

Duke UNIVERSITY

Financial Statements
2016/2017







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The cover of this report features the new Duke Student Wellness Center, which opened in January 2017, consolidating all student wellness resources and services into one location.

Letter from The Executive Vice President

Fiscal 2017 was exceptional across all major financial fronts for Duke University, including strong investment returns, record levels of philanthropic support, significant capital investments, growth in sponsored research, and positive operating results for both the University and Duke University Health System.

Consolidated net assets increased \$1.4 billion to a record high of \$13.4 billion, largely reflecting the returns on our investment portfolios. Fiscal 2017 marked the end of the extraordinary leadership of President Richard Brodhead and the conclusion of the *Duke Forward* campaign, the largest fundraising initiative in Duke's history, raising \$3.85 billion. Fiscal 2017 was also the highest annual giving year in Duke's history, with \$581 million of support provided by alumni and friends of the University.

Duke continued its commitment to capital investment, with significant progress made this year on athletic facilities, student housing, a new student wellness center and an arts center. This trend will continue over the next several years, as the administration focuses on enhancements to undergraduate student housing, investments in the sciences, and expansion at our major hospitals to meet patient needs.

Faculty in the School of Medicine and the Pratt School of Engineering drove continued growth of the Duke's now \$1.2 billion dollar research

enterprise in fiscal 2017. Increased support from the National Institutes of Health was primarily driven by the Duke Clinical Research Institute, which remains the world's largest academic clinical research organization.

Both the University and DUHS ended the year with positive operating results. This is the second consecutive year of positive margins for the University, with increased support from our endowment and invested balances. DUHS once again delivered strong financial results in fiscal 2017, ending the year with an almost \$250 million positive operating margin, largely attributable to increases in patient volumes.

Duke's financial success reflects the dedication and commitment of our staff, faculty and students, as well as the continued loyalty of the many alumni and friends of Duke. I extend my sincere appreciation for everything they do for our University.



Tallman Trask III
Executive Vice President



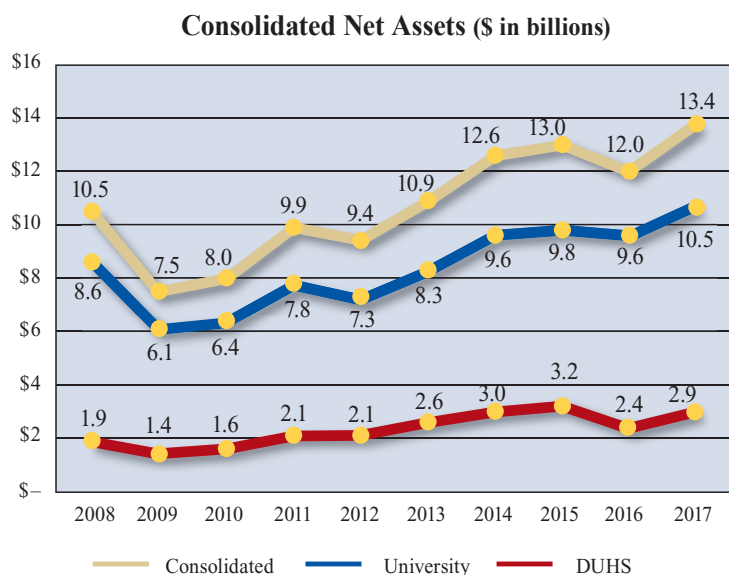
The Richard H. Brodhead Center for Campus Life

Discussion of Financial Results for Fiscal Year 2017

The Discussion of Financial Results (the Discussion) includes highly summarized data and should, therefore, be read in conjunction with the accompanying consolidated financial statements, notes, and supplementary schedules. All figures presented within the Discussion are consolidated and inclusive of Duke University (the “University”) and Duke University Health System, Inc. (DUHS) and collectively referred to herein as Duke, unless specifically designated otherwise.

Net Assets

Duke’s consolidated net asset base increased \$1.4 billion in fiscal 2017 to \$13.4 billion as of June 30, 2017. The increase reflects a 12.7% return on the University’s Long-Term Pool (LTP) investments and a 12.1% return on DUHS’ Health System Pool (HSP) investments, a record level of philanthropic support from alumni and other donors in the final year of the *Duke Forward* campaign, and positive operating results from both the University and DUHS. Over the past ten (10) years, despite the significant decline in fiscal 2009, consolidated net assets have grown at a compound annual growth rate of 3%.



The following table summarizes the major components of net assets activity in fiscal 2017 and 2016:

Summary of Changes in Consolidated Net Assets (in millions)

	2017	2016
Operating results – University	\$ 133	\$ 55
Less: Operating support from DUHS	(102)	(98)
Operating results – DUHS	249	278
Nonoperating results:		
Investment return, net of spending	815	(775)
Restricted contributions, net of amounts released from restrictions	165	151
Nonperiodic changes in defined benefit plans	130	(514)
Gains (losses) on interests in perpetual trusts held by others	33	(52)
Other	14	(56)
Total increase (decrease) in consolidated net assets	1,437	(1,011)
Total consolidated net assets	\$ 13,423	\$ 11,986

The operating results of the University and DUHS are detailed independently later in the Discussion. Nonoperating activities of Duke resulted in a net increase of \$1.2 billion to the consolidated net asset base in fiscal 2017 (compared to a net decline of \$1.2 billion in fiscal 2016) and include:

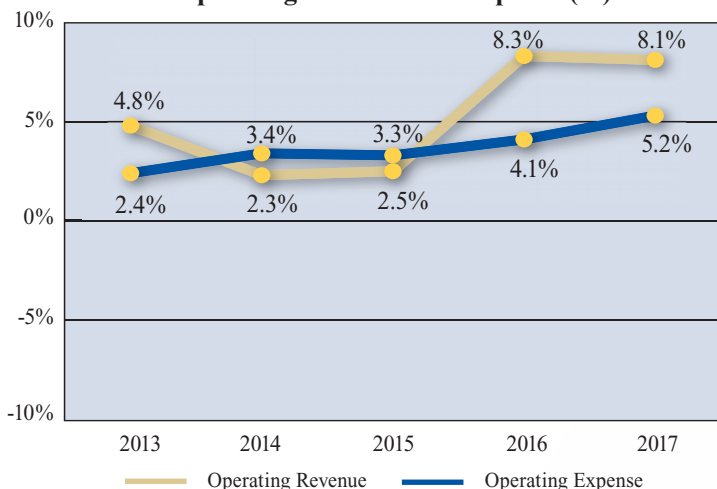
- Total investment returns of the LTP and HSP of \$1.2 billion and negative \$381 million for fiscal 2017 and 2016, respectively, less amounts distributed to support operations of \$406 million and \$394 million for fiscal 2017 and 2016, respectively. Duke’s investment programs and related outcomes are described in more detail within the “Investments/Endowments” segment of this Discussion.
- Restricted contributions primarily received for endowment and capital projects (\$165 million). Restricted contributions are reported net of amounts released from restrictions of \$73 million and \$57 million for fiscal 2017 and 2016, respectively.
- Nonperiodic changes in defined benefit plans (\$130 million increase), reflecting positive investment returns on plan assets, as well as current year increases in the discount rates used to determine the valuations of Duke’s obligations related to the defined benefit pension and postretirement healthcare plans.
- Gains from the University’s interests in perpetual trusts held by others, primarily The Duke Endowment (\$33 million).

University Operating Performance

The operating results of the University are presented in the supplemental Statements of Activities (Schedule 2 on page 40) following the notes to the consolidated financial statements. University operating activities for fiscal 2017 primarily include all revenues and expenses that support education and research efforts, and are discussed in more detail in their respective segments of this Discussion.

The fiscal 2017 operating results of the University improved \$78 million compared to fiscal 2016, reflecting an 8.1% increase in operating revenues partially offset by a 5.2% increase in operating expenses.

