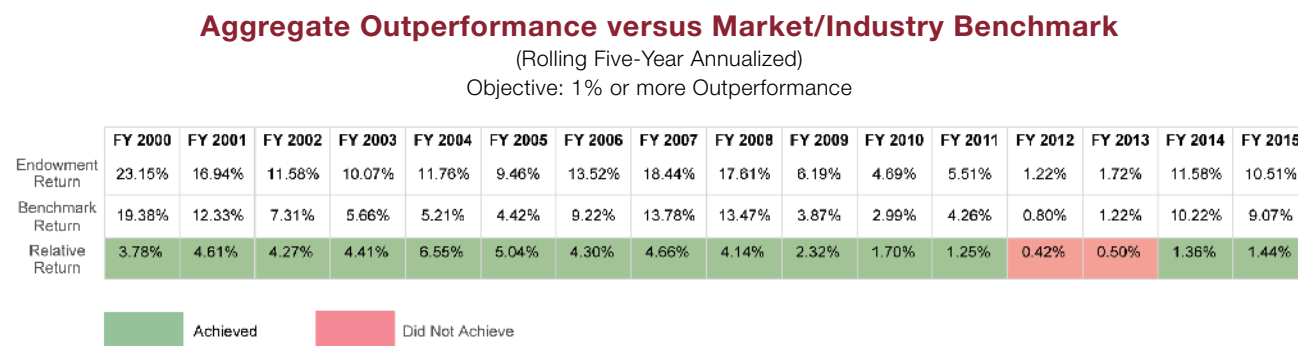


**Objective 2:** HMC will aim to achieve aggregate outperformance of 1% or more over appropriate market and industry benchmarks, on a rolling five-year annualized basis.

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



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

**Objective 3:** HMC will aim to achieve performance that is in the top quartile relative to a peer group consisting of the next ten largest university endowments<sup>3</sup>, on a rolling five-year annualized basis.

Like many, I believe that the annual “horse race” between endowment returns is counterproductive to fostering the appropriate long-term investment strategies suitable for Harvard. Nevertheless, it follows naturally from our mission that HMC must remain competitive for Harvard itself to confidently maintain its own preeminence as a University. Rolling five-year windows where we can judge ourselves versus peers is a reasonable metric of whether we are fulfilling this part of our mission.

One can debate the appropriate peer group to which HMC should compare itself. Our asset base of approximately \$38 billion, and hybrid investment structure involving both internally managed portfolios, direct investments and external managers, are more similar to that of large sophisticated pension funds or some sovereign wealth funds than to smaller endowments, which are generally fully externally managed. The assets under management (AUM) of the ten endowments in our peer group range from approximately \$25 billion to \$9 billion, the latter being less than 25% of Harvard’s AUM, so we are comparing ourselves to institutions of different size. Nevertheless, Harvard University aims to remain preeminent amongst its peer universities, and the comparison group we have established includes many of the universities that Harvard would likely consider its competitors for students, faculty and staff.

Top quartile performance over a rolling five-year period is a widely held goal for many investment organizations, and empirically has been achieved on five occasions by HMC in the past fifteen years. However, recent performance against this metric has been disappointing. Figure 7 shows how HMC has performed from fiscal year 2000 through fiscal year 2014.

Full peer data for fiscal year 2015 is not available at time of writing. HMC’s fiscal year 2015 return of 5.8% exceeds the median return of 3.4%, and falls just below the 95th percentile return of 6.2%, for the 104 TUCS<sup>4</sup> plans with over \$5 billion in AUM. However, we believe it is unlikely that our return in fiscal year 2015 will materially improve our performance relative to our endowment peer group.

Figure 7

### Quartile Performance versus Ten Largest US Endowments

(Rolling Five-Year Annualized)  
Objective: Top Quartile

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
2nd	2nd	2nd	2nd	1st	1st	1st	1st	1st	3rd	3rd	4th	4th	4th	4th

### Risk Tolerance and Liquidity

Our objectives are to be achieved while maintaining a portfolio whose risk profile is in line with the University’s risk tolerance. Thus, in addition to these investment objectives, we have established an appropriate set of risk guidelines that provide suitable flexibility for a long-term endowment portfolio, yet maintain a prudent set of risk parameters within the portfolio. In addition, HMC will maintain portfolio liquidity so that at least 5% of the endowment (that is, a full year of distribution to the University) can be realized in liquid form within 30 days.

### (b) Asset Allocation

Asset allocation is arguably the most fundamental strategic investment decision an institutional investor can make; it is also arguably the most challenging. At its core, the goal of our strategic asset allocation process is to settle on appropriate asset class targets and reasonable ranges that best suit the long-term risk and return objectives of the University. In past years, HMC has essentially employed a standard mean-variance framework. This approach, in which asset class return, risk and correlation

<sup>3</sup> As of 30 June 2014, these are: University of Texas, Yale, Stanford, Princeton, MIT, Texas A&M, Northwestern, Michigan, Pennsylvania and Columbia.

<sup>4</sup> Wilshire Trust Universe Comparison Service

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.

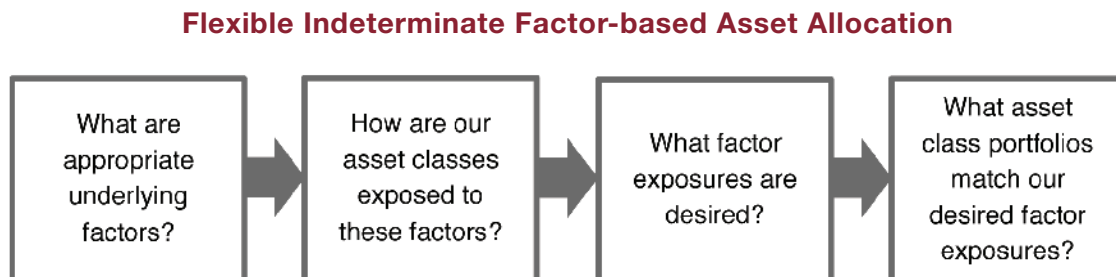
Spearheaded by our Chief Risk Officer Jake Xia and Senior Vice President Mark Szigety AM '00, DBA '08, our asset allocation research involved a thorough literature review; consultations with academic experts in the field; and meetings with a range of institutional investors. From this research we reached 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 letters of the first and last names being capitalized and prominent.

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

PricewaterhouseCoopers LLP, 101 Seaport Blvd, Suite 500, Boston, MA 02210  
T: (617) 530 5000, F: (617) 530 5001, [www.pwc.com/us](http://www.pwc.com/us)

## 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

In thousands of dollars	Unrestricted	Temporarily Restricted	Permanently Restricted	For the year ended June 30	
				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>
Supplemental disclosure of cash flow information:		
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	35,197	464,246	68,504	398,390	12,483	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>1</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) <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, 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>								
	\$ 6,876,422	\$ 186,858	\$ 1,312,118	\$ 1,223,715	\$ (455,924)	\$ 161,289	\$ (24,175)	\$ 9,280,303
<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>								
	\$ 1,404,670	\$ (476)	\$ (155)	\$ (116,599)	\$ 748,585	\$ 0	\$ 0	\$ 2,036,025

<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>\$ 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.

Significant unobservable input by asset class <sup>1</sup>	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>
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	\$ (90,410)
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					
Credit rating on underlying	Purchased notional <sup>1</sup>	Purchased fair value	Years to maturity – notional		Total written notional	Offsetting purchased notional <sup>2</sup>	Net written notional	Net written 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					
Credit rating on underlying	Purchased notional <sup>1</sup>	Purchased fair value	Years to maturity – notional		Total written notional	Offsetting purchased notional <sup>2</sup>	Net written notional	Net written 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*).

	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

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):

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**

### **SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE**

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## APPENDIX C

### SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE

The following is a summary of certain provisions of the Indenture that are not described elsewhere in this Offering Memorandum. The Bonds are issued and secured pursuant to the Indenture. References to the Indenture or a fund or account refer to the related document, fund or account with respect to the Bonds, as described in the Offering Memorandum. Unless otherwise specified to the contrary in this Appendix C, all definitions and provisions summarized refer to the Indenture. This summary does not purport to be comprehensive and reference should be made to the Indenture for a full and complete statement of its provisions.

#### Definitions

Unless the context otherwise requires, the following terms shall have the meanings specified below.

*“Authorized Denomination”* means \$1,000 or any multiple integral thereof.

*“Authorized Representative”* means the Institution’s Vice President for Finance, Treasurer, Assistant Treasurer, or any other Person designated as an Authorized Representative of the Institution by a Certificate of the Institution signed by the Institution’s Vice President for Finance or Assistant Treasurer, updated as necessary, and filed with the Trustee.

*“Beneficial Owner”* means any Person which has or shares the power, directly or indirectly, to make investment decisions concerning ownership of any of the Bonds (including any Person holding Bonds through nominees, depositories or other intermediaries) established to the reasonable satisfaction of the Trustee or the Institution .

*“Bonds”* means the President and Fellows of Harvard College, Taxable Bonds, Series 2016B authorized by, and at any time Outstanding pursuant to, the Indenture.

*“Book-Entry Form”* or *“Book-Entry System”* means a form or system, as applicable, under which physical bond certificates in fully registered form are registered only in the name of a Securities Depository or its nominee as Bondholder, with the physical bond certificates held by and “immobilized” in the custody of the Securities Depository and the book-entry system maintained by and the responsibility of others than the Institution or the Trustee is the record that identifies and records the transfer of the interests of the owners of book-entry interests in those Bonds.

