University of Pennsylvania

Consolidated Financial Statements
June 30, 2017 and 2016

University of Pennsylvania
Index
June 30, 2017 and 2016

Report of Independent Auditors

To the Trustees of the University of Pennsylvania:

We have audited the accompanying consolidated financial statements of the University of Pennsylvania (the "University"), which comprise the consolidated statements of financial position as of June 30, 2017 and 2016, and the related consolidated statements of activities and of cash flows for the years 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.

Auditors' Responsibility

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits 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 of Pennsylvania as of June 30, 2017 and 2016, and its changes in net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

PricewaterhouseCoopers LLP

September 29, 2017

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University of Pennsylvania
(in thousands)

	June 30, 2017	June 30, 2016
Assets		
Cash and cash equivalents	$ 972,818	$ 1,127,602
Accounts receivable, net	388,212	323,787
Patient receivables, net	696,591	646,878
Contributions receivable, net	241,352	242,849
Loans receivable, net	91,037	97,663
Other assets	263,850	279,887
Investments, at fair value	13,976,628	12,261,643
Property, plant and equipment, net	6,452,306	6,202,907
Total assets	$ 23,082,794	$ 21,183,216
Liabilities		
Accounts payable	$ 242,260	$ 237,835
Accrued expenses and other liabilities	1,993,775	1,788,359
Deferred income	215,613	210,331
Deposits, advances and agency funds	150,336	162,719
Federal student loan advances	82,009	80,796
Accrued retirement benefits	1,448,418	1,630,133
Debt obligations	2,702,950	2,560,454
Total liabilities	6,835,361	6,670,627
Net assets		
Unrestricted	9,466,538	8,447,469
Temporarily restricted	3,108,053	2,629,729
Permanently restricted	3,672,842	3,435,391
	16,247,433	14,512,589
Total liabilities and net assets	$ 23,082,794	$ 21,183,216

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Activities

University of Pennsylvania
for the years ended June 30, 2017 and 2016
(in thousands)

	2017	2016
Unrestricted		
Revenue and other support:		
Tuition and fees, net	$ 937,868	$ 903,076
Commonwealth appropriations	33,606	32,927
Sponsored programs	967,189	904,337
Contributions and donor support	194,539	201,488
Investment income	540,679	439,405
Net patient service revenue	5,702,819	5,319,743
Sales and services of auxiliary enterprises	120,265	118,629
Other income	619,183	577,691
Independent operations	78,040	79,024
	9,194,188	8,576,320
Expenses:		
Compensation and benefits	5,086,246	4,728,829
Depreciation and amortization	471,093	452,748
Interest on indebtedness	80,421	78,634
Other operating expenses	3,258,969	2,879,776
	8,896,729	8,139,987
Increase in net assets from operations	**297,459**	**436,333**
Nonoperating revenue, net gains, reclassifications and other:		
Return on investments, net of amounts classified as operating revenue	465,613	(229,472)
Pension, OPEB and other, net	221,164	(326,234)
Contributions and donor support for capital related activities	34,833	1,413,635
Total nonoperating revenue, net gains, reclassifications and other	721,610	857,929
Increase in unrestricted net assets	1,019,069	1,294,262
Temporarily Restricted		
Contributions	159,146	202,633
Return on investments, net	735,228	(82,844)
Net assets released from restrictions	(416,050)	(516,775)
Increase (decrease) in temporarily restricted net assets	478,324	(396,986)
Permanently Restricted		
Contributions	203,286	136,471
Return on investments, net	34,165	(12,178)
Increase in permanently restricted net assets	237,451	124,293
Increase in net assets from nonoperating and restricted revenue, net gains, reclassifications and other	**1,437,385**	**585,236**
Increase in total net assets	**1,734,844**	**1,021,569**
Net assets, beginning of year	14,512,589	13,491,020
Net assets, end of year	$ 16,247,433	$ 14,512,589

The accompanying notes are an integral part of these consolidated financial statements.

University of Pennsylvania
for the years ended June 30, 2017 and 2016
(in thousands)

	2017	2016
Cash flows from operating activities:		
Increase in net assets	$ 1,734,844	$ 1,021,569
Adjustment to reconcile increase in net assets to net cash provided by operating activities:		
Depreciation and amortization	471,387	452,748
Provision for bad debts	201,231	222,591
(Gain) loss on investments, net	(1,358,190)	223,085
Loss on disposal of property, plant and equipment	87,153	4,562
Donated equipment	(937)	(341)
Proceeds from split-interest agreements designated for operations	22,515	22,508
Receipt of contributed securities	(113,317)	(49,593)
Proceeds from contributed securities	29,436	18,112
Receipt of contributions designated for the acquisition of long-lived assets and long-term investment	(177,858)	(1,507,309)
Pension, OPEB and other, net	(221,164)	321,672
Changes in operating assets and liabilities:		
Patient, accounts and loans receivable	(308,636)	(300,276)
Contributions receivable	914	29,298
Other assets	6,905	(16,797)
Accounts payable, accrued expenses and accrued retirement benefits	51,591	31,433
Deposits, advances and agency funds	(12,789)	46,737
Deferred income	5,282	40,232
Net cash provided by operating activities	418,367	560,231
Cash flows from investing activities:		
Purchase of investments	(7,879,448)	(8,217,553)
Proceeds from sale of investments	7,682,436	8,293,026
Purchase of property, plant and equipment	(781,421)	(767,373)
Cash acquired in Lancaster General Hospital (LGH) membership substitution	-	97,307
Net cash used by investing activities	(978,433)	(594,593)
Cash flows from financing activities:		
Proceeds from contributions received designated for the acquisition of long-lived assets and long-term investment	179,000	220,594
Proceeds from contributed securities received designated for the acquisition of long-lived assets and long-term investment	83,278	30,338
Federal student loan advances	1,213	447
Repayment of long-term debt	(58,509)	(103,366)
Proceeds from issuances of long-term debt	200,300	79,967
Net cash provided by financing activities	405,282	227,980
Net (decrease) increase in cash and cash equivalents	(154,784)	193,618
Cash and cash equivalents, beginning of year	1,127,602	933,984
Cash and cash equivalents, end of year	$ 972,818	$ 1,127,602
Supplemental disclosure of cash flow information:		
Cash paid for interest, net of amounts capitalized	$ 79,944	$ 81,108
Contributed securities received	113,317	49,593
Increase in accrued property, plant and equipment	32,301	18,572
Assets acquired in LGH membership substitution	-	1,984,574
Liabilities assumed in LGH membership substitution	-	696,689
Contribution received in LGH membership substitution	-	1,287,885

The accompanying notes are an integral part of these consolidated financial statements.

1. Significant Accounting Policies

Organization

The University of Pennsylvania (the University), located in Philadelphia, Pennsylvania, is an independent, nonsectarian, not-for-profit institution of higher learning founded in 1740. The University Academic Component (Academic Component) provides educational services, primarily for students at the undergraduate, graduate, professional and postdoctoral levels and performs research, training and other services under grants, contracts and similar agreements with sponsoring organizations, primarily departments and agencies of the United States Government. The University also operates an integrated health care delivery system, the University of Pennsylvania Health System (UPHS). The University is a tax-exempt organization under Section 501(c) (3) of the Internal Revenue Code.

Basis of Presentation

The consolidated financial statements have been prepared on the accrual basis of accounting and include the accounts of the University and its subsidiaries, over which the University has a controlling financial interest or exercises control. All material transactions between the University and its subsidiaries are eliminated in consolidation. Investments in subsidiaries over which the University has the ability to exercise significant influence are reported using the equity method of accounting. Other investments in subsidiaries are reported using the cost method of accounting.

The net assets of the University are classified and reported as follows:

Unrestricted - Net assets that are not subject to donor-imposed restrictions.

Temporarily restricted - Net assets that are subject to legal or donor-imposed restrictions that will be met by actions of the University and/or the passage of time. These net assets include gifts donated for specific purposes and appreciation on permanent endowment, which is restricted by Pennsylvania law on the amounts that may be expended in a given year.

Permanently restricted – The original value of donor restricted net assets, the use of which is limited to investment and can only be appropriated for expenditure by the University in accordance with the Pennsylvania Uniform Principal and Income Act (Pennsylvania Act).

Expenses are reported as a decrease 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 explicit donor stipulation or by law. Donor-restricted resources intended for the acquisition or construction of long-lived assets are initially reported as temporarily restricted net assets and released from restrictions from temporarily restricted net assets to unrestricted net assets when the asset is placed in service or in accordance with donor-specified terms.

Expirations of temporary restrictions on contributions and investment income, reported as Net assets released from restrictions, and the corresponding amounts are included in the Consolidated Statements of Activities as follows (in thousands):

Temporarily Restricted Net Assets	**2017**	**2016**
Net assets released from restrictions	$ (416,050)	$ (516,775)

Unrestricted Net Assets	**2017**	**2016**
Contributions and donor support	$ 118,077	$ 125,241
Investment income	263,140	241,766
Contributions and donor support for capital related activities	34,833	149,768
Net assets released from restrictions	$ 416,050	$ 516,775

Gains or losses associated with investment activities are included in Return on investments, net. Gains or losses associated with property, plant and equipment disposals are included in Other operating expenses. Gains or losses associated with all other activities, such as debt retirements and pension and postretirement plan actuarial valuation adjustments are reported in Pension, Other post-retirement employee benefits (OPEB) and other, net.

Certain prior period amounts have been reclassified to conform to the current year's presentation due primarily to the adoption, as of June 30, 2017, of the standard on Clarifying When a Not-for-Profit Entity That Is a General Partner or a Limited Partner Should Consolidate a For-Profit Limited Partnership or Similar Entity, issued by the Financial Accounting Standards Board (FASB) in January 2017. The standard allows not-for-profit entities that have elected the fair value option to deconsolidate investments in limited partnerships and similar entities and report them at fair value. The standard was applied retrospectively.

Fair Value

The University values certain financial and non-financial assets and liabilities by applying the FASB pronouncement on Fair Value Measurements. The pronouncement defines fair value and establishes a framework for measuring fair value that includes a hierarchy that categorizes and prioritizes the sources used to measure and disclose fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (an exit price). The hierarchy is broken down into three levels based on inputs that market participants would use in valuing the asset or liability and are developed based on market data obtained from sources independent of the University as follows:

Level 1: Unadjusted quoted market prices in active markets for identical assets or liabilities.

Level 2: Unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable.

Level 3: Unobservable inputs for the asset or liability.

Inputs broadly refer to the assumptions that market participants use to make valuation decisions, including assumptions about risk. Inputs may include price information, volatility statistics, specific and broad credit data, liquidity statistics and other factors. The University is required by the pronouncement to maximize the use of observable inputs (Levels 1 and 2) and minimize the use of unobservable inputs (Level 3). The University considers observable data to be that market data which is readily available, regularly distributed or updated, reliable and verifiable, not proprietary and provided by independent sources that are actively involved in the relevant market. The categorization of a financial instrument within the hierarchy is based upon the pricing transparency of the instrument and does not necessarily correspond to the University's perceived risk of that instrument.

Assets and liabilities are disclosed in the Consolidated Notes to Financial Statements within the hierarchy based on the lowest (or least observable) input that is significant to the measurement. The University's assessment of the significance of an input requires judgment, which may affect the valuation and categorization within the fair value hierarchy. The fair value of assets and liabilities using Level 3 inputs are generally determined by using pricing models or discounted cash flow methods, which all require significant management judgment or estimation.