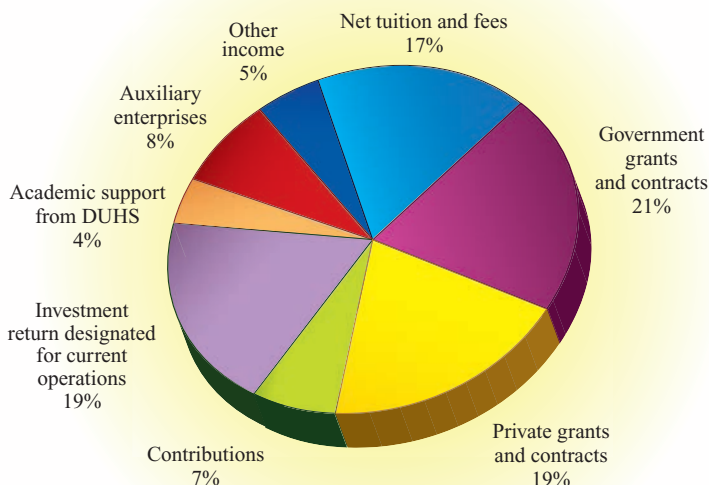
Year-to-Year Change in University Operating Revenue and Expense (%)



The fiscal 2017 and 2016 operating revenue increases shown above primarily reflect incremental investment support discussed in the Investments/Endowments section of this discussion. The administration anticipates future growth patterns comparable to the fiscal 2015 and 2014 rates shown.

Total operating revenues for the University increased \$212 million to \$2.83 billion in fiscal 2017. The University's major revenue components are summarized below:

FY 2017 University Operating Revenues by Source – \$2.83 billion



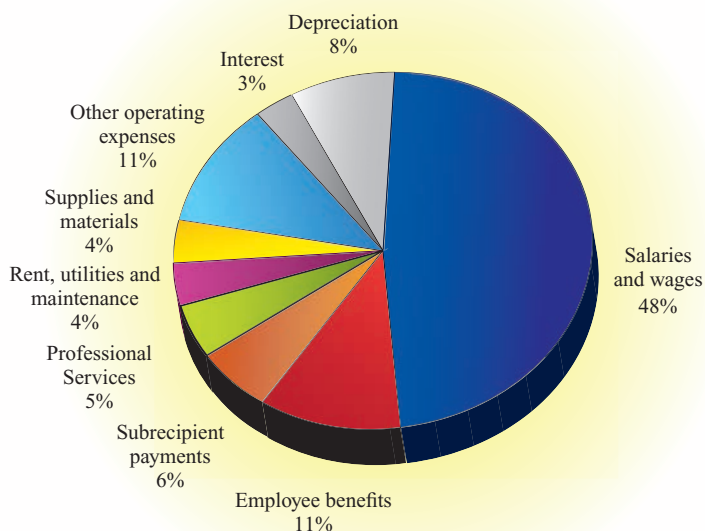
➤ Grants and contracts revenue, which increased approximately 6% in fiscal 2017, represents the largest component of University revenue (40%), and is covered in detail within the “Sponsored Programs” segment of this Discussion.

➤ Net tuition and fees reflect gross tuition and fees net of student financial aid provided by the University. Gross tuition and fees (\$771 million) increased \$38 million, or 5%, over the prior year, reflecting modest rate increases and enrollment growth in certain programs. Student financial aid (\$295 million) increased \$15 million, or 5%, in fiscal 2017, reflecting the administration's continued commitment to need-blind admission for undergraduates and strong financial support for graduate and professional students.

➤ Investment return designated for current operations, consisting of endowment spending distributions, returns on other invested funds, and distributions from The Duke Endowment, increased \$67 million in fiscal 2017 and totaled \$534 million. The changes in each component are covered in more detail within the “Investments/Endowments” segment of this Discussion.

Operating expenses for the University increased \$134 million to \$2.70 billion in fiscal 2017. The major components of University operating expenses are summarized below:

FY 2017 University Operating Expenses – \$2.70 billion



➤ Salaries and wages totaled \$1.3 billion in fiscal 2017, an \$81 million or 7% increase compared to fiscal 2016. This increase primarily reflects fiscal 2017 merit-based salary increases for faculty and staff.

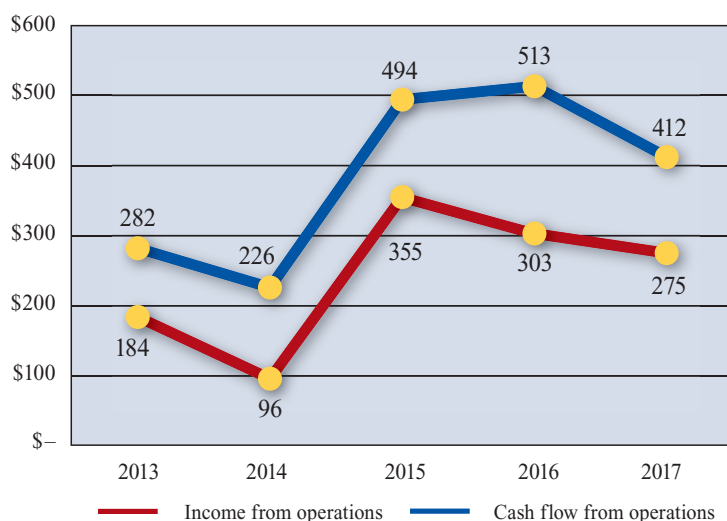
➤ Depreciation expense of \$213 million represented 8% of total operating expenses in fiscal 2017, and an increase of \$13 million compared to the prior year. Fiscal 2017 capital activity is covered in detail within the “Capital Spending and Debt” segment of this Discussion.

➤ Other operating expenses represented 11% of University operating expenses in fiscal 2017 and include various nonlabor expenses, most notably travel expenses, royalties and public relations expenses.

DUHS Operating Performance

As detailed in Note 1 to the consolidated financial statements, DUHS operates as a controlled affiliate of the University, and manages all of Duke's clinical health operations and facilities. The financial results and financial position of DUHS are consolidated into the financial statements of Duke under financial statement presentation requirements governing colleges and universities. This differs from financial statement presentation requirements governing health care organizations and used by DUHS in their separately issued financial statements. The fiscal 2017 net operating income of \$275 million reported in DUHS' separately-issued consolidated statement of operations represents a decline of \$28 million compared to fiscal 2016.

DUHS Operating Income and Cash Flow (\$ in millions)¹



Total DUHS operating revenue for fiscal 2017 increased \$204 million, or 6% over the prior year. The increase in revenue was primarily driven by volume growth. Inpatient discharges and average daily census increased 4% and 5%, respectively. Surgical procedures (inpatient and outpatient combined) increased 3%, and outpatient visits, excluding surgical procedures, increased 5% over the prior year.

DUHS operating expenses increased \$232 million, or 8%, in fiscal 2017 compared to the prior year. The most significant increases were primarily in labor costs which increased \$141 million, or 10%, and medical supplies which increased \$60 million, or 8%. The increase in labor costs is attributed to a 6% increase in the number of full-time equivalents (FTEs), as well as a 4% increase in the salary per FTE. The increase in FTEs, including a higher utilization of temporary FTEs, is partly attributed to an increased nursing staff as DUHS made available an additional 41 beds during fiscal 2017 to meet increased inpatient volume demands. In addition to volume

demands causing increased staffing costs, DUHS has worked to hire new nurses to fill permanent positions. This results in an increase in overall salary expense as new nurses do not assume a full patient load while going through orientation and preceptorship. The medical supplies increase is due to increased utilization.

DUHS continues to provide care to patients who meet certain criteria under its financial assistance policies without charge or at amounts less than its established rates. Because DUHS does not pursue collection of amounts determined to qualify as charity care, they are not reported as revenue or included in patient accounts receivable. In fiscal 2017, DUHS provided charity care with an estimated cost of \$97 million, an increase of \$15 million compared to fiscal 2016. Total community benefit as defined by and reported to the Internal Revenue Service was \$283 million in fiscal 2017, and combined with an additional \$226 million of community investments, DUHS provided \$509 million of benefit to the community. This is an increase of 14.6% from \$444 million in fiscal 2016, due primarily to the increases in charity care and unreimbursed Medicaid and Medicare.

DUHS operating margins and positive cash flows from operating activities over the last ten (10) years, combined with returns on its invested reserves, allowed DUHS to make transfers to the University in support of the School of Medicine and other University functions of \$1.3 billion during this time period. These transfers included a \$510 million transfer of cash and investments to the School of Medicine on July 1, 2016, and was comprised of the following two (2) components: (1) \$310 million to replenish a \$280 million quasi-endowment fund established in June 2006, intended to provide predictable annual support to the School of Medicine from fiscal 2017 through fiscal 2026 and (2) \$200 million to establish a new quasi-endowment fund that will provide support beyond July 1, 2026. DUHS continued its history of providing annual operating support for University-based medical faculty research and education with net transfers totaling \$102 million to the School of Medicine in fiscal 2017, also included in the \$1.3 billion above total.