*“Business Day”* means any day other than (A) a Saturday or Sunday or legal holiday or a day on which banking institutions in the city or cities in which the Designated Office of the Trustee is located are authorized by law or executive order to close or (B) a day on which the New York Stock Exchange is closed.

*“‘Certificate’, ‘Statement’, ‘Request’ or ‘Requisition’ of the Institution”* mean, respectively, a written certificate, statement, request or requisition signed in the name of the Institution by an Authorized Representative. Any such instrument and supporting opinions or representations, if any, may, but need not, be combined in a single instrument with any other instrument, opinion or representation, and the two or more so combined shall be read and construed as a single instrument. If and to the extent required by the Indenture, each such instrument shall include the statements provided for in the Indenture.

*“Code”* means the Internal Revenue Code of 1986, as amended, or any successor statute thereto and any regulations promulgated thereunder.

*“Commonwealth”* means The Commonwealth of Massachusetts.

*“Comparable Treasury Issue”* means the United States Treasury security or securities selected by a Designated Investment Banker as having an actual or interpolated maturity comparable to the remaining term of the

Bonds to be redeemed that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of a comparable maturity to the remaining term of such Bonds.

*“Comparable Treasury Price”* means, with respect to any redemption date, the average of the Primary Treasury Dealer Quotations for such redemption date or, if the Designated Investment Banker obtains only one Primary Treasury Dealer Quotation, such Primary Treasury Dealer Quotation.

*“Default”* means any event which is or after notice or lapse of time or both would become an Event of Default.

*“Designated Investment Banker”* means a Primary Treasury Dealer appointed by the Institution.

*“Designated Office”* means the Designated Office of the Trustee, which as of the date of the Indenture is located at 135 Santilli Highway, AIM 026-0018, Everett, MA 02149, Attention: Corporate Trust, and such other offices as the Trustee may designate from time to time by written notice to the Institution and the Holders.

*“Event of Default”* means any of the events specified as such in the Indenture.

*“Holder”* or *“Bondholder”*, whenever used in the Indenture with respect to a Bond, means the Person in whose name such Bond is registered.

*“Indenture”* means the Indenture of Trust, by and between the Institution and the Trustee, as originally executed or as it may from time to time be supplemented, modified or amended by any Supplemental Indenture.

*“Indenture Fund”* means the fund by that name established pursuant to the Indenture.

*“Institution”* means President and Fellows of Harvard College, an educational corporation existing under the laws of the Commonwealth, or said educational corporation’s successor or successors.

*“Interest Payment Date”* means January 15 and July 15 of each year, commencing January 15, 2017.

*“Investment Securities”* means either of the following: (1) direct nonprepayable, noncallable obligations of the United States of America (including obligations issued or held in book-entry form on the books of the Department of the Treasury of the United States of America) or direct nonprepayable, noncallable obligations, the timely payment of the principal of and interest on which are fully guaranteed by the United States of America, including instruments evidencing a direct ownership interest in securities described in this clause such as CATS, TIGRs, and Stripped Treasury Coupons rated or assessed in the two highest Rating Categories by S&P and Moody’s and held by a custodian for safekeeping on behalf of holders of such securities and (2) money market funds registered under the Investment Company Act of 1940, the shares in which are registered under the Securities Act of 1933 and that have a rating by S&P or Moody’s in such Rating Agency’s two highest Rating Categories, including such funds for which the Trustee or its affiliates provide investment advisory or other management services.

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

(1) 100% of the principal amount of a Bond to be redeemed; or

(2) the sum of the present value of the remaining scheduled payments of principal and interest to the maturity date of such Bond, not including any portion of those payments of interest accrued and unpaid as of the date on which such Bond is to be redeemed, discounted to the date on which such Bond is to be redeemed on a semi-annual basis assuming a 360-day year consisting of twelve 30-day months at the adjusted Treasury Rate plus fifteen (15) basis points, plus, in each case, accrued and unpaid interest on such Bond to the redemption date.

*“Moody’s”* means Moody’s Investors Service, a corporation organized and existing under the laws of the State of Delaware, its successors and their assigns, or, if such corporation shall be dissolved or liquidated or shall no

longer perform the functions of a securities rating agency, any other nationally recognized securities rating agency designated by the Institution upon written notice to the Trustee.

*“Offering Memorandum”* means the final offering memorandum dated October 6, 2016, relating to the Bonds.

*“Opinion of Counsel”* means a written opinion of counsel (who may be counsel for the Institution, but not an employee thereof) satisfactory to the Trustee.

*“Outstanding”* when used as of any particular time with reference to Bonds, means (subject to the provisions of the Indenture) all Bonds theretofore, or thereupon being, authenticated and delivered by the Trustee under the Indenture except (1) Bonds theretofore cancelled by the Trustee or surrendered to the Trustee for cancellation; (2) Bonds with respect to which all liability of the Institution shall have been discharged in accordance with the Indenture; and (3) Bonds for the transfer or exchange of or in lieu of or in substitution for which other Bonds shall have been authenticated and delivered by the Trustee pursuant to the Indenture.

*“Par Call Date”* means (i) with respect to the Bonds maturing on July 15, 2046, January 15, 2046 and (ii) with respect to the Bonds maturing on July 15, 2056, January 15, 2056.

*“Payment Date”* means an Interest Payment Date or a Principal Payment Date.

*“Person”* means an individual, corporation, firm, association, partnership, trust, limited liability company or other legal entity or group of entities, including a governmental entity or any agency or political subdivision thereof.

*“Primary Treasury Dealer”* means one or more entities appointed by the Institution, which, in each case, is a primary U.S. Government securities dealer in The City of New York, New York, and its successors.

*“Primary Treasury Dealer Quotations”* means, with respect to each Primary Treasury Dealer and any redemption date, the average, as determined by the Designated Investment Banker, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Designated Investment Banker by such Primary Treasury Dealer at 3:30 p.m. New York time on the third Business Day preceding such redemption date.

*“Principal Payment Date”* means the date of final maturity of each of the Bonds.

*“Rating Agency”* means Moody’s and S&P.

*“Rating Category”* means a generic securities rating category, without regard to any refinement or gradation of such rating category by a numerical modifier or otherwise.

*“Record Date”* means the first (1st) day (whether or not a Business Day) of the month of each Interest Payment Date.

*“Redemption Price”* means means 100% of the principal amount of a Bond to be redeemed plus accrued and unpaid interest on such Bond to the redemption date.

*“Responsible Officer”* means any officer of the Trustee assigned to administer its duties under the Indenture.

*“S&P”* means Standard & Poor’s, a division of The McGraw-Hill Companies, a corporation organized and existing under the laws of the State of New York, its successors and their assigns, or, if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, any other nationally recognized securities rating agency designated by the Institution upon written notice to the Trustee.

“*Securities Depository*” means The Depository Trust Company and its successors and assigns, or any other securities depository selected as set forth in the Indenture, which agrees to follow the procedures required to be followed by such securities depository in connection with the Bonds.

“*Series 2016B Bond Fund*” means the fund by that name established pursuant to the Indenture.

“*Series 2016B Interest Account*” means the account by that name in the Series 2016B Bond Fund established pursuant to the Indenture.

“*Series 2016B Principal Account*” means the account by that name in the Series 2016B Bond Fund established pursuant to the Indenture.

“*Series 2016B Redemption Fund*” means the fund by that name established pursuant to the Indenture.

“*Special Record Date*” means the date established by the Trustee pursuant to the Indenture as the record date for the payment of defaulted interest on the Bonds.

“*Supplemental Indenture*” means any indenture hereafter duly authorized and entered into between the Institution and the Trustee, supplementing, modifying or amending the Indenture; but only if and to the extent that such Supplemental Indenture is specifically authorized under the Indenture.

“*Treasury Rate*” means, with respect to any redemption date, the rate per annum equal to the semiannual equivalent yield to maturity or interpolated (on a day count basis) of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for such redemption date.

“*Trustee*” means The Bank of New York Mellon Trust Company, N.A., a national banking association duly organized and existing under and by-virtue of the laws of the United States of America, or its successor or successors, as Trustee under the Indenture as provided in the Indenture.

“*Underwriters*” means Goldman, Sachs & Co., J.P. Morgan Securities LLC, Morgan Stanley & Co. Incorporated, Bank of America Merrill Lynch, Barclays Capital, Citigroup Global Markets Inc., HBSC Securities (USA) Inc., TD Securities, and Wells Fargo Securities, LLC.

“*Uniform Commercial Code*” means the Uniform Commercial Code as in effect in the Commonwealth from time to time.