As a practical expedient, the University is permitted to estimate the fair value of an investment in an investment company at the measurement date using the reported net asset value (NAV). Adjustment is required if the University expects to sell the investment at a value other than NAV or if the NAV is not calculated in accordance with US generally accepted accounting principles (US GAAP). The University holds investments in its portfolio which are generally valued based on the most current NAV. This amount represents fair value of these investments at June 30, 2017 and 2016. Investments reported at NAV, as a practical expedient, are not included within levels 1, 2, or 3 in the fair value hierarchy.

The University performs additional procedures including due diligence reviews on its investments in investment companies and other procedures with respect to the capital account or NAV provided to ensure conformity with US GAAP. The University has assessed factors including, but not limited to, managers' compliance with the *Fair Value Measurement* standard, price transparency and valuation procedures in place.

Cash and Cash Equivalents

Cash equivalents include short-term, highly liquid investments and are carried at cost which approximates fair value. Unrestricted short-term investments available for current operations with maturities of three months or less when purchased are classified as cash equivalents.

Investments, at Fair Value

The majority of the University's investments are held in the Associated Investments Fund (AIF). The AIF is invested in accordance with the investment policies set out by an Investment Board which has been appointed by the Trustees of the University of Pennsylvania (the Trustees). The Office of Investments is responsible for the day-to-day management of the AIF including identifying, selecting and monitoring a variety of external investment managers to implement the strategic asset allocation set forth by the Investment Board. The AIF may include marketable and not readily marketable securities that it intends to hold for an indefinite period of time. The University also holds other investments which are not invested in the AIF due to various restrictions. The majority of these investments are in highly liquid short-term and equity type investments. Changes in the fair value of investments are reported in Return on investments, net in the Consolidated Statements of Activities. The following is a summary of the investments held in the AIF by asset allocation as well as investment risk:

Short-Term

Short-term investments include cash equivalents and fixed income investments with maturities of less than one year. Short-term investments are valued using observable market data and are categorized as Level 1 based on quoted market prices in active markets. The majority of these short-term investments are held in a US Treasury money market account.

Equity

Equity investments consist of direct holdings of public securities in managed accounts as well as exchange traded funds, commingled funds and limited partnerships. The securities held in managed accounts, along with exchange traded funds are generally valued based on quoted market prices in active markets obtained from exchange or dealer markets for identical assets, and are accordingly categorized as Level 1. Commingled funds and limited partnerships are valued at NAV.

Debt

Debt investments consist of direct holdings of securities in managed accounts and limited partnerships. Securities such as US Treasuries, held in managed accounts, are valued based on quoted market prices in active markets and are categorized as Level 1. Securities such as corporate bonds, high yield bonds and bank loans, also held in managed accounts, are valued based on quoted market prices or dealer or broker quotations and are categorized as Level 2 or in the cases where inputs are unobservable as Level 3. Limited partnership interests are valued at NAV.

Absolute Return

Absolute return investments are made up of allocations to limited partnerships. The fund managers of limited partnerships invest in a variety of securities, based on the strategy of the fund, which may or may not be quoted in an active market. Illiquid investments, if any, are generally designated as a side pocket by hedge fund managers and may be valued based on an appraised value, discounted cash flow, industry comparables or some other method. Limited partnership interests are valued at NAV.

Real Estate

Investments in real estate are primarily in the form of close-ended limited partnership interests. The fund managers of limited partnerships primarily invest in private investments for which there is no readily determinable market value. The fund manager may value the underlying private investments based on an appraised value, discounted cash flow, industry comparables or some other method. These limited partnership investments are valued at NAV. Real estate investments also include an open-ended real estate investment trust valued at NAV.

Private Equity

Investments in private equity are in the form of close-ended limited partnership interests. The fund managers of limited partnerships primarily invest in private investments for which there is no readily determinable market value. The fund manager may value the underlying private investments based on an appraised value, discounted cash flow, industry comparables or some other method. These limited partnership investments are valued at NAV.

Natural Resources

Investments in natural resources are made up of limited partnership interests and securities in managed accounts. The limited partnership fund managers primarily invest in private investments for which there is no readily determinable market value. The fund manager may value the underlying private investments based on an appraised value, discounted cash flow, industry comparables or some other method. These limited partnership investments are valued at NAV. The University directly holds the securities held in the managed accounts through a custodial relationship. The securities held in the managed accounts are generally valued based on quoted market prices in active markets obtained from exchange or dealer markets for identical assets, and are accordingly categorized as Level 1.

Derivatives

The University, in the normal course of business, utilizes derivative financial instruments in connection with its investment activity. Derivatives utilized by the University include futures, options, swaps and forward currency contracts and are reflected at fair value following the definition of Level 1 and 2 assets and liabilities as previously described. Investments in derivative contracts are subject to foreign exchange and equity price risks that can result in a loss of all or part of an investment. In addition, the University is also subject to additional counterparty risk should its counterparties fail to meet the terms of their contracts.

Investment Risks

The University's investing activities expose it to a variety of risks, including market, credit and liquidity risks and attempts to identify, measure and monitor risk through various mechanisms including risk management strategies and credit policies.

Market risk is the potential for changes in the fair value of the University's investment portfolio. Commonly used categories of market risk include currency risk (exposure to exchange rate differences between functional currency relative to other foreign currencies), interest rate risk (changes to prevailing interest rates or changes in expectations of futures rates) and price risk (changes in market value other than those related to currency or interest rate risk, including the use of NAV provided).

Credit risk is the risk that one party to a financial investment will cause a financial loss for the other party by failing to discharge an obligation (counterparty risk).

Liquidity risk is the risk that the University will not be able to meet its obligations associated with financial liabilities.

Endowment

The University's endowment consists of 6,126 donor-restricted permanent or term endowment funds and 881 unrestricted endowment funds established by management for a variety of purposes. The University reports all endowment investments at fair value. The majority of the endowment funds of the University have been pooled in the University's AIF, which is invested in equities, bonds, hedge funds, natural resources, private equity and real estate limited partnerships. The endowment funds not pooled in the AIF are primarily invested in equities and bonds.

The Commonwealth of Pennsylvania has not adopted the Uniform Management of Institutional Funds Act (UMIFA) or the Uniform Prudent Management of Institutional Funds Act (UPMIFA). Rather, the Pennsylvania Act governs the investment, use and management of the University's endowment funds.

The Pennsylvania Act does not require the preservation of the fair value of a donor's original gift as of the gift date of a donor-restricted endowment fund, absent explicit donor stipulations to the contrary. However, based on its interpretation of the Pennsylvania Act and relevant accounting literature, the University classifies as permanently restricted net assets for reporting purposes: (i) the original value of gifts donated to the permanent endowment; (ii) the original value of subsequent gifts to the permanent endowment; and (iii) accumulations to the permanent endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added to the fund. The remaining portion of the donor-restricted endowment fund that is not classified in permanently restricted net assets is classified as temporarily restricted net assets until those amounts are appropriated for expenditure by the University. The Pennsylvania Act allows a nonprofit to elect to appropriate for expenditure between 2% and 7% of the endowment fair value, determined at least annually and averaged over a period of three or more preceding years.

In accordance with the Pennsylvania Act, the University has elected to adopt and follow an investment policy seeking a total return for the investments held by the AIF, whether the return is derived from appreciation of capital or earnings and distributions with respect to capital or both. The endowment spending policy which the Board of Trustees has elected to govern the expenditure of funds invested in the AIF is designed to manage annual spending levels and is independent of the cash yield and appreciation of investments for the year. For Fiscal Year 2017, the spending rule target payout was based on the sum of: (i) 70% of the prior fiscal year distribution adjusted by an inflation factor; and (ii) 30% of the prior fiscal year-end fair value of the AIF, lagged one year, multiplied by 5.3% for financial aid funds and 5.0% for all other funds. The payout or allocation to operations exceeded actual income, net of expenses and net of income permanently reinvested, by $485,860,000 in 2017 and by $365,366,000 in 2016.

Effective for Fiscal Year 2018, the University revised its spending rule formula to align the target spending rate for both the financial aid and non-financial aid endowments at 5.0%.

Property, Plant and Equipment

Property, plant and equipment ('PPE') is reported net of related depreciation. Donated PPE is reported based on estimated fair value at the date of acquisition. Capital leases are categorized as buildings or equipment and are reflected at the lower of the net present value of the minimum lease payments or the fair value of the leased asset at the inception of the lease. All other PPE is reported at cost. Depreciation is computed on the straight-line method over the estimated useful lives of the assets or the shorter of the lease term or estimated useful life of the asset for capital lease assets. Contributions of library materials as well as rare books and other collectibles, are not recorded for financial statement presentation, while purchases are recorded as Other operating expenses on the Consolidated Statement of Activities in the period acquired.

Split-Interest Agreements

The University's split-interest agreements with donors consist of irrevocable charitable remainder trusts, charitable gift annuities, pooled income funds, perpetual trusts and charitable lead trusts. Assets are invested and payments are made to donors and/or other beneficiaries in accordance with the respective agreements.

The University recognizes assets contributed to charitable remainder trusts, charitable gift annuities and pooled income funds, where it serves as trustee, at fair value, recognizes a liability to the beneficiaries based on the present value of the estimated future payments to beneficiaries to be made over the estimated remaining life of those beneficiaries using current market rates at the date of the contribution, and recognizes the difference as contribution revenue. Subsequently, the trust assets, invested in equity and debt securities, are measured at fair value at quoted market prices, and are categorized as Level 1, with the changes reported as an adjustment to Investments, at fair value on the Consolidated Statements of Financial Position and Return on investments, net on the Consolidated Statements of Activities. Liabilities to beneficiaries are revalued based on current market rates, and are categorized as Level 2, with the changes reported as an adjustment to Liabilities associated with investments on the Consolidated Statements of Financial Position and Return on investments, net on the Consolidated Statements of Activities.

Charitable remainder trust assets, where the University does not serve as trustee, are initially valued using the current fair value of the underlying assets, using observable market inputs based on its beneficial interest in the trust, discounted to a single present value using current market rates at the date of the contribution. The initially contributed assets are categorized as Level 3, and reported as Investments, at fair value on the Consolidated Statements of Financial Position and Contribution revenue on the Consolidated Statements of Activities. Subsequent valuation follows this same approach with changes in fair value reported as an adjustment to Investments, at fair value on the Consolidated Statements of Financial Position and Return on investments, net on the Consolidated Statements of Activities. The primary unobservable input used in the fair value measurement of the Charitable remainder trust assets is the discount rate. Significant fluctuation in the discount rates utilized in this calculation could result in a material change in fair value.

Perpetual trust assets are initially valued at the current fair value of the underlying assets using observable market inputs based on its beneficial interest in the trust. The initially contributed assets are categorized as Level 3 and are reported as Investments, at fair value on the Consolidated Statements of Financial Position and as Contribution revenue on the Consolidated Statements of Activities. Subsequent valuation follows this same approach with changes in fair value reported as an adjustment to Investments, at fair value on the Consolidated Statements of Financial Position and Return on investments, net on the Consolidated Statements of Activities. The primary unobservable inputs used in the fair value measurement of the perpetual trust assets are the underlying securities held by the trust. Significant fluctuation in the market value of these underlying securities could result in a material change in fair value.