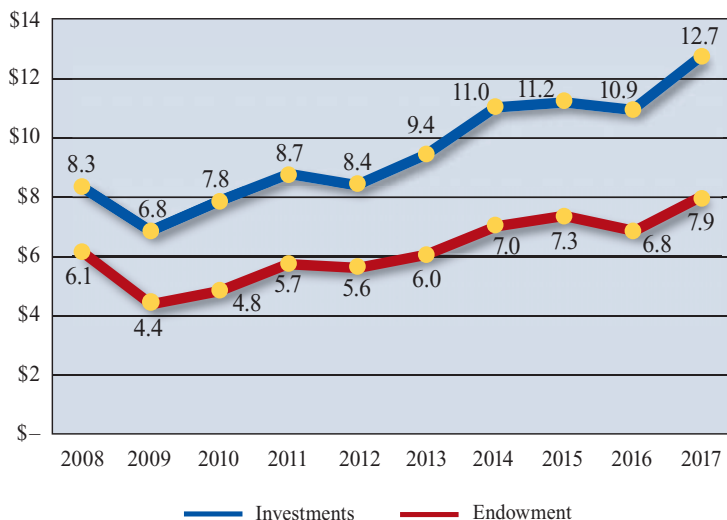
¹ Certain components of nonoperating activities in the DUHS consolidated statement of operations and statements of cash flows are reclassified as operating items in Duke's consolidated statements of activities and statements of cash flows in order to conform to financial statement presentation generally followed by colleges and universities. Interest payments related to derivative swaps (\$15 million) represents the primary component reclassified in fiscal 2017. Duke's consolidated statements of activities and cash flows include \$249 million of income and \$419 million of implied cash flows, respectively, from operations related to DUHS for fiscal 2017.

Investments/Endowments

Responsibility for managing Duke's investment portfolio rests with DUMAC, Inc. (DUMAC), a separate nonprofit support corporation organized and controlled by Duke. DUMAC invests Duke's assets across domestic and international asset groups, principally through investment advisory firms and partnerships. Growth of the investment and endowment base is a critical factor in maintaining Duke's financial strength and flexibility to meet current needs and fund future initiatives.

Duke's investment portfolio primarily consists of debt, equity, and other investments within the LTP and the HSP. Duke's investments have grown significantly over the last ten (10) years and total approximately \$12.7 billion as of June 30, 2017. Duke's endowment (including interests in perpetual trusts held by others), representing \$7.9 billion of this total, support the current and future operations of the schools, academic departments, libraries and other facilities, and student financial aid.

Growth of Investments and Endowment
(June 30 values, \$ in billions)



DUHS accounts for \$3.6 billion of Duke's cash and investment portfolio which primarily represents unrestricted working capital, reinvested operating surpluses, and associated appreciation.

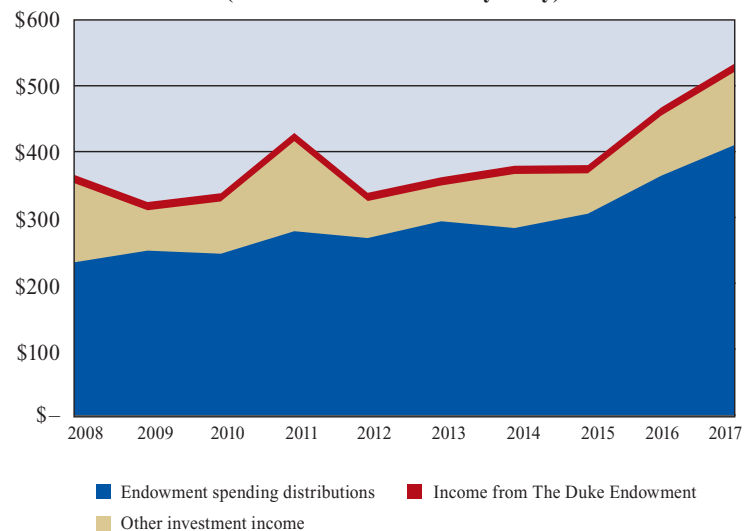
For fiscal 2017, the LTP, in which 98% of the endowment (excluding perpetual trusts) is invested, returned 12.7%. DUMAC seeks to achieve an annualized real rate of return of at least 5.0%, net of fees, to fund the LTP spending rate and to allow growth of the endowment after considering the effects of inflation. The total return on the HSP, a more liquid fund managed for DUHS, was 12.1% in 2017.

Fiscal Year Investment Returns

	2013	2014	2015	2016	2017
LTP	13.5%	20.1%	4.4%	-2.6%	12.7%
HSP	13.1%	19.7%	3.0%	-3.3%	12.1%

As Duke's investment base, including the endowment, has grown over the last ten (10) years, investment related support has become a larger contributor to the current operations of the University. Investment returns supporting operations, which include endowment spending, withdrawals from quasi-endowments, distributions from The Duke Endowment, and income from invested working capital, grew from \$365 million in fiscal 2008 to \$534 million in fiscal 2017.

Investment Return Supporting Current Operations
(\$ in millions – University Only)



To balance current and future needs, the University employs investment and spending policies designed to provide an appropriate flow of income to the operating budget while preserving the future purchasing power of the endowment assets in perpetuity. The LTP spending rate is set by the administration and approved by the Board of Trustees. For fiscal 2017, rather than increasing the spending rate, the Board approved holding the spending rates flat while releasing a one-time supplementary distribution equal to 3% from all non-financial aid endowments. The effective spending rates for fiscal 2017 – based on June 30, 2016 investment market values – were 5.9% for financial aid endowments and 4.6% for non-financial aid endowments. The HSP is not subject to the University's spending policies.

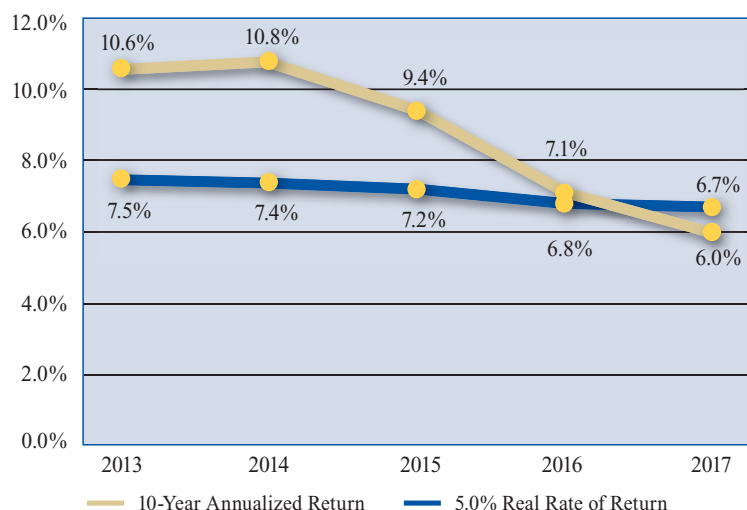
In addition, the Board authorizes the use of supplemental endowment distributions from quasi-endowments for special academic development initiatives and to support the operations and maintenance of certain facilities. These supplemental distributions have grown from \$67 million in fiscal 2008 to \$160 million in fiscal 2017, due largely to two quasi-endowment funds established by transfers from DUHS to the School of Medicine to provide annual academic support through 2026. In addition, the Board approved a \$250 million liquidation from central unrestricted quasi-endowments to occur over six years beginning in fiscal 2016. The University withdrew \$50 million of the \$250 million in fiscal 2017.

Other investment income is another major component of investment returns supporting current operations (\$111 million in fiscal 2017). This income can vary significantly based on market returns and, as a result, has generated as much as \$137 million of income in fiscal 2011 and as low as \$54 million in fiscal 2013. Such support is generated

through the corporate cash management strategies of Duke and is released under protocols approved by the Board of Trustees.

As planned, other investment income increased \$20 million compared to fiscal 2016, and primarily represents the fiscal 2017 liquidation of invested working capital.