## **Establishment and Pledge of Indenture Fund**

Subject only to the provisions of the Indenture permitting or requiring the application thereof for the purposes and on the terms and conditions set forth therein, the Indenture Fund and all amounts held therein are pledged, assigned and transferred by the Institution to the Trustee for the benefit of the Bondholders to secure the full payment of the principal, Redemption Price or Make-Whole Redemption Price of and interest on the Bonds in accordance with their terms and the provisions of the Indenture. The Institution grants to the Trustee a security interest in and acknowledges and agrees that the Indenture Fund and all amounts on deposit therein shall constitute collateral security to secure the full payment of the principal, Redemption Price or Make-Whole Redemption Price of and interest on the Bonds in accordance with their terms and the provisions of the Indenture. For purposes of creating, perfecting and maintaining the security interest of the Trustee on behalf of the Bondholders in and to the Indenture Fund and all amounts on deposit therein, the parties to the Indenture agree as follows: (1) the Indenture shall constitute a “security agreement” for purposes of the Uniform Commercial Code and the Institution shall prepare and file or cause to be prepared and filed the initial Uniform Commercial Code filings if necessary; (2) the Trustee shall maintain on its books records reflecting the interest, as set forth in the Indenture, of the Bondholders in the Indenture Fund and/or the amounts on deposit therein; and (3) the Indenture Fund and the amounts on deposit therein and any proceeds thereof shall be held by the Trustee acting in its capacity as an agent of the Bondholders,



and the holding of such items by the Trustee (including the transfer of any items among the funds and accounts in the Indenture Fund) is deemed possession of such items on behalf of the Bondholders.

Nothing in the Indenture or in the Bonds, expressed or implied, shall be construed to constitute a security interest under the Uniform Commercial Code or otherwise in the assets of the Institution other than in any interest of the Institution in the Indenture Fund and/or the amounts on deposit therein. No recourse for the payment of the principal, Redemption Price or Make-Whole Redemption Price of or interest on any Bond, or for any claim based thereon or otherwise in respect thereof, and no recourse under or upon any obligation, covenant or agreement of the Institution in the Indenture or in any Supplemental Indenture or in any Bond, or because of the creation of any indebtedness represented thereby, shall be had against any employee, agent, or officer, as such, past, present or future, of the Institution or of any successor entity, either directly or through any successor entity, whether by virtue of any constitution, statute or rule of law, or by the enforcement of any assessment or penalty or otherwise, it being expressly understood that all such liability is expressly waived and released as a condition of, and as a consideration for, the execution of the Indenture and the issue of the Bonds. No officer or agent of the Institution, nor any Person executing the Bonds, shall in any event be subject to any personal liability or accountability by reason of the issuance of the Bonds.

## **Redemption**

The Bonds are redeemable in whole or in part (in Authorized Denominations), at the Institution's option on any Business Day, prior to the applicable Par Call Date, at the Make-Whole Redemption Price, and on or after the applicable Par Call Date, at the Redemption Price. At the request of the Trustee to the Institution, the Institution shall retain an independent accounting firm or an independent financial advisor to determine the Make-Whole Redemption Price and perform all actions and make all calculations required to determine such Make-Whole Redemption Price.

*Selection of the Bonds for Redemption.* If less than all of the Bonds are called for optional redemption, the Institution shall select the maturity or maturities from which the Bonds are to be redeemed. If the Bonds are registered in Book-Entry Form and for so long as the Securities Depository or a successor securities depository is the sole registered owner of the Bonds, if less than all of the Bonds of a maturity are called for prior redemption, the particular Bonds or portions thereof to be redeemed shall be selected on a pro rata pass-through distribution of principal basis in accordance with the Securities Depository procedures, provided that, so long as the Bonds are held in Book-Entry Form, the selection for redemption of such Bonds shall be made in accordance with the operational arrangements of the Securities Depository then in effect.

It is the Institution's intent that redemption allocations made by the Securities Depository be made on a pro rata pass-through distribution of principal basis as described above. However, neither the Institution nor the Underwriters can provide any assurance that the Securities Depository, the Securities Depository's direct and indirect participants or any other intermediary will allocate the redemption of Bonds on such basis. If the Securities Depository operational arrangements do not allow for the redemption of the Bonds on a pro rata pass-through distribution of principal basis, then the Bonds will be selected for redemption, in accordance with the Securities Depository procedures.

*Notice of Redemption.* Notice of redemption shall be mailed by the Trustee by first class mail, or sent by electronic means, not less than twenty (20) days, nor more than sixty (60) days prior to the redemption date, to the respective Holders of any Bonds designated for redemption at their addresses appearing on the bond registration books of the Trustee. If the Bonds are no longer held by the Securities Depository or its successor or substitute, the Trustee shall also give notice of redemption by electronic means to such securities depositories and/or securities information services as shall be designated in a Certificate of the Institution. Each notice of redemption shall state the date of such notice, the date of issue of the Bonds, the redemption date, the Redemption Price or method of determining the Make-Whole Redemption Price (as applicable), the place or places of redemption (including the name and appropriate address or addresses of the Trustee), the maturity (including CUSIP number, if any), and, in the case of Bonds to be redeemed in part only, the portion of the principal amount thereof to be redeemed. Each such notice shall also state that on said date there will become due and payable on each of said Bonds the Redemption Price or Make-Whole Redemption Price thereof (as applicable) or of said specified portion of the

principal amount thereof in the case of a Bond to be redeemed in part only and that from and after such redemption date interest thereon shall cease to accrue, and shall require that such Bonds be then surrendered.

Failure by the Trustee to give notice pursuant to the Indenture to any one or more of the securities information services or depositories designated by the Institution, or the insufficiency of any such notice shall not affect the sufficiency of the proceedings for redemption. Failure by the Trustee to mail notice of redemption pursuant to the Indenture to any one or more of the respective Holders of any Bonds designated for redemption shall not affect the sufficiency of the proceedings for redemption with respect to the Holders to whom such notice was mailed.

The Institution may instruct the Trustee to provide conditional notice of redemption, which may be conditioned upon the receipt of moneys or any other event. Additionally, any notice given pursuant to the Indenture may be rescinded by written notice given to the Trustee by the Institution no later than five (5) Business Days prior to the date specified for redemption. The Trustee shall give notice of such rescission, as soon thereafter as practicable, in the same manner, to the same Persons, as notice of such redemption was given pursuant to the Indenture.

*Partial Redemption of Bonds.* Upon surrender of any Bond redeemed in part only, the Institution shall execute (but need not prepare) and the Trustee shall prepare or cause to be prepared, authenticate and deliver to the Holder thereof, at the expense of the Institution, a new Bond or Bonds of Authorized Denominations, equal in aggregate principal amount to the unredeemed portion of the Bond surrendered.

*Effect of Redemption.* Notice of redemption having been duly given as provided in the Indenture, and moneys for payment of the Redemption Price or Make-Whole Redemption Price of the Bonds (or portion thereof) so called for redemption being held by the Trustee, on the date fixed for redemption designated in such notice, the Bonds (or portion thereof) so called for redemption shall become due and payable at the Redemption Price or Make-Whole Redemption Price specified in such notice, interest on the Bonds so called for redemption shall cease to accrue, said Bonds (or portion thereof) shall cease to be entitled to any benefit or security under the Indenture, and the Holders of said Bonds shall have no rights in respect thereof except to receive payment of said Redemption Price or Make-Whole Redemption Price from funds held by the Trustee for such payment.

## **Funds and Accounts**

The Indenture creates an Indenture Fund, a Series 2016B Bond Fund, and a Series 2016B Redemption Fund thereunder. The Indenture also creates a Series 2016B Interest Account and Series 2016B Principal Account under the Series 2016B Bond Fund. All of the funds and accounts are to be held by the Trustee.

*Application of Proceeds of Bonds.* The proceeds from the sale of the Bonds (net of underwriter's discount and original issue discount, if any) shall be transferred by the Underwriters pursuant to the instructions of the Institution.

*Indenture Fund.* The Trustee establishes for the sole benefit of the Bondholders, a master fund referred to in the Indenture as the "Indenture Fund" containing the Series 2016B Bond Fund and the Series 2016B Redemption Fund and each of the accounts contained therein. The Indenture Fund and each of the funds and accounts in the Indenture Fund shall be identified on the books of the Trustee with reference hereto and shall be maintained by the Trustee and held in trust apart from all other moneys and securities held under the Indenture or otherwise, and the Trustee shall have the exclusive and sole right of withdrawal therefrom in accordance with the terms of the Indenture. All amounts deposited with the Trustee pursuant to the Indenture shall be held, disbursed, allocated and applied by the Trustee only as provided in the Indenture.

*Series 2016B Bond Fund.* Upon the receipt thereof, the Trustee shall deposit all payments received from the Institution (other than proceeds from the sale of the Bonds received by the Trustee, if any, amounts which are to be deposited in the Series 2016B Redemption Fund or income or profit from investments which are to be applied pursuant to the Indenture) in a special fund designated the "Series 2016B Bond Fund" which the Trustee shall

establish and maintain and hold in trust and which shall be disbursed and applied only as authorized in the Indenture.

At the times specified below, the Trustee shall allocate within the Series 2016B Bond Fund in the following order of priority the following amounts to the following accounts or funds, each of which the Trustee shall establish and maintain and hold in trust and each of which shall be disbursed and applied only as hereinafter authorized: (1) On each Interest Payment Date, the Trustee shall deposit in the "Series 2016B Interest Account" the aggregate amount of interest becoming due and payable on such Interest Payment Date on all Bonds then Outstanding, until the balance in said account is equal to said aggregate amount of interest; and (2) On each Principal Payment Date, the Trustee shall deposit in the "Series 2016B Principal Account" the aggregate amount of principal becoming due and payable on such Principal Payment Date, until the balance in said account is equal to said aggregate amount of such principal.

*Series 2016B Interest Account.* All amounts in the Series 2016B Interest Account shall be used and withdrawn by the Trustee solely for the purpose of paying interest on the Bonds as it shall become due and payable (including accrued interest on any Bonds redeemed prior to maturity pursuant to the Indenture).