The University reports charitable lead trust assets by discounting future cash flows using current market rates at the measurement date, matched to the payment period of the agreement. The initially contributed assets are categorized as Level 3, and reported as Investments, at fair value on the Consolidated Statements of Financial Position and as Contribution revenue on the Consolidated Statements of Activities. Subsequent valuation follows this same approach with changes in fair value reported as an adjustment to Investments, at fair value on the Consolidated Statements of Financial Position and Return on investments, net on the Consolidated Statements of Activities. The primary unobservable input used in the fair value measurement of the Charitable lead trust assets is the discount rate. Significant fluctuation in the discount rates utilized in this calculation could result in a material change in fair value.

Income Taxes

The University is a tax exempt organization under Section 501 (c) (3) of the Internal Revenue Code. Most of its activities and income are related to its exempt purposes and are exempt from federal and state income taxes. None of its activities and income is subject to Pennsylvania income tax. Unrelated activities and income, including certain sales of healthcare related products and services and certain sales of computer hardware and software, are subject to federal "Unrelated Business Income Tax."

The University regularly evaluates its tax position and does not believe it has any uncertain tax positions that require disclosure or adjustment to the consolidated financial statements.

Tuition and Fees

The University maintains a policy of offering qualified undergraduate applicants admission to the University without regard to financial circumstance. This policy provides financial aid to eligible students in the form of direct grants and employment during the academic year. The University maintains an aid program whereby any qualified undergraduate student with demonstrated financial need receives an aid package which predominantly includes grants and a work-study award. Students may still borrow at their discretion to supplement their aid packages. Tuition and fees have been reduced by certain grants and scholarships in the amount of $333,582,000 in 2017 and $322,367,000 in 2016.

Sponsored Programs

The University receives grant and contract revenue from governmental and private sources. In 2017 and 2016, grant and contract revenue earned from governmental sources totaled $713,113,000 and $696,148,000, respectively. The University generally recognizes revenue associated with the direct and the applicable indirect costs of sponsored programs as the related costs are incurred. The University negotiates its federal indirect rate with its cognizant federal agency. Indirect costs recovered on federally-sponsored programs are generally based on predetermined reimbursement rates which are stated as a percentage and distributed based on the modified total direct costs incurred. Indirect costs recovered on all other grants and contracts are based on rates negotiated with the respective sponsors. Funds received for sponsored research activity are subject to audit. Based upon information currently available, management believes that any liability resulting from such audits will not materially affect the financial position or operations of the University.

Contributions

Unrestricted Contributions and donor support includes net assets released as a result of corresponding expenditures which met donor imposed restrictions. Contributions, including unconditional promises to donate cash and other assets, are recognized as revenue in the period received and are reported as increases in the appropriate net asset category based on donor restrictions. Contributions designated for the acquisition of long-lived assets and long-term investment are reported in Nonoperating revenue, net gains, reclassifications and other.

The University reports unconditional pledges at fair value by discounting future cash flows using current market rates at the measurement date, ranging from 2.00% to 3.28%, matched to the payment period of the agreement, and accordingly categorizes these assets as Level 3. The primary unobservable input used in the fair value measurement of the University's Contributions receivable is the discount rate. Significant fluctuation in the discount rates utilized in this calculation could result in a material change.

Net Patient Service Revenue

Net patient service revenue is derived from UPHS patient services and is accounted for at established rates on the accrual basis in the period the service is provided. Patient service revenue is net of charity care and community services. Certain revenue received from third-party payors is subject to audit and retroactive adjustment. Any changes in estimates under these contracts are recorded in operations currently.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Recent Authoritative Pronouncements

In May 2014, the FASB issued a standard on Revenue from Contracts with Customers. This standard implements a single framework for recognition of all revenue earned from customers. This framework ensures that entities appropriately reflect the consideration to which they expect to be entitled in exchange for goods and services by allocating transaction price to identified performance obligations and recognizing revenue as performance obligations are satisfied. Qualitative and quantitative disclosures are required to enable users of financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. The standard is effective for fiscal years beginning after December 15, 2017. University management is evaluating the impact this will have on the consolidated financial statements beginning in Fiscal Year 2019.

In August 2016, the FASB issued a standard on the Presentation of Financial Statements of Not-for-Profit Entities. The new guidance requires improved presentation and disclosures to help not-for-profits provide more relevant information about their resources to donors, grantors, creditors and other users. The standard is effective for fiscal years beginning after December 15, 2017. University management is evaluating the impact this will have on the consolidated financial statements beginning in Fiscal Year 2019.

In February 2016, the FASB issued a standard on Leases. This standard requires lessees to recognize assets and liabilities for the rights and obligations created by leases with terms in excess of 12 months. The recognition, measurement, and presentation of expenses and cash flows arising from a lease will primarily depend on its classification as a finance or operating lease. The accounting by lessors remains largely unchanged. This standard is effective for fiscal years beginning after December 15, 2018. University management is evaluating the impact this will have on the consolidated financial statements beginning in Fiscal Year 2020.

In March 2017, the FASB issued a standard on Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. Presently, net benefit cost is reported as an employee cost within Increase in net assets from operations (or capitalized into assets when appropriate.) This standard requires the bifurcation of net benefit cost, as follows: service cost will continue to be reported in Compensation and benefits, while the remaining components of net benefit cost will be reported in Pension, OPEB and other, net. This standard is effective for fiscal years beginning after December 15, 2019. However, University management plans to early adopt this standard for Fiscal Year 2018 and estimates that the retrospective impact will result in an increase to Net assets from operations of $45,798,000 for the year ended June 30, 2017.

2. University of Pennsylvania Health System - Summarized Financial and Related Information

The Trustees formed Penn Medicine, the governance structure which oversees the activities of UPHS and the University of Pennsylvania Perelman School of Medicine (PSOM). The governing body operates, oversees and coordinates the academic, research and clinical missions of Penn Medicine.

UPHS is comprised of the following operating entities: Clinical Practices of the University of Pennsylvania; Clinical Care Associates; Hospital of the University of Pennsylvania; Penn Presbyterian Medical Center; Pennsylvania Hospital of the University of Pennsylvania Health System; Chester County Hospital and Health System; Wissahickon Hospice of the University of Pennsylvania Health System; Franklin Casualty Insurance Company, a wholly owned Risk Retention Group; and, Quaker Insurance Company Ltd., a wholly owned offshore captive insurance company, (collectively referred to as RRG/Captive). In August 2015, through a membership substitution, Lancaster General Health (LGH) became a part of UPHS.

Throughout the year, certain transactions (primarily billings for allocations of common costs, physicians' salaries and benefits, certain purchased services and support for PSOM) are conducted between UPHS and the University. Nonoperating, net, as shown below, includes transfers from UPHS to the University of $180,632,000 and $159,055,000 in 2017 and 2016, respectively, to further the research and educational activities of PSOM and $0 and $1,748,000 in 2017 and 2016, respectively, for other activities. In addition, UPHS recognized operating expenses of $19,351,000 and $20,648,000 in 2017 and 2016, respectively, to support academic operating activities in the clinical departments of PSOM.

The effect of all these transactions is included in the following summarized financial information of UPHS as of and for the years ended June 30, 2017 and 2016 (in thousands):

	2017	2016
Net patient service revenue	$ 5,903,582	$ 5,545,187
Provision for bad debt	(193,651)	(218,621)
Net patient service revenue less bad debts	5,709,931	5,326,566
Other revenue	428,721	375,249
Total expenses	(5,783,002)	(5,282,693)
Excess of revenue over expenses from operations	355,650	419,122
Nonoperating, net	306,274	843,161
Increase in net assets	$ 661,924	$ 1,262,283
Total current assets	$ 1,481,230	$ 1,522,213
Assets whose use is limited:		
Held by trustees	116,085	66,596
RRG/ Captive	195,982	177,873
Donor restricted and other	581,629	538,122
Designated	2,303,595	2,009,628
Property and equipment, net	3,309,820	3,082,914
Investments and other assets	962,164	933,134
Total assets	$ 8,950,505	$ 8,330,480
Total current liabilities	$ 876,636	$ 808,518
Long-term debt, net of current portion	1,451,816	1,482,176
Other liabilities	1,938,223	2,017,880
Total liabilities	$ 4,266,675	$ 4,308,574
Net assets		
Unrestricted	$ 4,093,287	$ 3,479,899
Temporarily restricted	406,073	367,159
Permanently restricted	184,470	174,848
Total net assets	$ 4,683,830	$ 4,021,906
Total liabilities and net assets	$ 8,950,505	$ 8,330,480

Net Patient Service Revenue

Net Patient Service Revenue ('NPSR'), net of contractual allowances and discounts, is as follows for the years ended June 30, 2017 and 2016 (in thousands):

	2017	2016
Third Party Payors	$ 5,798,498	$ 5,378,831
Self-Pay	105,084	166,356
Total All Payors	$ 5,903,582	$ 5,545,187

NPSR for the years ended June 30, 2017 and 2016 is derived from the following payors:

	2017	2016
Medicare (including Managed Medicare)	30%	30%
Medicaid (including Managed Medicaid)	12%	11%
Managed Care	32%	29%
Independence Blue Cross (IBC)	20%	23%
Commercial	4%	4%
Self Pay	2%	3%
	100%	100%

UPHS has agreements with the following third-party payors that provide for payments at amounts that differ from its established rates:

Inpatient acute care services and outpatient services rendered to Medicare program beneficiaries are paid at prospectively determined rates. These rates vary according to a patient classification system that is based on clinical, diagnostic, and other factors. Inpatient psychiatric services and medical education costs related to Medicare beneficiaries are paid based on a cost reimbursement methodology. UPHS is reimbursed for cost reimbursable items at a tentative rate with final settlement determined after submission of annual cost reports by each hospital and audits thereof by the Medicare fiscal intermediary.

Inpatient and outpatient services rendered to Medicaid program beneficiaries are paid at prospectively determined rates. Additional amounts are allocated to each hospital for training residents and serving a disproportionate indigent population.

Laws and regulations governing the Medicare and Medicaid programs are extremely complex and subject to interpretation. As a result, there is at least a reasonable possibility that recorded estimates will change by a material amount in the near term.

During 2017, UPHS and IBC reached agreement on terms of a five-year agreement. Payments made for inpatient services provided to IBC traditional and managed care subscribers are effected on a per case rate basis for most services. Payment for outpatient services is principally based upon negotiated fee schedules. Hospital and physician rates also provide for annual inflationary increases. In addition, incentives are paid for high performance with regard to clinical outcomes and patient quality. The agreement continues unless terminated by the parties.

During 2015, UPHS and Aetna reached agreement on terms of a new five-year agreement. The terms of the agreement provide payments for inpatient hospital services on a per case rate basis. Payments for outpatient services continue to be predominantly based upon negotiated fee schedules.

UPHS also has reimbursement agreements with certain commercial insurance carriers, health maintenance organizations and preferred provider organizations. The basis for reimbursement under these agreements includes prospectively determined rates per discharge, discounts from established charges and prospectively determined per diem rates.

Charity Care

UPHS provides services to patients, who meet certain criteria under its charity care policy, without charge or at amounts less than UPHS' established rates. Because UPHS does not pursue collections, such amounts have been excluded from NPSR. UPHS estimates the costs of providing charity care services based on data derived from a combination of UPHS' cost accounting system and the ratio of costs to charges. Of the Total expenses reported above by UPHS, an estimated $16,134,000 and $16,282,000 were incurred as a result of providing services to charity patients for the years ended June 30, 2017 and 2016, respectively.