LTP Ten Year Annualized Investment Returns (%)



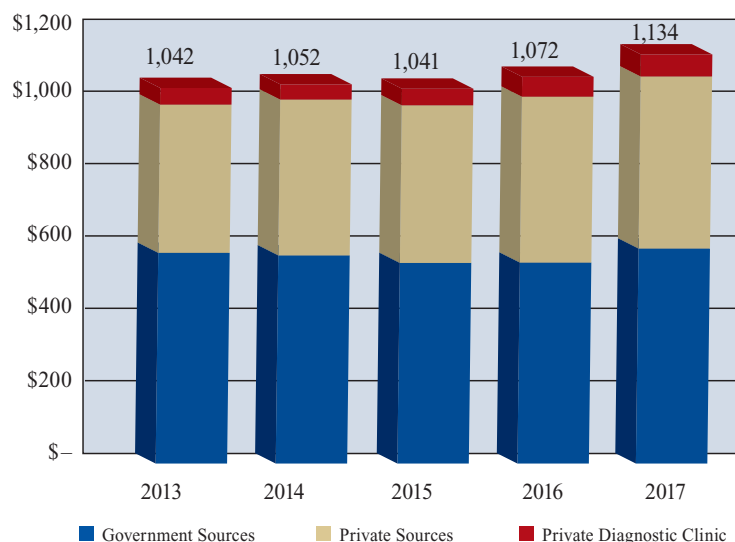
The graph above reflects a rolling ten-year average of investment returns, and reflects the reality that the University has distributed slightly more from our invested funds than LTP returns have provided during this ten-year period, primarily due to a 24.3% market value decline experienced in fiscal 2009. Absent that unusually negative annual return and the best annual return during this period (24.5% in fiscal 2011), the LTP ten-year annualized investment return was 8.6% as of 2017.

Sponsored Programs

The University conducts research in a collaborative interdisciplinary environment among its schools. The School of Medicine is one of the largest biomedical research enterprises in the country with programs focused on the causes, prevention, and treatment of human disease. Campus-based schools under the Provost continue to increase their research activity, primarily within Arts and Sciences, the Pratt School of Engineering, the Sanford School of Public Policy, and the Nicholas School of the Environment.

The United States government is the largest source of grant and contract funding for the University, with 39% of this support from the Department of Health and Human Services, Duke's cognizant agency. Since 2008, the University's government grant and contract funding has grown 11%, reflecting the success of our faculty in pursuing support for their research.

Total Grants, Contracts and Similar Agreements (\$ in millions)



Fiscal 2017 government sourced revenue was \$596 million, a \$39 million, or 7%, increase compared to fiscal 2016. The most notable increase was from the Department of Health and Human Services for projects within Duke Clinical Research Institute (DCRI).

In addition to government sourced grants and contracts, Duke also received \$477 million of research support from private sources in fiscal 2017, an increase of \$17 million, or 4%, compared to fiscal 2016. This revenue consists primarily of industry and private awards in support of clinical research. DCRI remains the world's largest academic clinical research organization, generating 45% of Duke's grant and contract revenue from private sources.

Philanthropy

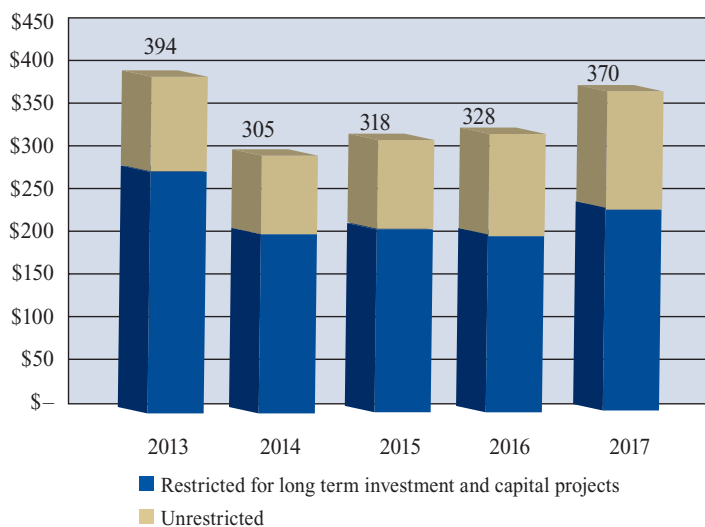
Contributions revenue reported within the consolidated financial statements is calculated based on generally accepted accounting principles (GAAP). This differs from philanthropic support reported by Duke according to the guidelines established by the Council for Advancement and Support of Education (CASE). CASE guidelines represent the philanthropy reporting standard for colleges and universities, and is based on cash collections.

The generosity of alumni and friends in fiscal 2017 helped Duke remain at the forefront of academics, research, and patient care. Under CASE guidelines, philanthropic cash receipts totaled \$581 million in fiscal 2017, the highest annual giving year in Duke history.

Fiscal 2013 was Duke's highest year for philanthropic support on a GAAP-basis (\$394 million), with the public announcement of *Duke Forward*, a comprehensive fundraising campaign, and several individually significant pledges. In fiscal 2017, Duke recorded \$370 million in contributions revenue, including pledges, a \$42 million, or 13% increase from fiscal 2016.

The *Duke Forward* campaign concluded on June 30, 2017, and surpassed its original \$3.25 billion goal by raising \$3.85 billion. Record giving by more than 315,000 donors and foundations will provide long-term funding for a range of University-wide initiatives and programs.

Contributions (GAAP-basis, \$ in millions)



For details on the goals and priorities of the campaign and more news on major gifts, visit <http://dukeforward.duke.edu>.

A reconciliation of the CASE and GAAP totals is provided below (in millions):

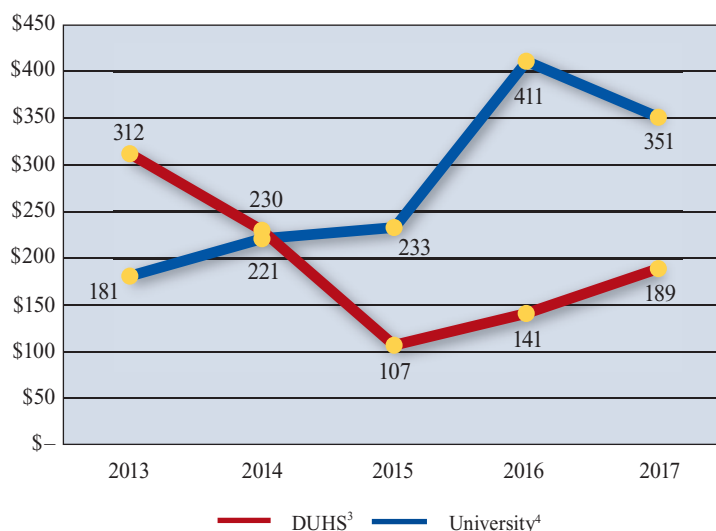
Cash gifts per CASE (cash basis)	\$ 581
Amounts included in grants and similar agreements (gifts per CASE)	(161)
Grants and gifts from The Duke Endowment (gifts per CASE)	(13)
Net fiscal 2017 change in pledges ²	(37)
Total consolidated contributions per GAAP statements	<u>\$ 370</u>

Additional information on GAAP reporting of contributions revenue and contributions receivable is provided in Notes 2 and 4 of the consolidated financial statements, respectively.

Capital Spending and Debt

Over the last decade, the University and DUHS have made significant investments in land, buildings, and equipment. The University invested more than \$1.8 billion over the last five years, impacting in excess of one million square feet of new or renovated living, teaching, and research space. DUHS, while owned and controlled by the University, operates under a different business model and has different budgetary considerations. DUHS has increased its net investment in property and equipment by almost \$1.0 billion over the last five years.

Capital Spending (\$ in millions)



Capital spending by the University in fiscal 2017 totaled \$351 million, a 15% decline over fiscal 2016.

Major capital activity in 2017 for the University included the acquisition of an apartment building located adjacent to Central Campus, significant progress on the construction of the Medical Sciences Research Building III, Duke Arts Center, East Campus Residence Hall, and a new Softball Complex, as well as completion of the Student Wellness Center. A multi-year project to renovate Wallace Wade Stadium was also essentially completed.