*Series 2016B Principal Account.* All amounts in the Series 2016B Principal Account shall be used and withdrawn by the Trustee solely to pay at maturity the Bonds.

*Series 2016B Redemption Fund.* Upon the receipt thereof, the Trustee shall deposit the following amounts in a special fund designated the "Series 2016B Redemption Fund" which the Trustee shall establish and maintain and hold in trust: (1) all moneys deposited by the Institution with the Trustee directed to be deposited in the Series 2016B Redemption Fund; and (2) all interest, profits and other income received from the investment of moneys in the Series 2016B Redemption Fund.

All amounts deposited in the Series 2016B Redemption Fund shall be used and withdrawn by the Trustee solely for the purpose of redeeming Bonds, in the manner and upon the terms and conditions specified in the Indenture, at the next succeeding date of redemption for which notice has been given; provided that, at any time prior to the selection of Bonds for such redemption, the Trustee shall, upon written direction of the Institution, apply such amounts to the purchase of Bonds at public or private sale, as and when and at such prices (including brokerage and other charges, but excluding accrued interest, which is payable from the Series 2016B Interest Account) as the Institution may direct, except that the purchase price (exclusive of accrued interest) may not exceed the Redemption Price or Make-Whole Redemption Price then applicable to such Bonds; and provided further that in lieu of redemption at such next succeeding date of redemption, or in combination therewith, amounts in such account may be transferred to the Series 2016B Principal Account as set forth in a Request of the Institution.

*Payments by the Institution; Allocation of Funds.* On or before each Payment Date, until the principal of and interest on, the Bonds shall have been fully paid or provision for such payment shall have been made as provided in the Indenture, the Institution shall pay to the Trustee a sum equal to the amount payable on such Payment Date as principal of and interest on the Bonds, less the amount, if any, in the Series 2016B Bond Fund and available therefor. Each payment made pursuant to this paragraph shall at all times be sufficient to pay the total amount of interest and principal (whether at maturity or upon acceleration) becoming due and payable on the Bonds on such Payment Date. If on any Payment Date the amounts held by the Trustee in the accounts within the Series 2016B Bond Fund are insufficient to make any required payments of principal of (whether at maturity or upon acceleration) and interest on the Bonds as such payments become due, the Institution shall forthwith pay such deficiency to the Trustee.

The obligations of the Institution to make the payments required by the immediately preceding paragraph and to perform and observe the other agreements on its part contained in the Indenture shall be a general obligation of the Institution, absolute and unconditional, irrespective of any defense or any rights of set-off, recoupment or counterclaim it might otherwise have against the Trustee, and during the term of the Indenture, the Institution shall pay all payments required to be made by the immediately preceding paragraph (which payments shall be net of any other obligations of the Institution) as prescribed therein and all other payments required under the Indenture, free of any deductions and without abatement, diminution or set-off. Until such time as the principal of and interest on, the Bonds shall have been fully paid, or provision for the payment thereof shall have been made as required by the

Indenture, the Institution (i) will not suspend or discontinue any payments provided for in the immediately preceding paragraph; (ii) will perform and observe all of its other covenants contained in the Indenture; and (iii) except as otherwise provided in the Indenture, will not terminate the Indenture for any cause, including, without limitation, the occurrence of any act or circumstances that may constitute failure of consideration, destruction of or damage to all or a portion of the projects financed with the proceeds of the Bonds, commercial frustration of purpose, any change in the tax or other laws of the United States of America or of the Commonwealth or any political subdivision of either of these, or any failure of the Trustee to perform and observe any covenant, whether express or implied, or any duty, liability or obligation arising out of or connected with the Indenture, except to the extent permitted by the Indenture.

### **Validity of Bonds**

The recital contained in the Bonds that the same are issued pursuant to the Indenture shall be conclusive evidence of their validity and of compliance with the provisions of the Indenture in their issuance.

### **Additional Bonds**

The Institution may, from time to time, without the consent of the Bondholders, issue additional bonds under the Indenture in addition to the Bonds (“Additional Bonds”). If issued, the Additional Bonds will become part of the same series as the Bonds and will have the same interest rate, redemption provisions, maturity date and CUSIP number as one or more of the Bonds.

### **Use of Securities Depository**

Notwithstanding any provision of the Indenture to the contrary:

The Bonds shall be initially issued as fully registered Bonds, registered in the name of “Cede & Co.,” as nominee of the Securities Depository and shall be evidenced by one Bond in the total aggregate principal amount of the Bonds. Registered ownership of the Bonds, or any portion thereof, may not thereafter be transferred except: (1) to any successor of the Securities Depository or its nominee, or to any substitute depository designated pursuant to clause (2) of this paragraph (“substitute depository”); provided that any successor of the Securities Depository or substitute depository shall be qualified under any applicable laws to provide the service proposed to be provided by it; (2) to any substitute depository designated by the Institution and not objected to by the Trustee, upon (i) the resignation of the Securities Depository or its successor (or any substitute depository or its successor) from its functions as depository or (ii) a determination by the Institution that the Securities Depository or its successor (or any substitute depository or its successor) is no longer able to carry out its functions as depository; provided that any such substitute depository shall be qualified under any applicable laws to provide the services proposed to be provided by it; or (3) to any Person as provided below, upon (i) the resignation of the Securities Depository or its successor (or substitute depository or its successor) from its functions as depository; provided that no substitute depository which is not objected to by the Trustee can be obtained or (ii) a determination by the Institution that it is in the best interests of the Institution to remove the Securities Depository or its successor (or any substitute depository or its successor) from its functions as depository.

In the case of any transfer pursuant to clause (1) or clause (2) of the immediately preceding paragraph, upon receipt of the Outstanding Bonds by the Trustee, together with a Certificate of the Institution to the Trustee, a single new Bond shall be executed and delivered in the aggregate principal amount of the Bonds then Outstanding, registered in the name of such successor or such substitute depository, or their nominees, as the case may be, all as specified in such Certificate of the Institution. In the case of any transfer pursuant to clause (3) of the immediately preceding paragraph, upon receipt of the Outstanding Bonds by the Trustee together with a Certificate of the Institution to the Trustee, new Bonds shall be executed and delivered in such denominations and registered in the names of such persons as are requested in such a Certificate of the Institution, subject to the limitations of the Indenture, provided the Trustee shall not be required to deliver such new Bonds within a period less than 60 days from the date of receipt of such a Certificate of the Institution.

In the case of partial redemption or an advance refunding of the Bonds evidencing all or a portion of the principal amount Outstanding, the Securities Depository shall make an appropriate notation on the Bonds indicating the date and amounts of such reduction in principal, in form acceptable to the Trustee.

The Institution and the Trustee shall be entitled to treat the person in whose name any Bond is registered as the Bondholder thereof for all purposes of the Indenture and any applicable laws, notwithstanding any notice to the contrary received by the Institution or the Trustee. With respect to Bonds registered in the registry books kept by the Trustee in the name of Cede & Co., as nominee of the Securities Depository, the Institution and the Trustee shall have no responsibility or obligation with respect to the payment to any Beneficial Owner or any other person, other than the Securities Depository, of any amount with respect to the principal of and premium, if any, and interest on the Bonds only to or upon the order of the Securities Depository, and all such payments shall be valid and effective fully to satisfy and discharge the Institution's obligations with respect to the principal of and premium, if any, and interest on the Bonds to the extent of the sum or sums so paid.

### **Particular Covenants**

*Punctual Payment.* The Trustee shall, through funds provided by the Institution, punctually pay the principal, Redemption Price or Make-Whole Redemption Price and interest to become due in respect of all the Bonds, in strict conformity with the terms of the Bonds and of the Indenture, according to the true intent and meaning thereof, from funds made available by the Institution. When and as paid in full, all Bonds shall be delivered to the Trustee and shall forthwith be cancelled by the Trustee and delivered to, or upon the order of, the Institution.

*Compliance with Indenture.* The Institution covenants not to issue, or permit to be issued, any Bonds in any manner other than in accordance with the provisions of the Indenture, and shall not suffer or permit any Default (within its power to prevent) to occur under the Indenture, but shall faithfully observe and perform all the covenants, conditions and requirements of the Indenture.

*Against Encumbrances.* The Institution shall not create or suffer to be created any pledge, lien, charge or other encumbrance upon all or any part of the Indenture Fund or any of the amounts held therein pledged or assigned under the Indenture while any of the Bonds are Outstanding, except the pledge and assignment created by the Indenture and any statutory liens or other liens arising by operation of law. The Institution will assist the Trustee in contesting any pledge, lien, charge or other encumbrance that does not comply with the provisions of the Indenture.

*Power to Issue Bonds and Make Pledge and Assignment.* The Institution is duly authorized to issue the Bonds and to enter into the Indenture and to pledge and assign the funds and accounts purported to be pledged and assigned under the Indenture in the manner and to the extent provided in the Indenture. The Bonds are and will be legal, valid and binding obligations of the Institution in accordance with their terms, and the Institution and the Trustee shall at all times, to the extent permitted by law, defend, preserve and protect said pledge and assignment of funds and accounts and all the rights of the Bondholders under the Indenture against all claims and demands of all Persons whomsoever, subject to the limitations set forth in the Indenture relating to the Trustee.

*Accounting Records and Financial Statements.* With respect to each fund or account established and maintained by the Trustee pursuant to the Indenture, the Trustee shall at all times keep, or cause to be kept, proper books of record and account prepared in accordance with corporate trust accounting standards, in which complete and accurate entries shall be made of all transactions relating to the receipt, investment, disbursement, allocation and application of payments received from the Institution and the proceeds of the Bonds. Such books of record and account shall be available for inspection by the Institution and any Bondholder, or his or her agent or representative duly authorized in writing, at reasonable hours and under reasonable circumstances.