Provision for Bad Debt

The provision for bad debt is based on management's assessment of expected net collections considering economic conditions, historical experience, trends in health care coverage and other collection indicators. Included in this assessment are patients who do not have health insurance or do not meet the criteria to qualify for UPHS' charity care policy. UPHS pursues collection of these amounts, however certain amounts are deemed to be uncollectible. Periodically throughout the year, management assesses the adequacy of the allowances for uncollectible accounts based upon historical write-off experience by payor category, including not covered by insurance, and history of cash collections. The results of this review are then used to make any modifications to the provision for bad debt to establish an appropriate allowance for uncollectible accounts. No significant modifications were made for Fiscal Years 2017 or 2016. After satisfaction of amounts due from insurance and reasonable efforts to collect from patients have been exhausted, UPHS follows established guidelines for placing certain past-due patient balances with collection agencies, subject to terms of certain restrictions on collection efforts as determined by UPHS. Account receivables are written off after collection efforts have been followed in accordance with UPHS' policy. UPHS' allowances for uncollectible accounts totaled $225,244,000 and $220,700,000 at June 30, 2017 and 2016, respectively.

LGH Membership Substitution

Effective August 1, 2015, UPHS and LGH entered into an affiliation agreement whereby UPHS became the sole corporate member of LGH. LGH operates three hospitals in South Central Pennsylvania, including Lancaster General Hospital, a 533-bed general acute care hospital, Women & Babies Hospital, a 98-bed facility specializing in women's health and maternity services, and Lancaster Rehabilitation Hospital, a 59-bed rehabilitation hospital, as well as 14 outpatient centers, 3 urgent care sites, and a physician practice network with nearly 200 primary care and specialty practices at 40 practice sites.

No consideration was exchanged for the net assets contributed and costs are expensed as incurred. UPHS recorded non-operating contribution income of $1,287,885,000 in fiscal year 2016 reflecting the fair value of the contributed net assets of LGH on August 1, 2015, of which, $11,289,000 and $12,729,000 were recorded in temporarily restricted and permanently restricted net assets, respectively.

Total fair value of assets, liabilities and net assets contributed by LGH and its subsidiaries at August 1, 2015 were as follows (in thousands):

	August 1, 2015
Cash and cash equivalents	$ 97,307
Patients accounts receivable, net	99,793
Prepaid expenses and other current assets	56,839
Assets limited as to use	160,855
Property, plant and equipment, net	702,845
Other assets	866,935
Total assets acquired	$ 1,984,574
Accounts payable and accrued expense	$ 28,668
Accrued compensation and related benefits	269,072
Estimated third-party settlements	12,484
Long-term debt	306,703
Other liabilities	79,762
Total liabilities assumed	$ 696,689
Unrestricted	$ 1,263,867
Temporarily restricted	11,289
Permanently restricted	12,729
Total net assets	$ 1,287,885
Total liabilities and net assets	$ 1,984,574

Definitive Agreement with Princeton HealthCare System

On December 13, 2016, UPHS signed a definitive agreement whereby Princeton Healthcare System ('PHS') will become part of UPHS. PHS is a comprehensive healthcare provider located in central New Jersey that principally includes the University Medical Center of Princeton, a general acute care hospital facility in Plainsboro, New Jersey, with 231 inpatient beds (plus 14 newborn bassinets), and Princeton House Behavioral Health, which includes a 110 bed inpatient facility in Princeton, New Jersey, and four additional outpatient locations. PHS includes approximately 1,200 physicians on staff and employs approximately 3,200 people. In 2016, the PHS had approximately $461 million in revenue. The agreement is contingent upon agreed upon closing conditions, including final approval by state and federal authorities.

No consideration will be exchanged for the net assets to be contributed. UPHS will record non-operating contribution income reflecting the fair value of the contributed net assets of PHS as of the date of the transaction. As of September 29, 2017, the fair value of the contributed net assets of PHS has not been finalized.

A summary of selected data from the audited financial statements of PHS for the years ended December 31, 2016 and 2015 is as follows (in thousands):

	2016	2015
Total operating revenue	$ 460,973	$ 437,331
Total operating expense	462,788	438,067
Operating loss	$ (1,815)	$ (736)
Nonoperating gain	10,992	7,734
Increase in unrestricted net assets	$ 9,177	$ 6,998

A summary of selected balance sheet data from the audited financial statements of PHS at book value is as follows (in thousands):

	December 31, 2016	December 31, 2015
Total assets	$ 748,740	$ 746,847
Total liabilities	429,407	435,533
Total net assets	319,333	311,314

The data presented above is based on historical information and does not reflect the impact, if any, of fair value adjustments, aligning accounting policies or other transaction related costs or impacts.

3. Accounts Receivable

The major components of receivables, net of allowances for doubtful accounts of $17,980,000 and $15,209,000 at June 30, 2017 and 2016, respectively, are as follows (in thousands):

	2017	2016
Sponsored research	$ 137,675	$ 123,735
Malpractice	100,167	91,350
Student	13,193	12,798
Trade	53,272	44,318
Investment income	4,032	3,843
Other	79,873	47,743
Total Accounts receivable	$ 388,212	$ 323,787

Accounts receivable are reported at their net realizable value.

4. Loans Receivable

Loans receivable, and related allowances for doubtful accounts, consist of the following at June 30, 2017 and 2016 (in thousands):

2017

	Receivable	Allowance	Net
Student Loans:			
Federally-sponsored	$ 67,221		$ 67,221
Other	15,847	$ 2,936	12,911
Total Student loans	$ 83,068	$ 2,936	$ 80,132
Other	11,136	231	10,905
Total	$ 94,204	$ 3,167	$ 91,037

2016

	Receivable	Allowance	Net
Student Loans:			
Federally-sponsored	$ 72,836		$ 72,836
Other	17,612	$ 3,803	13,809
Total Student loans	$ 90,448	$ 3,803	$ 86,645
Other	11,247	229	11,018
Total	$ 101,695	$ 4,032	$ 97,663

Loans receivable primarily consists of student loans. Student loans include federally-sponsored student loans and donor-restricted student loans with mandated interest rates and repayment terms. The federally-sponsored student loans represent amounts due from current and former students under various Federal Government funded loan programs, including Perkins and other health professional programs offered to graduate and undergraduate students. Loans disbursed under these programs are able to be assigned to the Federal Government upon default by the borrower, and therefore, no related allowance is considered necessary. Funding received under these programs is ultimately refundable to the Federal Government in the event the University no longer participates and accordingly is reported as a liability in Federal student loan advances in the Consolidated Statements of Financial Position. Determination of the fair value of student loans receivable is not practicable.

Loans receivable are reported at their net realizable value. The University regularly assesses the adequacy of the allowances for credit losses of its loans by performing ongoing evaluations, including such factors as aging, differing economic risks associated with each loan category, financial condition of specific borrowers, economic environment in which the borrowers operate, level of delinquent loans, value of collateral and existence of guarantees or indemnifications.

5. Contributions Receivable

A summary of contributions receivable at June 30, 2017 and 2016, is as follows (in thousands):

	2017	2016
Unconditional promises expected to be collected in:		
Less than one year	$ 108,885	$ 118,920
One year to five years	144,626	134,532
Over five years	36,588	38,853
	290,099	292,305
Less: Discount	(17,187)	(16,107)
Less: Allowances for doubtful amounts	(31,560)	(33,349)
Total Contributions receivable, net	$ 241,352	$ 242,849

At June 30, 2017 and 2016, the University has outstanding unrecorded conditional promises to give, including non-legally binding bequests, of $303,926,000 and $300,919,000, respectively. When they become unconditional promises to give or are received in cash, they will be recorded and generally will be restricted for operations, endowment and capital projects as stipulated by the donors.

6. Investments, at Fair Value

A summary of investments, including the AIF, measured at fair value in accordance with the *Fair Value Measurements* standard, as of June 30, 2017 and June 30, 2016 is as follows (in thousands):

Assets	Level 1	Level 2	Level 3	Investments at NAV	2017
Short-term	$ 983,371				$ 983,371
Equity:					
US equities	772,121	$ 31		$ 952,865	1,725,017
International equities	462,289			1,052,689	1,514,978
Emerging market equities	128,217			971,792	1,100,009
Total Equity	1,362,627	31		2,977,346	4,340,004
Debt:					
US treasuries	1,292,532	44,756			1,337,288
Corporate bonds	1,615	159,760		105,049	266,424
High yield				142	142
Total Debt	1,294,147	204,516		105,191	1,603,854
Split-interest agreements	74,469		$ 396,029		470,498
Absolute return				2,912,273	2,912,273
Real estate		60		696,563	696,623
Private equity			10,814	2,197,350	2,208,164
Natural resources	237,864	4,036		514,778	756,678
Derivative instruments	2,399	251			2,650
Other			2,513		2,513
Total assets	$ 3,954,877	$ 208,894	$ 409,356	$ 9,403,501	$ 13,976,628

Assets	Level 1	Level 2	Level 3	Investments at NAV	2016
Short-term	$ 761,129				$ 761,129
Equity:					
US equities	885,134			$ 870,155	1,755,289
International equities	371,481			784,298	1,155,779
Emerging market equities	105,645			829,904	935,549
Total Equity	1,362,260			2,484,357	3,846,617
Debt:					
US treasuries	1,112,101	$ 64,229			1,176,330
Corporate bonds	1,614	181,937		103,860	287,411
High yield				439	439
Total Debt	1,113,715	246,166		104,299	1,464,180
Split-interest agreements	71,722		$ 400,045		471,767
Absolute return				2,834,622	2,834,622
Real estate		1,090		668,095	669,185
Private equity			8,697	1,570,942	1,579,639
Natural resources	297,708			331,702	629,410
Derivative instruments		2,555			2,555
Other			2,539		2,539
Total assets	$ 3,606,534	$ 249,811	$ 411,281	$ 7,994,017	$ 12,261,643

Included in Short-term investments is $19,440,000 and $59,386,000 of amounts held by trustees under indenture and escrow agreements at June 30, 2017 and 2016, respectively.

At June 30, 2017 and 2016, Short-term investments include $59,705,000 and $39,905,000, respectively, of outstanding receivables from trading activities. At June 30, 2017 and 2016, Short-term investments include $44,196,000 and $145,893,000, respectively, of outstanding payables from trading activities.

As of June 30, 2017 and 2016 there were no transfers between Level 1 and 2.

Liabilities related to equity short positions of $197,681,000 and $94,462,000 at June 30, 2017 and 2016, respectively, are reported in Accrued expenses and other liabilities on the Consolidated Statements of Financial Position. These liabilities are valued using observable market data and are categorized as Level 1 based on quoted market prices in active markets.

The University has made investments in various long-lived partnerships and, in other cases, has entered into contractual agreements that may limit its ability to initiate redemptions due to notice periods, lock-ups and gates. The University has also made commitments to various limited partnerships. The University expects these funds to be called over the next 5 years. The total amount of unfunded commitments is $2,868,015,000 which represents 26.2% of the AIF value as of June 30, 2017.