- The apartment building located adjacent to Duke's Central Campus will serve as swing space during the renovation of Crowell residence hall and provide options for university use as plans for renovations and additions to Duke's current housing facilities proceed.
- The Medical Sciences Research Building III, scheduled for completion in the summer of 2018, will provide much needed wet lab space as well as space for the relocation of labs that are currently in outdated research facilities.
- The East Campus Residence Hall, scheduled for completion in December 2017, will provide 80,000 square feet of living space, including 250 new beds, and allow for the replacement of three aging East Campus dormitories.
- The Softball Complex, located on East Campus and scheduled for completion in late summer 2017, will provide a new softball stadium with press boxes, batting cages, offices, and seating for up to 500 fans.
- The Student Wellness Center, completed in January 2017, consolidated student health, counseling, psychology, nutrition, and wellness services within one facility on West Campus.
- The final stages of the Wallace Wade Stadium renovation will be complete for the start of the 2017 football season and features construction of Blue Devil Tower, a new press and amenities tower, as well as modernization of the bowl and concourse, including new ticket booths, concessions, bathrooms, improved seating, and accessibility options for fans with disabilities.

² Includes changes to previously reported multi-year pledges, pledges receivable due to new multi-year commitments, and other fiscal 2017 adjustments.

³ DUHS capital spend amounts shown as reported in the separately issued DUHS consolidated financial statements.

⁴ Fiscal 2017 capital spend amount includes a \$50 million purchase of an apartment building to support undergraduate housing.

The University's capital plan calls for \$1.2 billion of additional spending over the next five (5) years, including continued focus on undergraduate student housing, as well as investments in the sciences.

DUHS paused from an expansion level of capital spending in fiscal 2015 through 2017, but plans to spend approximately \$1.7 billion over the next five (5) years in order to meet strategic capital and maintenance needs. The fiscal 2018 to 2022 capital plan includes the following key strategic projects: (1) a new Duke University Hospital inpatient bed tower to allow full utilization of its licensed bed capacity to better serve patients, as well as clinicians and staff; (2) a new Duke Raleigh Hospital inpatient bed tower and operating room (OR) modernization project that enables Duke Raleigh Hospital to operate its licensed beds as single occupancy rooms, as well as expand OR and perioperative services for growth of key clinical services; (3) a new Duke Regional Hospital addition that consolidates behavioral health services for Durham County on the hospital campus in an efficient and modern new facility and the renovation and expansion of the existing emergency department; and (4) ambulatory projects adding new or expanded sites enabling DUHS to reach new communities and meet growing demand.

Both the University and DUHS have issued various forms of debt as a primary source of capital project funding. Formal comprehensive debt policies provide guidelines for the use of long-term financing, commercial paper, and derivative transactions (in the form of interest rate and other swaps) in order to optimize the debt portfolios. Effective and responsible debt portfolio management enables the University and DUHS to execute their strategic plans for facilities while preserving working capital. The University and DUHS hold ratings of Aa1 and Aa2 with Moody's and AA+ and AA with Standard & Poor's, respectively.

In fiscal 2017, the University's incremental debt increased \$265 million primarily due to the issuance of Series 2016A and B bonds. The proceeds were used to refinance existing debt as well as to fund ongoing fiscal 2017 capital projects.

In fiscal 2017, DUHS' incremental debt increased \$582 million primarily due to the issuance of 2017 taxable bonds. The proceeds will be used to finance various capital additions and improvements at its healthcare facilities and pay certain expenses of issuing the bonds.

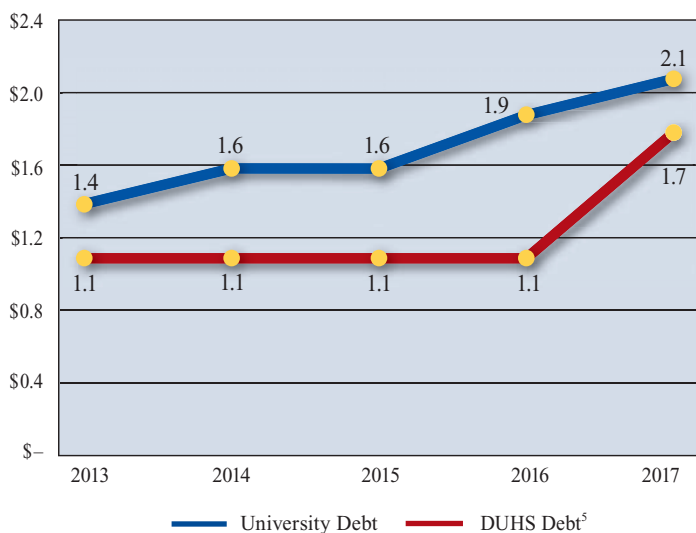
Looking Ahead

In fiscal 2018, the administration's focus will remain on operating effectively and efficiently in order to protect and advance Duke's current financial health and commitment to our most important priorities. These include:

- Significant investment in the sciences as a component of the new academic strategic plan.
- Continued focus on the affordability of a Duke education, and supporting the University's ongoing commitment to need-blind admissions for undergraduates.
- Completion of ongoing capital projects, including the new Medical Sciences Research Building III and the new Arts Building, as well as construction of new undergraduate student residence halls and renovation of existing residences.
- Continued focus on the evolving approach to population health models and the healthcare reimbursement environment including the health insurance exchange market, value-based reimbursement, and Medicare and Medicaid changes, all further complicated by the extended period of uncertainty in national healthcare policy.
- Planning and execution of strategic capital projects to facilitate future clinical growth plans, including new inpatient bed towers at Duke University Hospital and Duke Raleigh Hospital, a new behavioral health center on the Duke Regional Hospital campus, and numerous planned projects in support of ambulatory and outpatient facilities.

The administration will continue to proactively address financial and other challenges by operating with a strong sense of fiscal responsibility and prudent decision making, while directing Duke's resources to areas of highest priority and need.

Outstanding Debt (\$ in billions)



⁵ Excludes a \$125 million capital lease for Duke Regional Hospital.

Statistical Highlights

(dollars in thousands)	2017	2016	2015	2014	2013
Students:					
Undergraduate	6,388	6,379	6,401	6,390	6,393
Graduate and professional	8,132	8,135	8,100	7,927	7,860
Total fall enrollment	14,520	14,514	14,501	14,317	14,253
Degrees conferred:					
Baccalaureate	1,848	1,823	1,843	1,831	1,801
Masters	2,578	2,561	2,412	2,477	2,346
Doctorate	885	872	774	781	829
Total degrees conferred	5,311	5,256	5,029	5,089	4,976
Research:					
Grants, contracts and similar agreements:					
Federal government sources	\$ 552,831	\$ 504,715	\$ 501,471	\$ 522,953	\$ 521,455
Other government sources	\$ 47,960	\$ 53,030	\$ 56,645	\$ 54,834	\$ 63,496
Other	\$ 608,287	\$ 571,600	\$ 538,693	\$ 520,089	\$ 505,795
Total grants, contracts and similar agreements	\$ 1,209,078	\$ 1,129,345	\$ 1,096,809	\$ 1,097,876	\$ 1,090,746
Patient Care:					
Discharges	68,483	66,085	64,222	62,733	60,685
Patient days	410,620	390,561	384,584	371,650	354,631
Surgical and endoscopy cases	92,185	90,809	88,729	85,248	86,703
Outpatient visits	2,173,687	2,080,315	1,965,264	1,841,458	1,798,743
Emergency room visits	187,234	186,209	179,549	170,461	170,696
Endowment:					
Market value of endowment	\$ 7,911,175	\$ 6,839,780	\$ 7,296,545	\$ 7,036,776	\$ 6,040,973
Endowment funds per full-time equivalent student	\$ 544,847	\$ 471,254	\$ 503,175	\$ 491,498	\$ 423,839
Financial aid spending rate	5.9%	5.4%	5.2%	5.9%	6.3%
Non-financial aid spending rate	4.6%	4.1%	4.1%	4.4%	4.8%
Total LTP rate of return	12.7%	(2.6%)	4.4%	20.1%	13.5%
Faculty and Staff:					
Tenured and tenure track	1,670	1,714	1,740	1,784	1,768
Non-tenure track	1,855	1,713	1,650	1,556	1,481
Total regular rank faculty	3,525	3,427	3,390	3,340	3,249
Staff	47,455	45,898	44,900	44,833	43,907
Total employees	50,980	49,325	48,290	48,173	47,156



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Independent Auditors' Report

The Board of Trustees of Duke University:

We have audited the accompanying consolidated financial statements of Duke University, which comprise the consolidated balance sheets as of June 30, 2017 and 2016, and the related consolidated statements of activities and cash flows for the years then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with U.S. generally accepted accounting principles; 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 these 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 the auditors' 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, the auditor considers internal control relevant to the entity'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 entity'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 Duke University as of June 30, 2017 and 2016, and the changes in its net assets and its cash flows for the years then ended in accordance with U.S. generally accepted accounting principles.