The Trustee shall furnish to the Institution within 30 days after the end of each month, a complete financial statement (which need not be audited and may be its regular account statements) covering receipts, disbursements, allocation and application of any moneys (including proceeds of Bonds) in any of the funds and accounts established pursuant to the Indenture for such month; provided that the Trustee shall not be obligated to deliver an accounting for any fund or account that has a balance of \$0.00 and has not had any activity since the last reporting.

*Continuing Disclosure.* The Institution has entered into continuing disclosure undertakings (the “Continuing Disclosure Undertakings”) in connection with tax-exempt revenue bonds issued for the benefit of the Institution. Holders and prospective purchasers of the Bonds may obtain copies of the information provided by the Institution under those Continuing Disclosure Undertakings on the Municipal Securities Rulemaking Board’s Electronic Municipal Market Access system (“EMMA”). Each Continuing Disclosure Undertaking terminates when the related tax-exempt revenue bonds are paid or deemed paid in full.

## **Events of Default and Remedies of Bondholders**

*Events of Default.* The following events shall be “Events of Default”: (a) default in the due and punctual payment of the principal, Redemption Price or Make-Whole Redemption Price of any Bond when and as the same shall become due and payable, whether at maturity as therein expressed, by proceedings for redemption, by acceleration or otherwise; (b) default in the due and punctual payment of any interest on any Bond when and as such interest shall become due and payable; (c) default by the Institution in the performance or observance of any of the other covenants, agreements or conditions on its part contained in the Indenture or in the Bonds, if such default shall have continued for a period of 60 days after written notice thereof, specifying such default and requiring the same to be remedied and stating that such notice is a “Notice of Default” under the Indenture, shall have been given to the Institution by the Trustee, or to the Institution and the Trustee by the Holders of not less than a majority in aggregate principal amount of the Bonds at the time Outstanding; (d) the commencement by the Institution of a voluntary case under the federal bankruptcy laws, or if the Institution 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; (e) the appointment of a trustee, receiver, custodian or similar official or agent for the Institution or for any substantial part of its property and such trustee or receiver shall not be discharged within 60 days; or (f) an order or decree for relief in an involuntary case under the federal bankruptcy laws shall be entered against the Institution, 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 60 days.

*Acceleration of Maturity.* If an Event of Default shall occur, then, and in each and every such case during the continuance of such Event of Default, the Trustee may, upon notice in writing to the Institution, declare the principal of all the Bonds then Outstanding, and the interest accrued thereon, to be due and payable immediately, and upon any such declaration by the Trustee the same shall become and shall be immediately due and payable, anything in the Indenture or in the Bonds contained to the contrary notwithstanding.

Any such declaration, however, is subject to the condition that if, at any time after such declaration and before any judgment or decree for the payment of the moneys due shall have been obtained or entered, there shall be deposited with the Trustee a sum sufficient to pay all the principal, Redemption Price or Make-Whole Redemption Price of and interest on the Bonds payment of which is overdue, with interest on such overdue principal at the rate borne by the Bonds, and the reasonable charges and expenses of the Trustee, and any and all other Defaults known to the Trustee (other than in the payment of principal of and interest on the Bonds due and payable solely by reason of such declaration) shall have been made good or cured to the satisfaction of the Trustee or provision deemed by the Trustee to be adequate shall have been made therefor, then, and in every such case, the Trustee shall, on behalf of the Holders of all of the Bonds by written notice to the Institution, rescind and annul such declaration and its consequences and waive such Default; but no such rescission and annulment shall extend to or shall affect any subsequent Default, or shall impair or exhaust any right or power consequent thereon.

*Rights as a Secured Party.* The Trustee, as appropriate, may exercise all of the rights and remedies of a secured party under the Uniform Commercial Code with respect to securities in the Indenture Fund, including without limitation the Series 2016B Bond Fund and the Series 2016B Redemption Fund, including the right to sell or redeem such securities and the right to retain the securities in satisfaction of the obligation of the Institution hereunder. 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 Uniform Commercial Code Sections 9-610 and 9-611, or any successor provision of law shall constitute reasonable notification of such event.

*Application of Moneys Collected by the Trustee.* If an Event of Default shall occur and be continuing, all moneys then held or thereafter received by the Trustee under any of the provisions of the Indenture (subject to provisions of the Indenture requiring moneys to be held for payment of particular Bonds) shall be applied by the Trustee as follows and in the following order:

- (A) To the payment of reasonable fees and expenses of the Trustee (including reasonable fees and disbursements of its counsel) incurred in and about the performance of its powers and duties under the Indenture;
- (B) To the payment of any expenses necessary in the opinion of the Trustee to protect the interests of the Holders of the Bonds; and
- (C) To the payment of the principal, Redemption Price or Make-Whole Redemption Price of and interest then due on the Bonds (upon presentation of the Bonds to be paid, and stamping thereon of the payment if only partially paid, or surrender thereof if fully paid) subject to the provisions of the Indenture, as follows:
  - (1) Unless the principal of all of the Bonds shall have become or have been declared due and payable,

*First:* To the payment to the Persons entitled thereto of all installments of interest then due in the order of the maturity of such installments, and, if the amount available shall not be sufficient to pay in full any installment or installments due on the same date, then to the payment thereof ratably, according to the amounts due thereon, to the Persons entitled thereto, without any discrimination or preference; and

*Second:* To the payment to the Persons entitled thereto of the unpaid principal, Redemption Price or Make-Whole Redemption Price of any Bonds which shall have become due, whether at maturity or by call for redemption, in the order of their due dates, with interest on the overdue principal at the rate borne by the Bonds, and, if the amount available shall not be sufficient to pay in full all the Bonds due on any date, together with such interest, then to the payment thereof ratably, according to the amounts of principal, Redemption Price or Make-Whole Redemption Price due on such date to the Persons entitled thereto, without any discrimination or preference.

- (2) If the principal of all of the Bonds shall have become or have been declared due and payable, to the payment of the principal and interest then due and unpaid upon the Bonds, with interest on the overdue principal at the rate borne by the Bonds, and, if the amount available shall not be sufficient to pay in full the whole amount so due and unpaid, then to the payment thereof ratably, without preference or priority of principal over interest, or of interest over principal, or of any installment of interest over any other installment of interest, or of any Bond over any other Bond, according to the amounts due respectively for principal and interest, to the Persons entitled thereto without any discrimination or preference.

*Trustee to Represent Bondholders.* The Trustee is irrevocably appointed (and the successive respective Holders of the Bonds, by taking and holding the same, shall be conclusively deemed to have so appointed the Trustee) as trustee and true and lawful attorney-in-fact of the Holders of the Bonds for the purpose of exercising and prosecuting on their behalf such rights and remedies as may be available to such Holders under the provisions of the Bonds, the Indenture and applicable provisions of any law. Upon the occurrence and continuance of an Event of Default or other occasion giving rise to a right in the Trustee to represent the Bondholders, the Trustee in its discretion may, and upon the written request of the Holders of not less than a majority in aggregate principal amount of the Bonds then Outstanding, and upon being indemnified to its satisfaction therefor, shall, proceed to protect or enforce its rights or the rights of such Holders by such appropriate action, suit, mandamus or other proceedings as it shall deem most effectual to protect and enforce any such right, at law or in equity, either for the specific performance of any covenant or agreement contained in the Indenture, or in aid of the execution of any power granted in the Indenture, or for the enforcement of any other appropriate legal or equitable right or remedy vested in the Trustee, or in such Holders under the Bonds, the Indenture or any applicable law; and upon instituting such proceeding, the Trustee shall be entitled, as a matter of right, to the appointment of a receiver of the amounts pledged under the Indenture, pending such proceedings. If more than one such request is received by the Trustee from the Holders, the Trustee shall follow the written request executed by the Holders of the greatest percentage

(which percentage shall be, in any case, not less than a majority in aggregate principal amount) of the Bonds then Outstanding. All rights of action under the Indenture or the Bonds or otherwise may be prosecuted and enforced by the Trustee without the possession of any of the Bonds or the production thereof in any proceeding relating thereto, and any such suit, action or proceeding instituted by the Trustee shall be brought in the name of the Trustee for the benefit and protection of all the Holders of such Bonds, subject to the provisions of the Indenture.

*Bondholders' Direction of Proceedings.* The Holders of a majority in aggregate principal amount of the Bonds then Outstanding shall have the right, by an instrument or concurrent instruments in writing executed and delivered to the Trustee, and upon indemnifying the Trustee to its satisfaction therefor, to direct the time, method and place of conducting all remedial proceedings taken by the Trustee under the Indenture, provided that such direction shall not be otherwise than in accordance with law and the provisions of the Indenture, and that the Trustee shall have the right to decline to follow any such direction which in the opinion of the Trustee would be unjustly prejudicial to Bondholders not parties to such direction.