Details on the fair value, remaining estimated life, outstanding commitments, current redemption terms and restrictions by strategy and type of investment are provided below (in thousands):

Strategy	Fair Value June 30, 2017	Fair Value June 30, 2016	Remaining Life	Outstanding Commitments	Redemption Terms	Redemption Restrictions
Short-term	$ 983,371	$ 761,129	N/A	$ -	Daily	None
Equity						
Managed accounts	870,645	891,040	N/A	-	Daily, monthly and semi-annually with varying notice periods	None
Mutual funds	364,519	307,379	N/A	-	Daily	None
Exchange traded funds	-	48,462	N/A	-	Daily	None
Commingled funds	859,416	690,916	N/A	57,000	Weekly to annually with varying notice periods	Lock-up provisions ranging from 0 to 5 years
Partnerships	2,245,424	1,908,820	N/A	121,450	Monthly to annually with varying notice periods	Lock-up provisions ranging from 0 to 5 years. Excludes $13 million of sidepocket investments.
Total Equity	4,340,004	3,846,617		178,450		
Debt						
Managed accounts	1,498,663	1,358,267	N/A	-	Daily	None
Partnership	105,191	105,913	N/A	-	Daily to annually with varying notice periods	$142,000 of side pocket investments
Total Debt	1,603,854	1,464,180				
Absolute return	2,912,273	2,834,622	N/A	356,642	Monthly to annually with varying notice periods. Excludes 16 limited partnerships with no redemptions permitted. Distributions received as underlying investments are liquidated.	Lock-up provisions ranging from 0 to 5 years with some earlier redemptions permitted subject to redemption fee. Excludes $300 million in 16 limited partnerships with no redemptions permitted and $163 million of side pocket investments.
Real estate	696,623	669,185	1 to 14 years	673,191	Redemptions not permitted. Distributions received as underlying investments are liquidated. Excludes 1 fund with quarterly liquidity on 90 day notice period.	N/A
Private equity	2,208,164	1,579,639	1 to 15 years	1,495,187	Redemptions not permitted. Distributions received as underlying investments are liquidated.	N/A
Natural resources						
Managed account	202,763	260,352	N/A	-	Daily	None
Commingled fund	39,137	37,356	N/A	-	Daily	None
Partnerships	514,778	331,702	1 to 14 years	164,545	Redemptions not permitted. Distributions received as underlying investments are liquidated.	N/A
Total Natural resources	756,678	629,410		164,545		
Totals	$ 13,500,967	$ 11,784,782		$ 2,868,015		

Included in Level 1 Split-interest agreement investments above are readily marketable assets invested by the University separately from the AIF where the University serves as trustee with an aggregate fair value of $74,469,000 and $71,722,000 at June 30, 2017 and 2016, respectively. Level 3 Split-interest agreement investments are managed and invested outside of the University by external trustees.

Invested in the AIF with an aggregate fair value of $155,291,000 and $141,294,000 at June 30, 2017 and 2016, respectively, is a perpetual trust managed by an external trustee who has delegated investment decisions to the University. The University invests the assets of this trust in accordance with its Endowment Policy.

Included in Split-interest agreements are amounts held to meet legally mandated annuity reserves of $28,532,000 and $29,815,000 as of June 30, 2017 and 2016, respectively, as required by the laws of the following states where certain individual donors reside: California, New Jersey and New York.

A summary of Level 3 assets included in Split-interest agreements, where the University is not trustee, measured at fair value, as of June 30, 2017 and 2016 is as follows (in thousands):

	2017	2016
Charitable remainder trusts	$ 15,991	$ 11,113
Charitable lead trusts	92,590	113,449
Perpetual trusts	287,448	275,483
Total	$ 396,029	$ 400,045

Changes to the reported amounts of Split-interest agreements measured at fair value using unobservable (Level 3) inputs as of June 30, 2017 and 2016 are as follows (in thousands):

	Charitable Remainder Trusts	Charitable Lead Trusts	Perpetual Trusts	Total
June 30, 2016	$ 11,113	$ 113,449	$ 275,483	$ 400,045
Net realized gains			516	516
Net unrealized gains	252	338	16,191	16,781
Acquisitions	4,626	1,340	2,229	8,195
Liquidations		(22,537)	(6,971)	(29,508)
June 30, 2017	$ 15,991	$ 92,590	$ 287,448	$ 396,029

	Charitable Remainder Trusts	Charitable Lead Trusts	Perpetual Trusts	Total
June 30, 2015	$ 10,966	$ 129,445	$ 275,971	$ 416,382
Net realized gains			4,486	4,486
Net unrealized gains/ (losses)	289	6,534	(12,269)	(5,446)
Acquisitions			7,296	7,296
Liquidations	(142)	(22,530)	(1)	(22,673)
June 30, 2016	$ 11,113	$ 113,449	$ 275,483	$ 400,045

The following tables set forth the fair value, related gains (losses) and notional amounts of the University's derivative instruments by contract type as of June 30, 2017 and 2016 (in thousands):

2017	Notional Amount	Gross Derivative Assets	Gross Derivative Liabilities	Derivative Losses
Foreign currency contracts	$ 299,533	$ 251	$ 7,976	$ (5,459)
Futures contracts	(348,650)	2,399		(62,062)
Swaps				
Total	$ (49,117)	$ 2,650	$ 7,976	$ (67,521)

2016	Notional Amount	Gross Derivative Assets	Gross Derivative Liabilities	Derivative Gains
Foreign currency contracts	$ 63,747	$ 2,555	$ 637	$ 2,245
Futures contracts	(142,605)		361	21,592
Swaps				2,558
Total	$ (78,858)	$ 2,555	$ 998	$ 26,395

The notional amount is representative of the volume and activity of the respective derivative type during the years ended June 30, 2017 and 2016.

Gross derivatives assets and liabilities are shown in Investments, at fair value and Accrued expenses and other liabilities on the Consolidated Statements of Financial Position, respectively. Derivative gains (losses) are shown in Return on investments, net on the Consolidated Statements of Activities, in the appropriate net asset classification.

A summary of the University's total investment return for the years ended June 30, 2017 and 2016 is presented below (in thousands):

	2017	2016
AIF investment income	$ 80,745	$ 52,748
AIF realized and unrealized gains (losses)	1,294,544	(171,975)
Return on AIF	1,375,289	(119,227)
Other investment gains (losses)	137,256	(7,628)
Total Return on investments	$ 1,512,545	$ (126,855)

7. Endowment

The composition and changes to the amount of the University's endowment at June 30, 2017 are as follows (in thousands):

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Donor-restricted endowment funds		$ 2,641,506	$ 3,640,350	$ 6,281,856
Quasi-endowment funds	$ 5,931,351			5,931,351
June 30, 2017	$ 5,931,351	$ 2,641,506	$ 3,640,350	$ 12,213,207

	Quasi Unrestricted	Donor Restricted Temporarily	Donor Restricted Permanently	Total
Net assets, June 30, 2016	$ 5,161,319	$ 2,143,305	$ 3,410,740	$ 10,715,364
Investment return:				
Investment income, net of expenses	39,871	47,824	149	87,844
Gains, realized and unrealized	707,411	684,311	16,702	1,408,424
Total investment return	747,282	732,135	16,851	1,496,268
New gifts	11,623	29,980	201,970	243,573
Allocation of endowment assets for expenditure	(485,860)			(485,860)
Other investment allocation	(6,559)			(6,559)
Transfers to create board designated funds	245,471			245,471
Other transfers	(8,141)	2,302	10,789	4,950
Released from restriction	266,216	(266,216)		
Net assets, June 30, 2017	$ 5,931,351	$ 2,641,506	$ 3,640,350	$ 12,213,207

The composition and changes to the amount of the University's endowment as of June 30, 2016 are as follows (in thousands):

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Donor-restricted endowment funds		$ 2,143,305	$ 3,410,740	$ 5,554,045
Quasi-endowment funds	$ 5,161,319			5,161,319
June 30, 2016	$ 5,161,319	$ 2,143,305	$ 3,410,740	$ 10,715,364

	Quasi Unrestricted	Donor Restricted Temporarily	Donor Restricted Permanently	Total
Net assets, June 30, 2015	$ 4,412,620	$ 2,442,269	$ 3,278,680	$ 10,133,569
Investment return:				
Investment income, net of expenses	5,568	8,530	295	14,393
Other income				
Losses, realized and unrealized	(77,769)	(93,489)	(12,312)	(183,570)
Total investment return	(72,201)	(84,959)	(12,017)	(169,177)
New gifts	34,573	17,366	124,741	176,680
Allocation of endowment assets for expenditure	(365,366)			(365,366)
Other investment allocation	(5,956)			(5,956)
Transfers to create board designated funds	138,348			138,348
Other transfers	(32,509)	11,119	6,607	(14,783)
LGH membership substitution	806,451	2,869	12,729	822,049
Released from restriction	245,359	(245,359)		
Net assets, June 30, 2016	$ 5,161,319	$ 2,143,305	$ 3,410,740	$ 10,715,364

The fair value of certain permanently restricted endowment funds is less than the original donated value by $81,000 and $6,106,000 as of June 30, 2017 and 2016, respectively, and is reflected as a reduction of Temporarily restricted assets.

8. Property, Plant and Equipment, net

The components of PPE at June 30, 2017 and 2016 are as follows (in thousands):

	Estimated Useful Life in years	2017	2016
Land and land improvements	N/A to 20	$ 366,960	$ 369,758
Buildings and fixed equipment	5 to 50	8,426,732	8,129,199
Moveable equipment and other	4 to 20	1,942,076	2,202,886
Construction-in-progress		590,926	653,532
		11,326,694	11,355,375
Less: Accumulated depreciation		(4,874,388)	(5,152,468)
Property, plant and equipment, net		$ 6,452,306	$ 6,202,907

The University recorded $470,716,000 and $451,227,000 of depreciation expense for the years ended June 30, 2017 and 2016, respectively.

Effective July 1, 2016, the University elected to revise its policy to expense library materials. Previously capitalized library materials were expensed. As a result, library materials amount to $0 and $86,260,000 at June 30, 2017 and 2016, respectively.

The University capitalized $11,272,000 and $12,008,000 of interest costs for the years ended June 30, 2017 and 2016, respectively.

The University has conditional asset retirement obligations of $23,332,000 and $21,646,000 as of June 30, 2017 and 2016, respectively, which primarily relate to asbestos contained in buildings and underground steam distribution piping and are included within Accrued expenses and other liabilities in the Consolidated Statements of Financial Position.

9. Split-Interest Agreements

Changes in the value of assets, liabilities and net assets pursuant to split-interest agreements as of June 30, 2017 and 2016 are as follows (in thousands):

2017	Assets	Liabilities	Net Assets
June 30, 2016	$ 471,768	$ (47,424)	$ 424,344
New contributions	9,647	(2,403)	7,244
Investment income	1,556	(1,470)	86
Realized and unrealized gain, net	22,672		22,672
Payments and settlements	(35,145)	7,081	(28,064)
Actuarial adjustment		(3,295)	(3,295)
Net change	(1,270)	(87)	(1,357)
June 30, 2017	$ 470,498	$ (47,511)	$ 422,987

2016	Assets	Liabilities	Net Assets
June 30, 2015	$ 491,021	$ (44,799)	$ 446,222
New contributions	9,761	(1,756)	8,005
Investment income	1,346	(1,147)	199
Realized and unrealized loss, net	(1,784)		(1,784)
Payments and settlements	(28,576)	7,399	(21,177)
Actuarial adjustment		(7,121)	(7,121)
Net change	(19,253)	(2,625)	(21,878)
June 30, 2016	$ 471,768	$ (47,424)	$ 424,344

10. Medical Professional Liability Claims

The University is insured for medical professional liability claims through the combination of the Medical Care Availability and Reduction of Error Fund (Mcare, formerly, the Medical Professional Liability Catastrophe Loss Fund of the Commonwealth of Pennsylvania -- CAT Fund), various commercial insurance companies and risk retention programs.