Other Matter - Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The supplementary information included in schedules 1 through 3 is presented for the purposes of additional analysis and is not a required part of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the consolidated financial statements as a whole.

KPMG LLP

October 10, 2017



Blue Devil weathervane located on Von der Heyden Pavilion

Consolidated Balance Sheets

JUNE 30, 2017 AND 2016
(DOLLARS IN THOUSANDS)

	2017	2016
Assets:		
Cash and cash equivalents	\$ 639,393	\$ 567,313
Accounts receivable, net	644,025	632,714
Prepaid expenses, inventories, and other assets	205,656	193,974
Contributions receivable, net	429,353	441,705
Investments	12,702,248	10,903,426
Deposits with bond trustees	29,331	47,042
Land, buildings, and equipment, net	3,966,033	3,688,461
Interests in perpetual trusts held by others	807,341	774,420
Total assets	\$ 19,423,380	\$ 17,249,055
Liabilities:		
Accounts payable and accrued payroll	\$ 728,603	\$ 708,292
Deferred revenues and deposits	212,015	202,588
Notes and bonds payable	3,932,719	3,085,714
Annuity and other split-interest obligations	60,369	53,372
Accrued postretirement/postemployment and other benefit obligations	794,479	882,385
Other liabilities	271,855	331,187
Total liabilities	6,000,040	5,263,538
Net Assets:		
Unrestricted	7,566,743	6,548,920
Temporarily restricted	2,877,968	2,609,315
Permanently restricted	2,978,629	2,827,282
Total net assets	13,423,340	11,985,517
Total liabilities and net assets	\$ 19,423,380	\$ 17,249,055

See accompanying notes to consolidated financial statements.

Consolidated Statements of Activities

YEARS ENDED JUNE 30, 2017 AND 2016
(DOLLARS IN THOUSANDS)

	2017	2016
Unrestricted Net Assets:		
<i>Operating revenues:</i>		
Tuition and fees	\$ 773,540	\$ 735,666
Less student aid	(294,544)	(279,874)
Tuition and fees, net	478,996	455,792
Grants, contracts and similar agreements:		
Government sources	600,791	557,745
The Private Diagnostic Clinic, PLLC	130,835	120,395
Other	477,452	451,205
Total grants, contracts and similar agreements	1,209,078	1,129,345
Contributions	132,352	119,791
Investment return designated for current operations:		
The Duke Endowment	12,500	12,500
Endowment spending	411,103	364,336
Other investment income	117,539	97,408
Total investment return designated for operations	541,142	474,244
Auxiliary enterprises	234,641	211,766
Patient service revenue, net	3,168,100	2,977,113
Other	245,605	238,108
Net assets released from restrictions	72,775	57,116
Total operating revenues	6,082,689	5,663,275
<i>Operating expenses:</i>		
Salaries and wages	2,493,627	2,303,549
Employee benefits	604,259	574,805
Student aid	43,897	42,243
Other operating expenses	2,166,456	2,032,611
Interest expense	126,703	122,821
Depreciation expense	368,017	352,010
Total operating expenses	5,802,959	5,428,039
Operating surplus	279,730	235,236

Consolidated Statements of Activities (CONTINUED)

	2017	2016
Nonoperating activities:		
Net assets released from restrictions	\$ 83,815	\$ 46,134
Investment return in excess of (less than) amounts designated for current operations	515,204	(465,030)
Nonperiodic changes in defined benefit plans	130,351	(513,700)
Other, net	8,723	(54,440)
Change in unrestricted net assets from nonoperating activities	738,093	(987,036)
Change in unrestricted net assets	1,017,823	(751,800)
Temporarily Restricted Net Assets:		
Contributions	115,845	83,259
Net assets released from restrictions	(156,590)	(103,250)
Investment return in excess of (less than) amounts designated for current operations	302,009	(311,546)
Other, net	7,389	9,595
Change in temporarily restricted net assets	268,653	(321,942)
Permanently Restricted Net Assets:		
Contributions	121,923	125,345
Investment return (less than) in excess of amounts designated for current operations	(2,003)	2,058
Gains (losses) on interests in perpetual trusts held by others	32,921	(51,708)
Other, net	(1,494)	(12,653)
Change in permanently restricted net assets	151,347	63,042
Change in total net assets	1,437,823	(1,010,700)
Net assets at beginning of year	11,985,517	12,996,217
Net assets at end of year	\$ 13,423,340	\$ 11,985,517
Certain amounts disaggregated above are presented below in the aggregate:		
Contributions	\$ 370,120	\$ 328,395
Investment return	1,356,352	(300,274)

See accompanying notes to consolidated financial statements.

Consolidated Statements of Cash Flows

YEARS ENDED JUNE 30, 2017 AND 2016
(DOLLARS IN THOUSANDS)

	2017	2016
<i>Cash flows from operating activities:</i>		
Change in net assets	\$ 1,437,823	\$ (1,010,700)
Adjustments to reconcile change in net assets to net cash provided by operating activities:		
Depreciation expense	368,017	352,010
Nonperiodic changes in defined benefit plans	(130,351)	513,700
Provision for bad debt	30,201	73,604
Change in fair value of swap instruments	(36,536)	27,829
Loss on extinguishment of debt	33,887	23,156
Loss on disposals of land, buildings, and equipment	2,159	6,563
Restricted contributions received for long-term investment and capital projects	(250,120)	(223,553)
Permanently restricted investment return	2,003	2,058
Gains on other nonoperating items	...	(1,956)
Net realized and unrealized (gains) losses on investments	(1,197,104)	435,184
(Gains) losses on interests in perpetual trusts held by others	(32,921)	51,708
Change in:		
Accounts receivable, net	(60,538)	(58,041)
Prepaid expenses, inventories, and other assets	(11,682)	(14,040)
Contributions receivable, net	28,269	12,319
Accounts payable and accrued payroll	30,642	(35,412)
Deferred revenues and deposits	9,427	20,081
Annuity and other split-interest obligations	6,997	1,824
Accrued postretirement/postemployment and other benefit obligations	42,445	19,318
Other liabilities	(22,796)	25,705
Net cash provided by operating activities	249,822	221,357

Consolidated Statements of Cash Flows (CONTINUED)

	2017	2016
<i>Cash flows from investing activities:</i>		
Purchases of investments	(14,502,293)	(13,459,826)
Proceeds from sales and maturities of investments	13,900,575	13,349,428
Purchases of land, buildings, and equipment	(658,079)	(590,989)
Disbursements for loans to students	(3,832)	(6,873)
Repayments of loans by students	6,941	7,128
Change in deposits with bond trustees	17,711	(23,622)
Net cash used in investing activities	(1,238,977)	(724,754)
<i>Cash flows from financing activities:</i>		
Restricted contributions received for long-term investment and capital projects	250,120	221,686
Permanently restricted investment return	(2,003)	(2,058)
Gains on other nonoperating items	...	1,956
Principal payments on notes and bonds payable	(812,191)	(760,497)
Proceeds from borrowings	1,625,309	1,035,925
Net cash provided by financing activities	1,061,235	497,012
Net change in cash and cash equivalents	72,080	(6,385)
Cash and cash equivalents at beginning of year	567,313	573,698
Cash and cash equivalents at end of year	\$ 639,393	\$ 567,313
<i>Supplemental disclosure of cash flow information:</i>		
Cash paid for interest (net of amounts capitalized)	\$ 112,701	\$ 107,629

See accompanying notes to consolidated financial statements.

Notes to Consolidated Financial Statements

(DOLLARS IN THOUSANDS)

1. Overview of Duke University

Duke University, a North Carolina nonprofit corporation, is a private, coeducational, institution located primarily in Durham, North Carolina, which owns and operates educational and research facilities (the University). Duke University Health System, Inc. (DUHS), a North Carolina nonprofit corporation, is a controlled affiliate of the University. Collectively, the University and DUHS are referred to herein as “Duke.” The University is governed by a Board of Trustees (the Board) with thirty-seven members, consisting of the President of the University and thirty-six members representing private, public, and community interests.

The University’s programs include undergraduate and graduate programs in Arts and Sciences, Engineering, Nursing, and Public Policy and professional schools in Business, Divinity, Environment, Law, Medicine, and Nursing, as well as programs in Allied Health.