*Limitation on Bondholder's Right to Sue.* No Holder of any Bond shall have the right to institute any suit, action or proceeding at law or in equity, for the protection or enforcement of any right or remedy under the Indenture or any applicable law with respect to such Bond, unless (1) such Holder shall have given to the Trustee written notice of the occurrence of an Event of Default; (2) the Holders of not less than a majority in aggregate principal amount of the Bonds then Outstanding shall have made written request upon the Trustee to exercise the powers granted in the Indenture or to institute such suit, action or proceeding in its own name; (3) such Holder or said Holders shall have tendered to the Trustee indemnity satisfactory to it against the costs, expenses and liabilities to be incurred in compliance with such request; and (4) the Trustee shall have refused or omitted to comply with such request for a period of 60 days after such written request shall have been received by, and said tender of indemnity shall have been made to, the Trustee.

Such notification, request, tender of indemnity and refusal or omission are declared by the Indenture, in every case, to be conditions precedent to the exercise by any Holder of Bonds of any remedy under the Indenture or under law; it being understood and intended that no one or more Holders of Bonds shall have any right in any manner whatever by his or their action to affect, disturb or prejudice the security of the Indenture or the rights of any other Holders of Bonds, or to enforce any right under the Indenture or applicable law with respect to the Bonds, except in the manner provided in the Indenture, and that all proceedings at law or in equity to enforce any such right shall be instituted, had and maintained in the manner provided in the Indenture and for the benefit and protection of all Holders of the Outstanding Bonds, subject to the provisions of the Indenture.

*Absolute Obligation of Institution.* Notwithstanding any other provision of the Indenture, or in the Bonds, nothing shall affect or impair the obligation of the Institution, which is absolute and unconditional, to pay the principal, Redemption Price or Make-Whole Redemption Price of and interest on the Bonds to the respective Holders of the Bonds at their respective dates of maturity, or upon call for redemption, as provided in the Indenture, or, subject to the provisions of the Indenture regarding limitation on Bondholders' right to sue, affect or impair the right of such Holders to enforce such payment by virtue of the contract embodied in the Bonds.

*Termination of Proceedings.* In case any proceedings taken by the Trustee or any one or more Bondholders on account of any Event of Default shall have been discontinued or abandoned for any reason or shall have been determined adversely to the Trustee or the Bondholders, then in every such case the Institution, the Trustee and the Bondholders, subject to any determination in such proceedings, shall be restored to their former positions and rights under the Indenture, severally and respectively, and all rights, remedies, powers and duties of the Institution, the Trustee and the Bondholders shall continue as though no such proceedings had been taken.

*Remedies Not Exclusive.* No remedy conferred in the Indenture upon or reserved to the Trustee or to the Holders of the Bonds is in to be exclusive of any other remedy or remedies, and each and every such remedy, to the extent permitted by law, shall be cumulative and in addition to any other remedy given under the Indenture or now or hereafter existing at law or in equity or otherwise.

*Delay or Omission Not Waiver.* No delay or omission of the Trustee or of any Holder of the Bonds to exercise any right or power arising upon the occurrence of any Default shall impair any such right or power or shall be construed to be a waiver of any such Default or an acquiescence therein; and every power and remedy given by



the Indenture to the Trustee or to the Holders of the Bonds may be exercised from time to time and as often as may be deemed expedient.

*Waiver of Past Defaults.* The Trustee may, and upon request of the Holders of not less than a majority in aggregate principal amount of the Outstanding Bonds shall, on behalf of the Holders of all the Bonds waive any past Default under the Indenture and its consequences, except a Default: (A) In the payment of the principal, Redemption Price or Make-Whole Redemption Price of or interest on any Bond, or (B) in respect of a covenant or other provision of the Indenture which, pursuant to the Indenture, cannot be modified or amended without the consent of the Holder of each Outstanding Bond affected. Upon any such waiver, such Default shall cease to exist, and any Event of Default arising therefrom shall be deemed to have been cured, for every purpose of the Indenture, but no such waiver shall extend to any subsequent or other Default or impair any right consequent thereon.

*Undertaking for Costs.* Subject to the provisions of the Indenture regarding the Trustee's rights to compensation and indemnification, the parties to the Indenture agree, and each Holder of any Bond by such Person's acceptance thereof shall be deemed to have agreed, that any court may in its discretion require, in any suit for the enforcement of any right or remedy under the Indenture, or in any suit against the Trustee for any action taken or omitted by it as Trustee, the filing by any party litigant in such suit of an undertaking to pay the costs of such suit, and that such court may in its discretion assess reasonable costs, including reasonable attorneys fees, against any party litigant in such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; but the provisions of this paragraph shall not apply to any suit instituted by the Trustee or to any suit instituted by any Bondholder or group of Bondholders holding in the aggregate more than a majority in aggregate principal amount of the Outstanding Bonds.

*Notice of Default.* Upon a Responsible Officer's actual knowledge of the existence of any Default under the Indenture, the Trustee shall notify the Institution in writing as soon as practicable but in any event within 5 Business Days.

Upon a Responsible Officer's actual knowledge of the existence of any Default under the Indenture, the Trustee shall transmit by mail to all Bondholders, as their names and addresses appear in the bond register, notice of such Default under the Indenture within 90 days, unless such Default shall have been cured or waived; provided, however, that, except in the case of a Default in the payment of the principal, Redemption Price or Make-Whole Redemption Price of or interest on any Bond, the Trustee shall be protected in withholding such notice if and so long as the board of directors, the executive committee or a trust committee of directors or Responsible Officers of the Trustee in good faith determine that the withholding of such notice is in the interest of the Bondholders; and provided, further, that in the case of any Default of the character specified in (c) under "Events of Default" above, no such notice to Bondholders shall be given until at least 30 days after the occurrence thereof.

*Trustee May File Proofs of Claim.* In case of the pendency of any receivership, insolvency, liquidation, bankruptcy, reorganization, arrangement, adjustment, composition or other judicial proceeding relative to the Institution or any other obligor upon the Bonds or the property of the Institution or of such other obligor or their creditors, the Trustee (irrespective of whether the principal of the Bonds shall then be due and payable as therein expressed or by declaration or otherwise and irrespective of whether the Trustee shall have made any demand on the Institution for the payment of overdue principal or interest) shall be entitled and empowered, by intervention in such proceeding or otherwise: (1) To file and prove a claim for the whole amount of principal (or Redemption Price or Make-Whole Redemption Price, as applicable) and interest owing and unpaid in respect of the Bonds and to file such other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel including expenses and fees of outside counsel and allocated costs of internal legal counsel) and of the Bondholders allowed in such judicial proceeding; and (2) To collect and receive any moneys or other property payable or deliverable on any such claims and to distribute the same; and any receiver, assignee, trustee, liquidator or sequestrator (or other similar official) in any such judicial proceeding is, by the Indenture, authorized by each Bondholder to make such payments to the Trustee and, in the event that the Trustee shall consent to the making of such payments directly to the Bondholders, to pay to the Trustee any amount due to it for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel including expenses and fees of outside counsel and allocated costs of internal legal counsel, and any other amounts due the Trustee under the Indenture.

Nothing contained in the Indenture shall be deemed to authorize the Trustee to authorize or consent to or accept or adopt on behalf of any Bondholder any plan of reorganization, arrangement, adjustment or composition affecting the Bonds or the rights of any Holder thereof, or to authorize the Trustee to vote in respect of the claim of any Bondholder in any such proceeding.

## **The Trustee**

*Duties, Immunities and Liabilities of Trustee.* The Trustee shall, prior to an Event of Default, and after the curing or waiver of all Events of Default which may have occurred, perform such duties and only such duties as are specifically set forth in the Indenture, and, except to the extent required by law, no implied covenants or obligations shall be read into the Indenture against the Trustee. The Trustee shall, during the existence of any Event of Default (which has not been cured or waived), exercise such of the rights and powers vested in it by the Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs.

The Institution may, upon thirty (30) days written notice, remove the Trustee at any time unless an Event of Default shall have occurred and then be continuing, and shall remove the Trustee if at any time requested to do so by an instrument or concurrent instruments in writing signed by the Holders of not less than a majority in aggregate principal amount of the Bonds then Outstanding (or their attorneys duly authorized in writing) or if at any time the Trustee shall cease to be eligible in accordance with the Indenture, or shall become incapable of acting, or shall be adjudged a bankrupt or insolvent, or a receiver of the Trustee or its property shall be appointed, or any public officer shall take control or charge of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation, in each case by giving written notice of such removal to the Trustee, and thereupon shall appoint a successor Trustee by an instrument in writing.

The Trustee may at any time resign by giving written notice of such resignation to the Institution and by giving the Bondholders notice of such resignation by mail at the addresses shown on the registration books maintained by the Trustee. Upon receiving such notice of resignation, the Institution shall promptly appoint a successor Trustee by an instrument in writing. The Trustee shall not be relieved of its duties until such successor Trustee has accepted appointment.