Mcare levies health care provider surcharges, as a percentage of the Pennsylvania Joint Underwriters Association rates for basic coverage, to pay claims and pay administrative expenses of Mcare participants. These surcharges are recognized as expenses in the period incurred. Mcare operates on a pay-as-you-go basis and no provision has been made for any future Mcare assessments in the accompanying financial statements, as the University's portion of the unfunded Mcare liability cannot be estimated.

Anticipated insurance recoveries and estimated liabilities for medical malpractice claims or similar contingent liabilities are presented separately on the Consolidated Statement of Financial Position in Accounts receivable, net of allowances and Accrued expenses and other liabilities, respectively. The University accrues for estimated risks arising from both asserted and unasserted medical professional liability claims. The estimate of the gross liability and corresponding receivable for unasserted claims arising from unreported incidents is based on analysis of historical claims data by an independent actuary, which is recorded utilizing a 2.25% to 3.50% discount rate as of June 30, 2017 and 2016. The gross liability recorded under this program is $714,363,000 and $677,538,000 at June 30, 2017 and 2016, respectively, with a corresponding receivable of $100,167,000 and $91,350,000 at June 30, 2017 and 2016, respectively.

11. Contingencies, Guarantees and Commitments

The University offers various loan programs for students and families to pay tuition, fees and other costs. Certain loans issued by private lending institutions are guaranteed by the University totaling $49,410,000 and $64,992,000 at June 30, 2017 and 2016, respectively. Upon default by the borrower, the University is required to pay all or a portion of the outstanding loan balance. The University recognizes a liability for the greater of the fair value of the guarantee or defaults in the portfolio of guaranteed loans. The recognized liability is $3,666,000 and $6,193,000 at June 30, 2017 and 2016, respectively. These recognized liabilities reflect effective default reserve rates of 45.7% and 39.3% at June 30, 2017 and 2016, respectively.

Various lawsuits, claims and other contingent liabilities arise in the ordinary course of the University's education and health care activities. Based upon information currently available, management believes that any liability resulting there-from will not materially affect the financial position or operations of the University.

The University is currently involved in various projects that have resulted in capital and property acquisition commitments from the University. As of June 30, 2017, approximately $344,450,000 has been committed by the University.

12. Pension and Other Postretirement Benefit Costs

Retirement benefits are principally provided to employees through contributory defined contribution plans. The Academic Component's policy with respect to its contribution is to provide up to 9% of eligible employees' salaries, while the UPHS contribution can be up to 6.5%. The University's contributions to these plans amounted to $176,023,000 and $159,857,000 as of June 30, 2017 and 2016, respectively.

The University also has non-contributory defined benefit pension plans. Benefits under the plans generally are based on the employee's years of service and compensation during the years preceding retirement. Contributions to the plans are made in amounts necessary to at least satisfy the minimum required contributions as specified in the Internal Revenue Service Code and related regulations. The Academic Component's plan was frozen to new full-time entrants effective July 1, 2000. UPHS' non-LGH plan was frozen to new entrants effective July 1, 2010; the benefit accruals for all participants of the LGH plan were frozen effective June 30, 2013.

Additionally, the University provides certain healthcare and life insurance benefits (Other Postretirement Employee Benefits or OPEB) for retired employees. Only a limited number of employees may become eligible for such benefits if they reach retirement age while working for the University. These and similar benefits for active and certain retired employees are provided through insurance contracts.

The University uses a measurement date of June 30 for its defined benefit pension and OPEB plans.

Change in Plan Assets/ Obligation and Funded Status

The funded status of the plans is measured as the difference between the plan assets at fair value and the projected benefit obligation (PBO) for Pension Benefits or accumulated postretirement benefit obligation (APBO) for Other Postretirement Benefits. The resulting net liability is recorded in Accrued retirement benefits on the Statements of Financial Position. The following shows changes in the benefit obligation, plan assets and funded status (in thousands):

2017	Pension Benefits	Other Postretirement Benefits	Total
Change in Plan Assets			
Fair value of plan assets, beginning of year	$ 2,082,315	$ 379,925	$ 2,462,240
University contributions	128,454	25,800	154,254
Benefits paid by University		8,899	8,899
Plan participants' contributions	160	7,293	7,453
Benefits paid from fund	(79,043)	(19,918)	(98,961)
Benefits paid outside of fund		(9,609)	(9,609)
Retiree drug subsidy		179	179
Actual return on assets	239,431	52,154	291,585
Fair value of plan assets, end of year	$ 2,371,317	$ 444,723	$ 2,816,040
Change in Benefit Obligation			
Benefit obligation, beginning of year (PBO/APBO)	$ 3,165,114	$ 920,401	$ 4,085,515
Service cost	75,092	32,454	107,546
Interest cost	130,172	35,796	165,968
Plan participants' contributions	160	7,293	7,453
Plan amendments		(1,749)	(1,749)
Retiree drug subsidy		179	179
Net actuarial (gain)/loss	(28,827)	(47,877)	(76,704)
Transfers		(3,285)	(3,285)
Benefits paid from fund	(79,043)	(19,918)	(98,961)
Benefits paid outside of fund		(9,609)	(9,609)
Benefit obligation, end of year (PBO/APBO)	$ 3,262,668	$ 913,685	$ 4,176,353
Funded status, liability at end of year	**$ 891,351**	**$ 468,962**	**$ 1,360,313**
Other retirement programs			88,105
Accrued retirement benefits			$ 1,448,418

2016	Pension Benefits	Other Postretirement Benefits	Total
Change in Plan Assets			
Fair value of plan assets, beginning of year	$ 1,496,199	$ 369,951	$ 1,866,150
University contributions	98,938	26,170	125,108
Benefits paid by University		7,408	7,408
Plan participants' contributions	157	6,348	6,505
Benefits paid from fund	(72,454)	(19,214)	(91,668)
Benefits paid outside of fund		(8,017)	(8,017)
Retiree drug subsidy		166	166
Acquisition	563,617		563,617
Actual return on assets	(4,142)	(2,887)	(7,029)
Fair value of plan assets, end of year	$ 2,082,315	$ 379,925	$ 2,462,240
Change in Benefit Obligation			
Benefit obligation, beginning of year (PBO/APBO)	$ 2,102,127	$ 882,835	$ 2,984,962
Service cost	71,063	30,444	101,507
Interest cost	125,566	38,913	164,479
Plan participants' contributions	157	6,348	6,505
Retiree drug subsidy		166	166
Net actuarial loss/(gain)	167,100	(15,584)	151,516
Net transfers In--Acquisition	771,555	4,510	776,065
Benefits paid from fund	(72,454)	(19,214)	(91,668)
Benefits paid outside of fund		(8,017)	(8,017)
Benefit obligation, end of year (PBO/APBO)	$ 3,165,114	$ 920,401	$ 4,085,515
Funded status, liability at end of year	**$ 1,082,799**	**$ 540,476**	**$ 1,623,275**
Other retirement programs			6,858
Accrued retirement benefits			$ 1,630,133

The Accumulated Benefit Obligation for the Pension Benefits was $2,925,489,000 and $2,839,089,000 at June 30, 2017 and 2016, respectively.

Net Periodic Benefit Cost

The components of net periodic benefit cost for pension benefits and other postretirement benefits are as follows (in thousands):

2017	Pension Benefits	Other Postretirement Benefits	Total
Net Periodic Benefit Cost			
Service cost	$ 75,092	$ 32,454	$ 107,546
Interest cost	130,172	35,796	165,968
Expected return on plan assets	(156,124)	(28,674)	(184,798)
Amortization of:			
Net prior service cost		(121)	(121)
Net losses	53,220	11,529	64,749
Net periodic benefit cost	$ 102,360	$ 50,984	$ 153,344

2016						
Net Periodic Benefit Cost						
Service cost	$	71,063	$	30,444	$	101,507
Interest cost		125,566		38,913		164,479
Expected return on plan assets		(151,147)		(28,190)		(179,337)
Amortization of:						
Net prior service cost				(108)		(108)
Net losses		36,436		11,720		48,156
Net periodic benefit cost	$	81,918	$	52,779	$	134,697

Unrestricted Net Assets

The University recorded the following year-end valuation adjustments to its Pension and Other Postretirement Benefit Plans in Pension, OPEB and Other, net in the Consolidated Statements of Activities (in thousands):

2017		Pension Benefits		Other Postretirement Benefits		Total
Unrestricted Net Assets						
Net actuarial loss	$	738,829	$	177,325	$	916,154
Net prior service cost				(3,469)		(3,469)
Total	$	738,829	$	173,856	$	912,685
Adjustment to unrestricted net assets (gain)/loss	$	(165,352)	$	(84,517)	$	(249,869)

2016						
Unrestricted Net Assets						
Net actuarial loss	$	904,181	$	261,456	$	1,165,637
Net prior service cost				(1,702)		(1,702)
Total	$	904,181	$	259,754	$	1,163,935
Adjustment to unrestricted net assets (gain)/loss	$	285,950	$	3,882	$	289,832

The estimated amount that will be amortized from Unrestricted Net Assets into net periodic benefit cost in 2018 is as follows (in thousands):

		Pension Benefits		Other Postretirement Benefits
Amortization of prior service credit	$	-	$	(323)
Amortization of net losses		40,078		5,972

Actuarial Assumptions

The expected long-term rate of return on plan assets is management's best estimate of the average investment return expected to be received on the assets invested in the plan over the benefit period. The expected long-term rate of return on plan assets has been established by considering historical and future expected returns of the asset classes invested in by the pension trust, and the allocation strategy currently in place among those classes.

	Pension Benefits		Other Postretirement Benefits	
Weighted-Average Assumptions Used to Determine Benefit Obligations at Year End	**2017**	**2016**	**2017**	**2016**
Discount rate	4.19%	4.17%	4.00%	3.95%
Salary increase	2.91%	3.94%	N/A	N/A
Weighted-Average Assumptions Used to Determine Net Periodic Benefit Cost				
Discount rate	4.23%	4.53%	3.95%	4.45%
Expected long-term return on plan assets	7.52%	7.50%	7.50%	7.50%
Salary increase	3.82%	3.94%	N/A	N/A
Assumed Health Care Cost Trend Rates				
Initial trend rate	N/A	N/A	6.54%	5.51%
Ultimate trend rate	N/A	N/A	4.70%	4.70%
Fiscal year end that ultimate trend rate is reached	N/A	N/A	2037	2023

Assumed health care cost trend rates have a significant effect on the amounts reported for the Other postretirement benefits. A one-percentage-point change in assumed health care trend rates would have the following effects on Other postretirement benefits (in thousands):

	1-Percentage Point Increase	1-Percentage Point Decrease
2017		
Effect on total of service and interest cost	$ 14,607	$ (10,999)
Effect on APBO	170,709	(133,252)

Plan Assets

The principal investment objectives for the pension and other postretirement benefits plans are to ensure the availability of funds to pay pension benefits as they become due under a broad range of future economic scenarios, to maximize long-term investment returns with an acceptable level of risk based on the pension obligations, and to invest the pension trust in a diversified manner.