DUHS operates a health care system consisting principally of:

- **Duke University Hospital** – a quaternary care teaching hospital located on the campus of Duke in Durham, North Carolina, licensed for 957 acute care and specialty beds, providing patient care and serving as a site for medical education and clinical research provided by the Duke University School of Medicine (School of Medicine).
- **Duke Regional Hospital** – a full-service community hospital located in Durham, North Carolina, licensed for 369 acute care beds; Durham Regional is owned by Durham County, North

Carolina and leased to the Durham County Hospital Corporation which has in turn subleased Duke Regional Hospital to DUHS for the identical duration under a forty (40) year automatically renewing “evergreen” lease.

- **Duke Raleigh Hospital** – a community hospital located in Raleigh, North Carolina, licensed for 186 acute care beds, and providing patient care.
- **Duke University Affiliated Physicians, Inc. (DUAP)** – a North Carolina nonprofit corporation, doing business as Duke Primary Care, consisting of twenty-six (26) primary care physician practices located in Alamance, Chatham, Durham, Granville, Orange, Vance, and Wake Counties, six (6) urgent care centers located in Durham, Orange, and Wake Counties, and a pediatric practice with two (2) locations in Durham County.
- **Durham Casualty Company, Ltd. (DCC)** – a wholly owned subsidiary of DUHS, domiciled in Bermuda, insuring a portion of the medical malpractice risks and patient general liability risks of DUHS clinical providers and the The Private Diagnostic Clinic, PLLC (PDC) (see Note 12).

The consolidated financial statements include the University, DUHS and all other operating entities over which Duke has control.

All significant intercompany balances and transactions have been eliminated in consolidation.

2. Summary of Significant Accounting Policies

Basis of Presentation

The consolidated financial statements of Duke have been prepared on the accrual basis in conformity with U.S. generally accepted accounting principles (GAAP). Based on the existence or absence of donor-imposed restrictions, Duke classifies resources into three categories: unrestricted, temporarily restricted and permanently restricted net assets.

Unrestricted net assets are free of donor-imposed restrictions. All revenues, gains, and losses that are not temporarily or permanently restricted by donors are included in this classification. All expenses are reported as decreases in unrestricted net assets.

Temporarily restricted net assets are subject to donor-imposed restrictions that will be met either by actions of Duke or the passage of time. These net assets include unconditional pledges, split-interest agreements and accumulated appreciation on donor-restricted endowments that have not yet been appropriated by the Board of Trustees for expenditure.

Permanently restricted net assets are subject to donor-imposed restrictions that require they be maintained permanently by Duke. Generally, the donors’ imposed restrictions of these assets permit Duke to use all or part of the income earned on related investments only for certain general or specific purposes. These net assets

include unconditional pledges, donor-restricted endowments (at historical value), split-interest agreements, and interests in perpetual trusts held by others.

Expirations of temporary restrictions on net assets (i.e., the donor stipulated purpose has been fulfilled and/or the stipulated time period has elapsed) are reported as net assets released from restrictions in the consolidated statements of activities. Contributions, including unconditional promises to give, are recognized as revenue in the period received. Contributions for acquisition or construction of plant facilities are released from restrictions in the period in which the assets are placed in service within the nonoperating section on the statements of activities. Contributions which impose restrictions that are met in the same fiscal year they are received are reported as increases in unrestricted net assets.

Operating results (change in unrestricted net assets from operating activity) in the consolidated statements of activities reflect all transactions that change unrestricted net assets, except for contributions for plant facilities (released), investment return in excess of or less than amounts designated for current operations, nonperiodic changes in defined benefit plans, changes in the fair value of derivative financial instruments, losses on the extinguishment of debt, and certain nonrecurring items.

Fair Value Measurements

Fair value measurements reflected in the consolidated financial statements represent 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. GAAP provides a hierarchy that prioritizes the inputs to fair value measurements based on the extent to which inputs to valuation techniques are observable in the marketplace. The hierarchy assigns a higher priority to observable inputs that reflect verifiable information obtained from independent sources, and a lower priority to unobservable inputs that would reflect Duke's assumptions about how market participants would value an asset or liability based on the best information available. Fair value measurements must maximize the use of observable inputs and minimize the use of unobservable inputs.

The three levels of the hierarchy of inputs used to measure fair value are described briefly as follows:

Level 1 – Unadjusted quoted prices in active markets for identical assets or liabilities that are available at the measurement date.

Level 2 – Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly at the measurement date.

Level 3 – Unobservable inputs for the asset or liability, used in situations in which little or no market activity exists for the asset or liability at the measurement date.

The categorization of fair value measurements by level of the hierarchy is based upon the lowest level input that is significant to the overall fair value measurement for a given asset or liability.

In the event that changes in the inputs used in the fair value measurement of an asset or liability result in a transfer of the fair value measurement to a different categorization (e.g., from Level 3 to Level 2), such transfers between fair value categories are recognized at the end of the reporting period.

Cash and Cash Equivalents

Cash equivalents include assets invested in the Short Term Account (STA), all of which can be liquidated within thirty (30) days. Duke utilizes the STA to fund daily cash needs, and such assets, reported at fair value, primarily consist of short-term U.S. Treasury securities, other short-term, highly-liquid investments, and certain fixed income securities. Cash and cash equivalents that are managed as part of Duke's investments are reported within investments, as these funds are not used for operating needs.

Prepaid Expenses, Inventories, and Other Assets

Prepaid expenses, inventories, and other assets primarily include inventories, which are valued at the lower of average cost or fair value.

Contributions Receivable

Pledges that represent unconditional promises to give are recognized at fair value as contributions—either temporarily restricted or permanently restricted—in the period such promises are made by donors. Contributions are discounted at a risk-adjusted rate commensurate with the duration of the donor's payment plan. Amortization of the discounts is recorded as contribution revenue. Allowance is made for uncollectible contributions based upon the administration's

expectations regarding collection of outstanding promises to give and past collection experience.

The methodology for calculating the allowance for uncollectible contributions is based on the administration's review of individually significant outstanding pledges, analysis of the aging of payment schedules for all outstanding pledges, as well as other factors including current economic conditions.

In contrast to unconditional promises as described above, conditional promises are not recorded until donor conditions are substantially met.

Investments

DUMAC, Inc. (DUMAC), a separate nonprofit support corporation organized and controlled by the University, is responsible for managing investment assets for Duke, The Duke Endowment (see Note 12) and the Employees' Retirement Plan of Duke University (the ERP).

Valuation – Investments are recorded at estimated fair value. For investments made directly by Duke whose values are based on quoted market prices in active markets, the market price of the investment is used to report fair value. For shares in mutual funds, fair values are based on share prices reported by the funds as of the last business day of the fiscal year. Duke's interests in alternative investment funds such as fixed income, equities, hedged strategies, private capital, and real assets are generally reported at the net asset value (NAV) reported by the fund managers. Unless it is probable that all or a portion of the investment will be sold for an amount other than NAV, Duke has concluded, as a practical expedient, that the NAV approximates fair value.

Risks – Duke's investments are exposed to several risks, including liquidity, currency, interest rate, credit, and market risks.

Duke attempts to manage these risks through diversification, ongoing due diligence of fund managers, and monitoring of economic conditions. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in Duke's consolidated financial statements.

Derivatives are used by Duke and external investment managers to manage market risks. The most common derivative strategies engaged in are total return swaps, credit default swaps, futures and forward contracts, and options. These derivative instruments are recorded at their respective fair values (see Note 11).

Investment Pools – Duke utilizes investment pools known as the University's Long Term Pool (LTP) and the Health System Pool (HSP) to make University and DUHS investments in diversified portfolios of debt, equity, and other investments. The HSP is structured to provide more liquidity for DUHS than is available within the LTP. Both the LTP and HSP are included in investments on the consolidated balance sheets.

Reporting – Income and realized gains (losses) on investments of working capital are reported as investment return included in operating revenues. Any excess (deficit) of income and realized and unrealized gains (losses) earned on investments above (below) the spending rate (see Note 7), including split-interest agreements, are reported as nonoperating revenues.

Deposits with Bond Trustees

Deposits with bond trustees consist of the unexpended proceeds of certain bonds payable, which will be used for construction of certain facilities or payment of debt service. These funds are reported at fair value and are invested by the trustee in short-term, highly liquid securities considered Level 2 in the fair value hierarchy.