Any removal or resignation of the Trustee and appointment of a successor Trustee shall become effective upon acceptance of appointment by the successor Trustee. If no successor Trustee shall have been appointed and have accepted appointment within 30 days of giving notice of removal or notice of resignation as aforesaid, the resigning Trustee or any Bondholder (on behalf of itself and all other Bondholders) may petition any court of competent jurisdiction for the appointment of a successor Trustee, and such court may thereupon, after such notice (if any) as it may deem proper, appoint such successor Trustee. Any successor Trustee appointed under the Indenture, shall signify its acceptance of such appointment by executing and delivering to the Institution and to its predecessor Trustee a written acceptance thereof, and thereupon such successor Trustee, without any further act, deed or conveyance, shall become vested with all the moneys, estates, properties, rights, powers, trusts, duties and obligations of such predecessor Trustee, with like effect as if originally named Trustee in the Indenture; but, nevertheless at the request of the successor Trustee, such predecessor Trustee shall execute and deliver any and all instruments of conveyance or further assurance and do such other things as may reasonably be required for more fully and certainly vesting in and confirming to such successor Trustee all the right, title and interest of such predecessor Trustee in and to any property held by it under the Indenture and shall pay over, transfer, assign and deliver to the successor Trustee any money or other property subject to the trusts and conditions set forth in the Indenture. Upon request of the successor Trustee, the Institution shall execute and deliver any and all instruments as may be reasonably required for more fully and certainly vesting in and confirming to such successor Trustee all such moneys, estates, properties, rights, powers, trusts, duties and obligations. Upon acceptance of appointment by a successor Trustee as provided in this paragraph, the Institution shall mail or cause to be mailed (at the expense of the Institution) a notice of the succession of such Trustee to the trusts under the Indenture to the Bondholders at the addresses shown on the registration books maintained by the Trustee. If the Institution fails to mail such notice within 15 days after acceptance of appointment by the successor Trustee, the successor Trustee shall cause such notice to be mailed at the expense of the Institution.

Any successor Trustee shall be a trust company or bank having trust powers in the Commonwealth, having a combined capital and surplus of (or if such trust company or bank is a member of a bank holding system, its bank holding company shall have a combined capital and surplus of) at least fifty million dollars (\$50,000,000), and subject to supervision or examination by federal or Commonwealth authority. In case at any time the Trustee shall cease to be eligible in accordance with the provisions of this paragraph, the Trustee shall resign immediately in the manner and with the effect specified in the Indenture.

*Preservation and Inspection of Documents.* All documents received by the Trustee under the provisions of the Indenture shall be retained in its possession and shall be subject upon prior written notice to the inspection of the Institution and any Bondholder, and their agents and representatives duly authorized in writing, at reasonable hours and under reasonable conditions.

## **Modification or Amendment of the Indenture**

*Amendments Permitted.* The Indenture and the rights and obligations of the Institution and of the Holders of the Bonds and of the Trustee may be modified or amended from time to time and at any time by an indenture or indentures supplemental to the Indenture, which the Institution and the Trustee may enter into when the written consent of the Holders of a majority in aggregate principal amount of the Bonds then Outstanding shall have been filed with the Trustee. No such modification or amendment shall (1) extend the fixed maturity of any Bond, or reduce the amount of principal thereof, or reduce the rate of interest thereon, or extend the time of payment of interest thereon, or reduce any redemption price or premium payable upon the redemption thereof, without the consent of the Holder of each Bond so affected, or (2) reduce the aforesaid percentage of Bonds the consent of the Holders of which is required to effect any such modification or amendment, or permit the creation of any lien on the Indenture Fund or the amounts pledged under the Indenture prior to or on a parity with the lien created by the Indenture, or deprive the Holders of the Bonds of the lien created by the Indenture on the Indenture Fund and such amounts (except as expressly provided in the Indenture), without the consent of the Holders of all Bonds then Outstanding. It shall not be necessary for the consent of the Bondholders to approve the particular form of any Supplemental Indenture, but it shall be sufficient if such consent shall approve the substance thereof. Promptly after the execution by the Institution and the Trustee of any Supplemental Indenture pursuant to this paragraph, the Trustee shall mail a notice, setting forth in general terms the substance of such Supplemental Indenture, to the Bondholders at the addresses shown on the registration books maintained by the Trustee. Any failure to give such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such Supplemental Indenture.

The Indenture and the rights and obligations of the Institution, of the Trustee and of the Holders of the Bonds may also be modified or amended from time to time and at any time by an indenture or indentures supplemental to the Indenture, which the Institution and the Trustee may enter into without the necessity of obtaining the consent of any Bondholders, but only to the extent permitted by law and only for any one or more of the following purposes: (1) to add to the covenants and agreements of the Institution contained in the Indenture other covenants and agreements thereafter to be observed, to pledge or assign additional security for the Bonds (or any portion thereof), or to surrender any right or power reserved in the Indenture to or conferred upon the Institution, provided that such covenant, agreement, pledge, assignment or surrender shall not materially adversely affect the interests of the Holders of the Bonds; (2) to make such provisions for the purpose of curing any ambiguity, inconsistency or omission, or of curing or correcting any defective provision, contained in the Indenture, or in regard to matters or questions arising under the Indenture, as the Institution or the Trustee may deem necessary or desirable and not inconsistent with the Indenture, and which shall not materially adversely affect the interests of the Holders of the Bonds; (3) to modify, amend or supplement the Indenture or any Supplemental Indenture in such manner as to permit the qualification hereof under the Trust Indenture Act of 1939, as amended, or any similar federal statute hereafter in effect, and to add such other terms, conditions and provisions as may be permitted by said act or similar federal statute, and which shall not materially adversely affect the interests of the Holders of the Bonds (provided, however, that such modifications, amendments, supplements and additions shall be permitted under this paragraph only if qualification under said act or similar federal statute is required by applicable law now or hereafter in effect); or (4) to provide for the procedures required to permit any Bondholder, at its option, to utilize an uncertificated system of registration of its Bond or to facilitate the registration of the Bonds in the name of a nominee of the Securities Depository in accordance with the provisions of the Indenture.

The Trustee may in its discretion, but shall not be obligated to, enter into any such Supplemental Indenture authorized by either of the two preceding paragraphs which materially adversely affects the Trustee's own rights, duties or immunities under the Indenture or otherwise.

In executing any Supplemental Indenture permitted by the terms described in the preceding three paragraphs, the Trustee shall be entitled to receive, and shall be fully protected in relying upon, an opinion of counsel stating that the execution of such Supplemental Indenture is authorized or permitted by the Indenture and complies with the terms thereof.

*Effect of Supplemental Indenture.* Upon the execution of any Supplemental Indenture pursuant to the Indenture, the Indenture shall be deemed to be modified and amended in accordance therewith, and the respective rights, duties and obligations under the Indenture of the Institution, the Trustee and all Holders of Bonds Outstanding shall thereafter be determined, exercised and enforced under the Indenture subject in all respects to such modification and amendment, and all the terms and conditions of any such Supplemental Indenture shall be deemed to be part of the terms and conditions of the Indenture for any and all purposes.

*Amendment of Particular Bonds.* The provisions of the Indenture regarding modification or amendment of the Indenture shall not prevent any Bondholder from accepting any amendment as to the particular Bonds held by such Bondholder, provided that due notation thereof is made on such Bonds.

## **Defeasance**

*Discharge of Indenture.* The Bonds may be paid or discharged by the Institution or the Trustee on behalf of the Institution in any of the following ways: (A) by paying or causing to be paid the principal, Redemption Price or Make-Whole Redemption Price of and interest on all Bonds Outstanding, as and when the same become due and payable; (B) by depositing with the Trustee, in trust, at or before maturity, moneys or securities in the necessary amount (as provided in the Indenture) to pay when due or redeem all Bonds then Outstanding; or (C) by delivering to the Trustee, for cancellation by it, all Bonds then Outstanding.

If the Institution shall also pay or cause to be paid all other sums payable under the Indenture by the Institution, then and in that case at the election of the Institution (evidenced by a Certificate of the Institution filed with the Trustee signifying the intention of the Institution to discharge all such indebtedness and the Indenture and upon receipt by the Trustee of an Opinion of Counsel to the effect that the obligations under the Indenture and the Bonds have been discharged), and notwithstanding that any Bonds shall not have been surrendered for payment, the Indenture and the pledge of the Indenture Fund and all amounts held therein made under the Indenture and all covenants, agreements and other obligations of the Institution under the Indenture (except as otherwise provided in the Indenture) shall cease, terminate, become void and be completely discharged and satisfied and the Bonds deemed paid.

*Discharge of Liability on Bonds.* Upon the deposit with the Trustee, in trust, at or before maturity, of money or securities in the necessary amount (as provided in the Indenture) to pay or redeem any Outstanding Bond (whether upon or prior to its maturity or the redemption date of such Bond), provided that, if such Bond is to be redeemed prior to maturity, notice of such redemption shall have been given as provided in the Indenture or provision satisfactory to the Trustee shall have been made for the giving of such notice, then all liability of the Institution in respect of such Bond shall cease, terminate and be completely discharged, and the Bonds shall be deemed paid, except only that thereafter the Holder thereof shall be entitled to payment of the principal, Redemption Price or Make-Whole Redemption Price of and interest on such Bond by the Institution, and the Institution shall remain liable for such payments, but only out of such money or securities deposited with the Trustee as aforesaid for their payment, subject, however, to the provisions of the Indenture regarding payment of Bonds after discharge of the Indenture.

The Institution may at any time surrender to the Trustee for cancellation by it any Bonds previously issued and delivered, which the Institution may have acquired in any manner whatsoever, and such Bonds, upon such surrender and cancellation, shall be deemed to be paid and retired.