The University's Office of Investments is responsible for the day-to-day management of the investments of the pension and other postretirement benefits. The investments are made in accordance with policies set out by the Investment Board which has been appointed by the Trustees. The pension and other postretirement benefit investments are similar in nature to those investments discussed in Notes 1 and 6 – Investments, at Fair Value. However, the actual allocations to specific investments within each asset class may vary due to certain restrictions imposed by investment managers and ERISA regulations.

A summary of plan assets, measured at fair value, as of June 30, 2017 and 2016, is as follows (in thousands):

Pension Benefits:

Assets	Level 1	Level 2	Level 3	Investments at NAV	2017
Short-term	$ 121,646				$ 121,646
Equity:					
US equities	284,518			$ 178,754	463,272
International equities	125,750			239,604	365,354
Emerging market equities	45,327			132,157	177,484
Debt:					
US treasuries	241,530	$ 8,577			250,107
Corporate bonds		67,783		154,745	222,528
Absolute return				457,776	457,776
Real estate				43,298	43,298
Private equity				97,601	97,601
Natural resources	92,926	1,353		77,935	172,214
Derivative instruments:					
Forward currency contracts		68			68
Total assets	$ 911,697	$ 77,781	$ -	$ 1,381,870	$ 2,371,348

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2017
Derivative instruments		$ 31			$ 31
Total liabilities	$ -	$ 31	$ -	$ -	$ 31

Assets	Level 1	Level 2	Level 3	Investments at NAV	2016
Short-term	$ 124,576				$ 124,576
Equity:					
US equities	262,763			$ 133,428	396,191
International equities	101,543			214,627	316,170
Emerging market equities	38,354			108,440	146,794
Debt:					
US treasuries	170,169	$ 15,495			185,664
Corporate bonds		76,153		155,004	231,157
Absolute return				432,563	432,563
Real estate				26,415	26,415
Private equity				57,854	57,854
Natural resources	106,154			59,000	165,154
Derivative instruments:					
Forward currency contracts		8			8
Total assets	$ 803,559	$ 91,656	$ -	$ 1,187,331	$ 2,082,546

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2016
Derivative instruments		$ 231			$ 231
Total liabilities	$ -	$ 231	$ -	$ -	$ 231

Other Postretirement Benefits:

Assets	Level 1	Level 2	Level 3	Investments at NAV	2017
Short-term	$ 36,651				$ 36,651
Equity:					
US equities	15,751			$ 57,364	73,115
International equities	7,189			76,747	83,936
Emerging market equities	13,647			32,985	46,632
Debt:					
US treasuries	18,977				18,977
Corporate bonds		$ 372		10,071	10,443
Absolute return				114,904	114,904
Real estate				8,732	8,732
Private equity				16,853	16,853
Natural resources	29,617	587		4,263	34,467
Derivative instruments:					
Forward currency contracts		24			24
Total	$ 121,832	$ 983	$ -	$ 321,919	$ 444,734

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2017
Derivative instruments		$ 11			$ 11
Total	$ -	$ 11	$ -	$ -	$ 11

Assets	Level 1	Level 2	Level 3	Investments at NAV	2016
Short-term	$ 25,412				$ 25,412
Equity:					
US equities	13,783			$ 40,185	53,968
International equities	6,157			66,952	73,109
Emerging market equities	11,466			27,328	38,794
Debt:					
US treasuries	26,436				26,436
Corporate bonds		$ 623		10,207	10,830
Absolute return				98,905	98,905
Real estate				3,653	3,653
Private equity				14,544	14,544
Natural resources	33,249			1,101	34,350
Derivative instruments:					
Forward currency contracts		3			3
Total	$ 116,503	$ 626	$ -	$ 262,875	$ 380,004

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2016
Derivative instruments		$ 79			$ 79
Total	$ -	$ 79	$ -	$ -	$ 79

As of June 30, 2017, the University has unfunded commitments to limited partnerships totaling $310,651,000, which are expected to be called over the next 5 years.

Transfers between leveled assets are based on the actual date of the event which caused the transfer. As of June 30, 2017 and 2016 there were no transfers between Level 1 and 2.

	Pension Benefits			Other Postretirement Benefits		
Allocation of Plan Assets	**Target**	**2017**	**2016**	**Target**	**2017**	**2016**
Short-term	0.0%	5.1%	6.0%	0.0%	8.2%	6.7%
Equity:						
US equities	15.9%	19.5%	19.0%	13.0%	16.4%	14.2%
International equities	16.7%	15.4%	15.2%	19.0%	18.9%	19.2%
Emerging markets equities	7.4%	7.5%	7.0%	10.0%	10.5%	10.2%
Debt:						
US treasuries	21.3%	10.6%	8.9%	10.0%	4.3%	7.0%
Corporate bonds	0.0%	9.4%	11.1%	0.0%	2.3%	2.9%
Absolute return	23.0%	19.3%	20.8%	29.0%	25.8%	26.0%
Real estate	2.1%	1.8%	1.3%	3.0%	2.0%	1.0%
Private equity	4.6%	4.1%	2.8%	5.0%	3.8%	3.8%
Natural resources	9.0%	7.3%	7.9%	11.0%	7.8%	9.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Cash Flows & Estimated Future Benefit Payments (in thousands):

University contributions for the year ending:	**Pension Benefits**	**Other Postretirement Benefits**
June 30, 2016	$ 98,938	$ 26,170
June 30, 2017	128,454	25,800
June 30, 2018	105,060	22,866
Benefits paid from outside of the fund for the year ending:		
June 30, 2016	N/A	$ 8,017
June 30, 2017	N/A	9,609
June 30, 2018	N/A	9,083
Plan participants' contributions for the year ending:		
June 30, 2016	$ 157	$ 6,348
June 30, 2017	160	7,293
June 30, 2018	165	7,128

Benefits Payments in Total (in thousands):

Actual benefit payments for the year ending:	**Pension Benefits**	**Other Postretirement Benefits before Medicare Part D Subsidy**	**Medicare Part D Subsidy**
June 30, 2016	$ 72,454	$ 27,231	$ 166
June 30, 2017	79,043	29,527	179
Expected benefit payments for the year ending (Unaudited):			
June 30, 2018	$ 92,411	$ 25,423	$ 213
June 30, 2019	99,773	27,378	224
June 30, 2020	108,161	29,505	234
June 30, 2021	117,411	31,751	242
June 30, 2022	126,852	33,801	249
June 30, 2023 to June 30, 2027	783,486	199,903	1,333

13. Debt Obligations

Debt obligations at June 30, 2017 and 2016 are as follows (in thousands):

	Final Maturity	Effective Interest Rate at June 30, 2017	2017	2016
Academic Component:				
Fixed rate debt obligations:				
The Trustees of the University of Pennsylvania Series 2012 Taxable Bonds	09/2112	4.67%	$ 300,000	$ 300,000
Pennsylvania Higher Educational Facilities Authority (PHEFA)				
Series A of 2017 revenue bonds	08/2046	2.26% - 3.72%	178,395	
Series A of 2016 revenue bonds	08/2041	0.61% - 2.93%	169,635	169,635
Series A of 2015 revenue bonds	10/2045	0.64% - 2.99%	200,985	205,670
Series B of 2015 revenue bonds	10/2038	0.64% - 3.38%	163,795	165,150
Series C of 2015 revenue bonds	10/2035	3.68%	8,020	8,020
Series A of 2011 revenue bonds	09/2021	2.92% - 3.68%	11,125	14,495
Series of 2010 revenue bonds	09/2033	3.99% - 4.15%	16,935	16,935
Series B of 2009 revenue bonds	09/2020	3.30% - 3.99%	8,570	10,575
Series C of 2009 revenue bonds	09/2019	3.30% - 3.70%	11,635	15,105
Other loans	05/2031	1.00% - 3.00%	914	736
Variable rate debt obligations:				
PHEFA Series of 1990 revenue bonds	12/2020	1.10%	6,500	6,500
Washington County Authority Series of 2004	07/2034	0.85%	53,400	55,500
Total Academic Component outstanding bonds payable			1,129,909	968,321
Unamortized original issue premiums/discounts and cost of issuance, net			78,304	67,743
Total Academic Component debt obligations			$ 1,208,213	$ 1,036,064
UPHS:				
Fixed rate debt obligations:				
Lancaster County Hospital Authority (LCHA)				
Series A of 2016 revenue bonds	08/2042	0.66% - 3.25%	$ 168,585	$ 173,310
Series B of 2016 revenue bonds	08/2046	1.43% - 3.22%	128,050	128,050
PHEFA				
Series C of 2016 revenue bonds	08/2041	0.50% - 3.08%	129,290	
Series A of 2015 revenue bonds	08/2045	0.77% - 4.00%	324,855	357,565
Series A of 2012 revenue bonds	08/2042	1.66% - 4.08%	136,950	136,950
Series A of 2011 revenue bonds	08/2042	4.95% - 5.88%		123,400
Series A of 2009 revenue bonds	08/2021	4.00% - 4.91%	43,110	43,515
Series B of 2008 revenue bonds	08/2037	5.65% - 6.00%	52,000	52,000
Lancaster General Hospital 2015 Taxable Note	08/2022	2.66%	75,211	77,553
Build to suit lease, net of related interest	Various	N/A	123,013	123,070
Mortgages, notes and capital leases	Various	Various	23,443	25,021
Variable rate debt obligations:				
LCHA Series A of 2012 revenue bonds	08/2041	1.58%	23,375	23,925
PHEFA Series A of 2014 revenue bonds	08/2045	0.89%	100,000	100,000
PHEFA Series A of 2008 revenue bonds	08/2037	1.09%	69,995	69,995
Total UPHS outstanding bonds payable			1,397,877	1,434,354
Unamortized original issue premiums/discounts and cost of issuance, net			96,860	90,036
Total UPHS debt obligations			1,494,737	1,524,390
Total University debt obligations			$ 2,702,950	$ 2,560,454

Contractual maturities of debt obligations and build-to-suit lease payments are as follows (in thousands):

	Academic Component	UPHS			University
Fiscal Year	Bond and Other Loan Obligations	Bond and Other Loan Obligations	Build-to-Suit Lease Payments	Total	Total
2018	$ 13,176	$ 42,349	$ 10,496	$ 52,845	$ 66,021
2019	19,458	91,548	10,742	102,290	121,748
2020	16,540	41,261	10,992	52,253	68,793
2021	27,490	43,218	11,249	54,467	81,957
2022	18,356	50,656	11,512	62,168	80,524
Thereafter	1,034,889	1,005,832	157,415	1,163,247	2,198,136
Total Principal	1,129,909	1,274,864	212,406	1,487,270	2,617,179
Unamortized net premium/discounts and cost of issuance, net	78,304	96,860		96,860	175,164
Build-to-suit lease related interest			(89,393)	(89,393)	(89,393)
Total debt obligation	$ 1,208,213	$ 1,371,724	$ 123,013 (a)	$ 1,494,737	$ 2,702,950

(a) Present value of future lease payments

The University has letters of credit with various financial institutions to secure certain self-insured liabilities in the amount of $8,081,000 and $21,925,000 at June 30, 2017 and 2016, respectively. These letters of credit have evergreen provisions for automatic renewal. There have been no draws under these letters of credit.

Academic Component

On January 19, 2017, Pennsylvania Higher Educational Facilities Authority (PHEFA) issued Series A of 2017 revenue bonds (PHEFA 2017A bonds) with an aggregate principal amount of $178,395,000. The proceeds were used to fund or reimburse the University for the cost of various capital projects. Interest on the PHEFA 2017A bonds is fixed with coupons ranging between 4.00% to 5.00%.

On April 28, 2016, PHEFA issued Series A of 2016 refunding revenue bonds (PHEFA 2016A bonds) with an aggregate principal amount of $169,635,000. The proceeds were used to fund an escrow which will be used to refund $7,600,000 from the PHEFA Series B of 2009 revenue bonds, $33,110,000 from PHEFA Series of 2010 revenue bonds and $117,310,000 from PHEFA Series A of 2011 revenue bonds. The refunded bonds were legally defeased, and as such, are no longer included among the University's reported liabilities. Interest on the PHEFA 2016A bonds is fixed with coupons ranging between 2.25% and 5.25%.

As a result of the legal defeasance of debt associated with the issuance of PHEFA 2016A bonds, the University reported a loss on early extinguishment of debt in Pension, OPEB and other, net on the Consolidated Statements of Activities in the amount of $24,556,000 for the year ended June 30, 2016.

The University has variable rate debt in the amount of $59,900,000 which is subject to optional tender by the holders upon seven days' notice. These bonds are reflected in the table above based on original scheduled maturities. In the event that the University receives notice of any optional tender on its variable rate demand bonds, the purchase price will be repaid from the remarketing of the bonds. However, in the event that the entire remarketing effort were to fail, the University would have the general obligation to purchase the bonds.

On June 14, 2016, the University entered into a five year agreement with a financial institution, whereby the institution has agreed to provide a line of credit in the amount of $100,000,000 for general purposes of the University. The University pays a fee annually on the unused amount of the line of credit. As of June 30, 2017, there have been no draws under the agreement.

UPHS

The Lancaster County Hospital Authority (LCHA) Revenue Bonds and PHEFA Revenue Bonds are secured by master notes issued under the UPHS Master Trust Indenture (MTI). The MTI and related agreements contain certain restrictive covenants which limit the issuance of additional indebtedness, and among other things, require UPHS to meet an annual debt service coverage requirement of "income available for debt service" (excess of revenue over expenses plus depreciation, amortization, interest expense and extraordinary items) at an amount equal to 110% of the annual debt service requirements. If the coverage requirement for a particular year is not met, within six months of the close of that fiscal year, UPHS must retain the services of a consultant to make recommendations to improve the coverage requirement. UPHS must also implement the recommendations of the consultant to the extent that they can be feasibly implemented. UPHS will not be considered to be in default of the provisions of the MTI so long as UPHS has sufficient cash flow to pay total operating expenses and debt service for the fiscal year. In both 2017 and 2016, UPHS met its debt service coverage requirement under the MTI. Additionally, UPHS has pledged its gross revenues to secure its obligation under the MTI.

On August 25, 2016, PHEFA issued Series C of 2016 Health System refunding revenue bonds (PHEFA UPHS 2016C bonds) with an aggregate principal amount of $129,290,000. The proceeds were used to fund an escrow which will be used to refund $123,400,000 from PHEFA UPHS Series A of 2011 bonds. The refunded PHEFA UPHS Series A of 2011 bonds were legally defeased, and as such, are no longer included among UPHS's reported liabilities. Interest on the PHEFA UPHS 2016C bonds is fixed with coupons ranging between 2.00% to 5.00%.

As a result of the legal defeasance of debt associated with the issuance of PHEFA UPHS 2016C bonds, UPHS reported a loss on early extinguishment of debt in Pension, OPEB and other, net on the Consolidated Statements of Activities in the amount of $27,947,000 for the year ended June 30, 2017.

On April 7, 2016, LCHA issued Series A of 2016 Health System revenue bonds (LCHA UPHS 2016A bonds) with an aggregate principal amount of $173,310,000. The proceeds were used to fund an escrow which will be used to refund $33,450,000 from LCHA Lancaster General Hospital (LGH) Series A of 2007 bonds and $82,510,000 from LCHA LGH Series B of 2012 bonds. In addition to the refunding, the bonds provided $65,890,000 proceeds used to fund or reimburse UPHS for the cost of various capital projects. The refunded LCHA LGH Series A of 2007 and LCHA LGH Series B of 2012 bonds were legally defeased, and as such, are no longer included among UPHS's reported liabilities. Interest on the LCHA UPHS 2016A bonds is fixed with coupons ranging between 3.00% to 5.00%.

On April 7, 2016, LCHA issued Series B of 2016 Health System revenue bonds (LCHA UPHS 2016B bonds) with an aggregate principal amount of $128,050,000. The proceeds were used to fund an escrow which will be used to refund $30,465,000 from PHEFA UPHS Series A of 2009 bonds and $26,600,000 from PHEFA UPHS Series A of 2011 bonds. In addition to the refunding, the bonds provided $81,110,000 proceeds used to fund or reimburse UPHS for the cost of various capital projects. The refunded PHEFA UPHS Series A of 2009 and PHEFA UPHS Series A of 2011 bonds were legally defeased, and as such, are no longer included among UPHS's reported liabilities. Interest on the LCHA UPHS 2016B bonds is fixed with coupons ranging from 4.00% to 5.00%.

As a result of the legal defeasance of debt associated with the issuance of LCHA UPHS 2016A and 2016B bonds, UPHS reported a loss on early extinguishment of debt in Pension, OPEB and other, net on the Consolidated Statements of Activities in the amount of $22,366,000 for the year ended June 30, 2016.

UPHS has variable rate debt in the amount of $69,995,000 which is subject to optional tender by the holders upon seven days' notice. These bonds are reflected in the debt obligations maturity table above based on original scheduled maturities. In the event that UPHS receives notice of any optional tender on its variable rate demand bonds, the purchase price will be repaid from the remarketing of the bonds. However, in the event that the entire remarketing effort were to fail, UPHS has in place a renewable direct pay letter of credit issued by Bank of America with an expiration date of April

15, 2018. In the event that the letter of credit cannot be drawn upon, UPHS would have the general obligation to purchase the bonds.

On April 13, 2016, UPHS entered into a three year agreement with a financial institution, whereby the institution has agreed to provide a line of credit in the amount of $100,000,000 for general purposes of UPHS. UPHS pays a fee annually on the unused amount of the line of credit. As of June 30, 2017, there have been no draws under the agreement.

Interest Rate Swap Agreements

The University enters into interest rate swap agreements to synthetically modify the interest rate terms of its long term debt portfolio. These agreements are not entered into for trading or speculative purposes. Fair value of these agreements is determined by obtaining quotes from Goldman Sachs Mitsui Marine Derivative Products, L.P. (GSMMDP) and Merrill Lynch, respectively, which are based on the income approach, using observable market data to discount future net payment streams and accordingly considers this to be a Level 2 measurement. The quotes provided also represent the amount the University would accept or be required to pay to transfer the agreement to GSMMDP and Merrill Lynch, respectively, or exit price as defined by the Fair Value Measurements standard. The University also takes into account the risk of nonperformance.

The following table summarizes the terms of the University's interest rate swap agreements (in thousands):

	Academic Component	UPHS			
Notional Amounts	$ 101,950	$ 23,375	$ 69,995	$ 24,800	$ 24,800
Trade Date	11/6/2007	6/28/2006	10/24/2007	7/15/2009	1/7/2010
Maturity Date	7/1/2034	7/1/2041	1/1/2038	8/15/2023	8/15/2023
Rates:					
Receive	67% of 1-Month LIBOR	70% of 1-month LIBOR	67% of 1-Month LIBOR	3.184%	2.902%
Pay	3.573%	3.980%	3.755%	SIFMA index	SIFMA index

The following tables summarize the fair value of the interest rate swap agreements, not designated as hedging instruments, as of June 30, 2017 and 2016, and the related gains and (losses) on the interest rate swap agreements, both realized and unrealized, for the years ended June 30, 2017 and 2016 (in thousands):

Consolidated Statements of Position	Line Item	2017	2016
Asset interest rate swaps			
UPHS	Other assets	$ 2,635	$ 4,844
Total Asset interest rate swaps		$ 2,635	$ 4,844
Liability interest rate swaps			
Academic Component	Accrued expenses and other liabilities	$ 21,929	$ 31,491
UPHS	Accrued expenses and other liabilities	7,524	12,694
Total Liability interest rate swaps		$ 29,453	$ 44,185

Consolidated Statements of Activities	Line Item	2017	2016
Academic Component	Return on investments, net	$ 6,424	$ (11,986)
UPHS	Return on investments, net	(767)	673
Total		$ 5,657	$ (11,313)

14. Net Assets

The major components of net assets at June 30, 2017 and 2016 are as follows (in thousands):

2017	Unrestricted	Temporarily restricted	Permanently restricted	Total
General operating	$ 3,482,264	$ 267,246		$ 3,749,510
Sponsored programs	42,749			42,749
Capital		84,411		84,411
Student loans	10,174	1,291	$ 17,152	28,617
Planned giving agreements		113,599	15,340	128,939
Endowment	5,931,351	2,641,506	3,640,350	12,213,207
Total	$ 9,466,538	$ 3,108,053	$ 3,672,842	$ 16,247,433

2016	Unrestricted	Temporarily restricted	Permanently restricted	Total
General operating	$ 3,226,035	$ 264,047		$ 3,490,082
Sponsored programs	49,838			49,838
Capital		86,959		86,959
Student loans	10,277		$ 16,933	27,210
Planned giving agreements		135,418	7,718	143,136
Endowment	5,161,319	2,143,305	3,410,740	10,715,364
Total	$ 8,447,469	$ 2,629,729	$ 3,435,391	$ 14,512,589

15. Operating Leases

The University leases research labs, office space and equipment under operating leases expiring through December 2037. Rental expense for the years ended June 30, 2017 and 2016 totaling $99,417,000 and $93,903,000, respectively, is included in the accompanying Consolidated Statements of Activities.

At June 30, 2017, future minimum lease payments under existing operating leases were as follows (in thousands):

2018	$ 87,429
2019	70,506
2020	63,157
2021	55,978
2022	49,070
Thereafter	341,301
Total Minimum lease payments	$ 667,441

16. Functional Classification of Expenditures

Expenses for the years ended June 30, 2017 and 2016 are categorized on a functional basis as follows (in thousands):

	2017					2016
	Compensation and benefits	Depreciation and amortization	Interest on indebtedness	Other operating expense	Total	Total
Instruction	$ 860,218	$ 62,800	$ 4,613	$ 412,755	$ 1,340,386	$ 1,253,965
Research	417,924	41,467	21,551	321,347	802,289	746,560
Hospital and physician practices	3,303,965	277,961	48,337	2,137,650	5,767,913	5,269,391
Auxiliary enterprises	35,550	32,265	4,120	88,930	160,865	141,315
Other educational activities	132,497	14,511	750	37,046	184,804	196,844
Student services	55,849	-	145	43,067	99,061	86,629
Academic support	39,395	16,407	321	124,235	180,358	81,013
Management and general	233,063	20,182	405	35,297	288,947	294,230
Independent operations	7,785	5,500	179	58,642	72,106	70,040
Total	$ 5,086,246	$ 471,093	$ 80,421	$ 3,258,969	$ 8,896,729	$ 8,139,987

Operation and maintenance of PPE and depreciation are allocated to functional classifications based on square footage. Interest expense is allocated to the functional classifications of the activity that directly benefited from the proceeds of the debt.

17. Subsequent Events

The University has evaluated subsequent events for the period from June 30, 2017 through September 29, 2017, the date the consolidated financial statements were issued.