*Payment of Bonds After Discharge of Indenture.* Notwithstanding any provisions of the Indenture, any moneys held by the Trustee in trust for the payment of the principal, Redemption Price or Make-Whole Redemption Price of, or interest on, any Bonds and remaining unclaimed for three years (or, if shorter, one day before such moneys would escheat to the Commonwealth under then applicable Massachusetts law) after such principal, Redemption Price or Make-Whole Redemption Price or interest, as the case may be, has become due and payable (whether at maturity or upon call for redemption), shall be repaid to the Institution free from the trusts created by the Indenture upon receipt of an indemnification agreement acceptable to the Institution and the Trustee indemnifying the Institution and the Trustee with respect to claims of Holders of Bonds which have not yet been paid, and all liability of the Trustee and the Institution with respect to such moneys shall thereupon cease; provided, however, that before the repayment of such moneys to the Institution as aforesaid, the Trustee may (at the cost of the Institution) first mail to the Holders of Bonds which have not yet been paid, at the addresses shown on the registration books maintained by the Trustee, a notice, in such form as may be deemed appropriate by the Trustee with respect to the Bonds so payable and not presented and with respect to the provisions relating to the repayment to the Institution of the moneys held for the payment thereof.

*Substitute Defeasance Securities.* At the written Request of the Institution, and upon compliance with the conditions set forth below, the Trustee shall redeem, sell, transfer or otherwise dispose of any Investment Securities held by the Trustee pursuant to the Indenture and purchase substitute Investment Securities, as identified by the Institution, in principal amounts and bearing interest at rates such that the principal of and interest on such substitute Investment Securities to be purchased, together with the principal of and interest on any securities then held by the Trustee pursuant to the Indenture that are not to be redeemed, sold, transferred or otherwise disposed of, shall be sufficient to pay the principal, Redemption Price or Make-Whole Redemption Price and interest as the same become due. The Trustee shall purchase such substitute Investment Securities with the proceeds derived from the redemption, sale, transfer, or other disposition on the date of such transaction. The transactions may be consummated only if the Trustee shall have received (i) a report prepared by a firm of independent, certified public accountants selected by the Institution who are recognized on a nationwide basis for skill and expertise in the preparation of such verifications confirming that the amounts of moneys and investments remaining after such payment will mature and will earn interest in such amounts and at such times so that sufficient moneys will be available to pay when due all outstanding installments of interest on and principal, Redemption Price and Make-Whole Redemption Price of the Bonds; and (ii) an Opinion of Counsel selected by the Institution to the effect that such substitution of Investment Securities is permitted under the Indenture. If, following any such substitution of Investment Securities, the funds held by the Trustee under the Indenture contain moneys that will not be required for the payment of installments of interest on and principal, Redemption Price or Make-Whole Redemption Price of the Bonds, the Institution may direct that such excess moneys be promptly paid over to the Institution.

*Purchase of Bonds by Institution.* The Institution may purchase the Bonds on the open market and tender them to the Trustee for cancellation at any time. If, following any such tender of Bonds by the Institution, the funds held by the Trustee under the Indenture contain moneys that will not be required for the payment of installments of interest on and principal, Redemption Price or Make-Whole Redemption Price of the Bonds, the Institution may direct that such excess moneys be promptly paid over to the Institution; provided, however, that (i) the Trustee and the Institution shall, at the expense of the Institution, confirm by a mathematical verification prepared by a firm of independent, certified public accountants selected by the Institution who are recognized on a nationwide basis for skill and expertise in the preparation of such verifications that the amounts of moneys and investments remaining after such payment will mature and will earn interest in such amounts and at such times so that sufficient moneys will be available to pay when due all outstanding installments of interest on and principal, Redemption Price and Make-Whole Redemption Price of the Bonds; and (ii) the Trustee shall have received an Opinion of Counsel selected by the Institution to the effect that such purchase, tender and cancellation is permitted under the Indenture.

#### **Limitation of Rights to Parties and Bondholders**

Nothing in the Indenture or in the Bonds expressed or implied is intended or shall be construed to give to any Person other than the Institution, the Trustee and the Holders of the Bonds, any legal or equitable right, remedy or claim under or in respect of the Indenture or any covenant, condition or provision therein contained; and all such covenants, conditions and provisions are and shall be held to be for the sole and exclusive benefit of the Institution, the Trustee and the Holders of the Bonds.

### **Evidence of Rights of Bondholders**

Any request, consent or other instrument required or permitted by the Indenture to be signed and executed by Bondholders may be in any number of concurrent instruments of substantially similar tenor and shall be signed or executed by such Bondholders in Person or by an agent or agents duly appointed in writing.

The fact and date of the execution by any Person of any such request, consent or other instrument or writing may be proved by the certificate of any notary public or other officer of any jurisdiction, authorized by the laws thereof to take acknowledgments of deeds, certifying that the Person signing such request, consent or other instrument acknowledged to him the execution thereof, or by an affidavit of a witness of such execution duly sworn to before such notary public or other officer.

The ownership of Bonds shall be proved by the registration books for the Bonds held by the Trustee.

Any request, consent, or other instrument or writing of the Holder of any Bond shall bind every future Holder of the same Bond and the Holder of every Bond issued in exchange therefor or in lieu thereof, in respect of anything done or suffered to be done by the Trustee or the Institution in accordance therewith or reliance thereon.

### **Waiver of Personal Liability**

No member, officer, agent or employee of the Institution shall be individually or personally liable for the payment of the principal, Redemption Price or Make-Whole Redemption Price of or interest on the Bonds or be subject to any personal liability or accountability by reason of the issuance thereof or the performance of any duty under the Indenture; but nothing contained in the Indenture shall relieve any such member, officer, agent or employee from the performance of any official duty provided by law or by the Indenture.

### **Governing Law; Venue**

The Indenture shall be construed in accordance with and governed by the Constitution and the laws of the Commonwealth applicable to contracts made and performed in the Commonwealth. The Indenture shall be enforceable in the Commonwealth, and any action arising under the Indenture shall (unless waived by the Institution) be filed and maintained in the Commonwealth.

### **CUSIP Numbers**

Neither the Trustee nor the Institution shall be liable for any defect or inaccuracy in the CUSIP number that appears on any Bond or in any redemption notice.

## **APPENDIX D**

### **PROPOSED FORM OF OPINION OF COUNSEL TO THE INSTITUTION**

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**APPENDIX D**  
**PROPOSED FORM OF OPINION OF COUNSEL TO THE INSTITUTION**

October \_\_, 2016

President and Fellows of Harvard College  
440 Holyoke Center  
1350 Massachusetts Avenue  
Cambridge, Massachusetts 02138

Ladies and Gentlemen:

As counsel for President and Fellows of Harvard College (the “College”), we have been requested to furnish you with an opinion in connection with the proposed issue by the College of \$1,000,000,000 principal amount of Taxable Bonds, Series 2016B (the “Bonds”).

The College is an educational corporation incorporated on May 31, 1650 by act of the Colony of Massachusetts Bay confirmed, as amended, in the Constitution of 1780 of The Commonwealth of Massachusetts, constituting, together with certain acts of the General Court of The Commonwealth of Massachusetts and its predecessors and certain corporate articles of amendment, Harvard’s charter (the “Charter”).

We have examined executed copies of the Indenture of Trust dated as of October 1, 2016 (the “Indenture of Trust”) between the College and The Bank of New York Mellon Trust Company, N.A. (the “Trustee”) and a certified copy of proceedings of the College authorizing the execution of the Indenture of Trust and certain other documents.

In addition, we have examined such other documents and have made such investigation and such examination of law as we have deemed necessary for the purposes of the following opinion.

For purposes of this opinion, we have assumed that the Trustee has all requisite power and authority and has taken all necessary corporate action, consistent with all applicable laws and regulations, to execute and deliver the Indenture of Trust and to effect the transactions contemplated thereby.

Based upon the foregoing, we are of the opinion that:

1. The Indenture of Trust has been duly authorized, executed and delivered and constitutes a valid and legally binding obligation of the College and, subject to the qualifications stated in the unnumbered paragraphs at the end of this opinion, is enforceable against the College in accordance with its terms.

2. The Bonds have been duly authorized, issued and delivered against payment of the agreed upon consideration and, subject to the qualifications contained in the unnumbered paragraphs at the end of this opinion, are valid, legally binding, general obligations of the College, enforceable against the College in accordance with their terms.

Our opinion that the Indenture of Trust delivered to you today is the legal, valid and binding obligation of the College, enforceable in accordance with its terms, is subject to (a) bankruptcy, insolvency, reorganization, moratorium, and other similar laws affecting the rights and remedies of creditors and secured parties, and (b) general principles of equity. We do not express any opinion herein as to the availability of the remedy of specific performance or injunctive relief or other relief in equity upon breach of any of the agreements, documents, or obligations referred to herein.

The opinions expressed herein are subject to the qualification that the enforceability of provisions in the Indenture of Trust providing for indemnification or contribution may be limited by public policy considerations. In addition, we express no opinion as to (i) the extent to which broadly worded waivers may be enforced, (ii) the enforceability of any provision of the Indenture of Trust that purports to grant the right of setoff, that permits the exercise of a right of setoff against amounts not then due, or that constitutes a penalty or forfeiture, or (iii) the enforceability of any provision that provides for conclusive presumptions or determinations, non-effectiveness of oral modifications, powers of attorney, waiver of or consent to service of process and venue, or waiver of offset or defenses.

In addition, certain provisions contained in the Indenture of Trust may be unenforceable in whole or in part but the inclusion of such provisions in the Indenture of Trust does not affect the validity of any of the other provisions thereof, and the remaining provisions of the Indenture of Trust are sufficient for the practical realization of the benefits intended to be provided thereby.

This opinion is solely for your benefit and the benefit of the Underwriters who purchase the Bonds, and may not be relied upon by any subsequent holders of the Bonds or by any other person.

Very truly yours,

## APPENDIX E

### 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

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