Land, Buildings, and Equipment

Land, buildings, and equipment are stated at cost at the date of acquisition or fair value at the date of donation. Property and equipment under capital leases are initially valued and recorded based on the present value of minimum lease payments. Useful lives range from 5 to 25 years for land improvements, 10 to 80 years for buildings and utilities, 5 to 10 years for computer software, 3 to 20 years for equipment, motor vehicles, furniture and vessels, and 1 year for library acquisitions. Depreciation is calculated on a straight-line basis over the assets' estimated useful lives, except for leasehold improvements and property and equipment held under capital leases, which are amortized over the shorter of the expected useful life of the asset or term of the related lease. Depreciation is not calculated on purchases of land, art collections, rare books, and construction in progress.

Conditional asset retirement obligations related to legal requirements to perform certain future activities associated with the retirement, disposal, or abandonment of assets are accrued utilizing site specific surveys to estimate the net present value for applicable future costs (e.g., asbestos abatement or removal). Duke reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. An impairment charge is recognized when the fair value of the asset or group of assets is less than the carrying value.

Interests in Perpetual Trusts Held by Others and Split-Interest Agreements

Duke is the beneficiary of certain perpetual trusts held and administered by outside trustees, including The Duke Endowment (see Note 12). These trust interests are reported at fair value, based on the value of the underlying assets, which approximates the present value of future income from these trusts. As such, these assets fall within Level 3 of the hierarchy of fair value inputs. Distributions from these trusts are recorded as investment return designated for current operations.

Duke's split-interest agreements with donors consist primarily of irrevocable charitable remainder trusts for which Duke serves as trustee. Assets held in these trusts are included in investments. Contribution revenues are recognized at the date the trusts are established after recording liabilities for the present value of the estimated future payments to be made to the donors or other beneficiaries. Annuity and other split-interest liabilities are recorded at their present value.

Debt-Related Derivative Instruments

Duke utilizes derivative instruments in a limited manner outside of its investment portfolio. As described in Note 11, interest rate swap agreements are used to manage interest rate risk associated with variable rate bond obligations. These instruments are reported in other liabilities on the consolidated balance sheets at fair value. Fair value is estimated based on pricing models that utilize significant observable inputs, such as relevant interest rates, that reflect assumptions market participants would use in pricing the instruments. As such, these

liabilities fall within Level 2 of the hierarchy of fair value inputs. The change in fair value is included as a gain or loss in other nonoperating activities on the consolidated statements of activities. The net settlement amount incurred on the swaps is included in interest expense on the consolidated statements of activities.

Refundable Federal Student Loans

Funds provided by the United States Government (U.S. Government) under the Federal Perkins, Nursing, and Health Professions Student Loan programs are loaned to qualified students and may be reloaned after collection. These funds are ultimately refundable to the U.S. Government. The related balances of \$36,338 and \$36,103 at June 30, 2017 and 2016, respectively, are included in other liabilities on the consolidated balance sheets.

Revenue Recognition

Duke's significant revenue recognition policies are:

Tuition and fees, net – Student tuition and fees are recorded as revenue during the year that the related academic services are rendered. Student tuition and fees received in advance of services to be rendered are recorded as deferred revenue. Student aid provided by Duke for tuition and fees is reflected as a reduction of gross tuition and fee revenue. Student aid does not include payments made to students for services rendered to Duke.

Grants and contracts – Revenues from sponsored grants and contracts, including facilities and administrative (F&A) cost recovery, are recognized when allowable expenditures are incurred under such agreements. F&A cost recovery represents reimbursement, primarily from the federal government, of F&A costs on sponsored activities. Duke's federal F&A cost recovery rate for research was 59.0% in fiscal 2017 and 2016.

Patient service revenue (net of contractual allowances and discounts) – Patient service revenue is recognized in the period in which services are rendered. DUHS has agreements with third-party payors that provide for payments to DUHS at amounts that are generally less than its established rates. Payment arrangements include prospectively determined rates per discharge, reimbursed costs, discounted charges and per diem payments. Accordingly, net patient service revenue is reported at the estimated net realizable amounts from patients, third-party payors, and others, including estimated retroactive adjustments under reimbursement agreements with third-party payors. Retroactive adjustments are accrued on an estimated basis in the period the related services are rendered and adjusted in future periods as changes to estimates become known and tentative and final settlement adjustments are identified.

DUHS receives supplemental Medicaid payments from the State of North Carolina through a federally approved disproportionate share program (Medicaid DSH). The Medicaid DSH payments are part of the Medicaid Program and are designed to offset a portion of the Medicaid losses. Amounts recognized in net patient service revenue related to fiscal 2017 and 2016 were \$155,168 and \$154,469, respectively. The Medicaid assessment payments recorded in other operating expenses were \$72,412 and \$68,032 for fiscal 2017 and 2016, respectively. There can be no assurance that DUHS will continue to qualify for future participation in this program or that the program will not be discontinued or materially modified.

Auxiliary enterprises – Auxiliary enterprises include athletics, residence halls, dining services, parking, and retail stores, which furnish services to students, faculty, and staff. Fee charges are directly related to the costs of services rendered and are recognized accordingly.

Charity Care

DUHS provides services at no charge or at a substantially discounted rate to patients who are approved under the guidelines of its financial assistance policy. DUHS does not pursue collection of amounts determined to qualify as charity care. Services qualifying for charity care consideration include emergent and medically necessary services as determined by a DUHS physician. Patient household income in relation to the federal poverty guidelines is included in the determination for charity care qualification. While charity care is excluded from net patient service revenue and receivables, DUHS maintains records to identify and monitor the level of charity care it provides. These records include the amount of charges foregone and estimated costs incurred for services and supplies furnished under its financial assistance policy and other equivalent service statistics. Costs incurred are estimated based on the ratio of total operating expenses to gross charges applied to charity care charges.

Income Taxes

Duke is tax-exempt as described in Section 501(c)(3) of the Internal Revenue Code of 1986, as amended (the Code). As such, Duke is exempt from federal income taxes to the extent provided under Section 501 of the Code. Accordingly, no provision for income taxes is made in the consolidated financial statements. As of June 30, 2017 and 2016, there were no material uncertain tax positions.

New Accounting Pronouncements

In August 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Updated (ASU) 2016-14, Not-for Profit

Entities (Topic 958). The ASU reduces the number of net assets from three to two (net assets without donor restrictions and net assets with donor restrictions). Additionally, it increases the quantitative and qualitative disclosures regarding liquidity, and requires expenses to be reported by both their natural and functional classification in one location. ASU 2016-14 is effective for fiscal year 2019.

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers (Topic 606). The ASU requires an entity to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration that the entity expects to be entitled to in exchange for those goods or services. Additional disclosure is required to enable users of the financial statements to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. ASU 2014-09 is effective for fiscal year 2019.

Use of Estimates

The preparation of the consolidated financial statements in accordance with GAAP requires the use of estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, and expenses during the reporting period as well as the disclosure of contingent assets and liabilities. Actual results ultimately could differ from the administration's estimates.

Reclassifications

Certain June 30, 2016 amounts have been reclassified to conform with changes in classifications adopted in fiscal 2017.

Subsequent Events

Duke has evaluated subsequent events from the balance sheet date through October 10, 2017, the date on which the consolidated financial statements were issued. No material subsequent events were identified for recognition or disclosure.

3. Accounts Receivable, net

Accounts receivable consists of the following at June 30:

	2017	2016
Patient receivables	\$ 365,185	\$ 367,459
Student loan receivables	38,211	43,630
Other receivables	240,629	221,625
Accounts receivable, net	\$ 644,025	\$ 632,714

Patient receivables are reported net of allowances for contractual adjustments and uncollectible accounts of \$877,657 and \$871,920 at June 30, 2017 and 2016, respectively, and reserves for uncollectible accounts of \$47,759 and \$61,811 at June 30, 2017 and 2016, respectively.

Concentration of Credit Risk

DUHS grants credit without collateral to its patients, most of whom are insured under third-party payor agreements. The related gross receivables at June 30, 2017 included approximately 39% and 50% from commercial payors and U.S. Government sources, respectively, and at June 30, 2016 included approximately 41% and 47%, respectively.

4. Contributions Receivable, net

Contributions receivable are summarized as follows at June 30:

	2017	2016
Unconditional promises expected to be collected in:		
Less than one year	\$ 203,411	\$ 204,853
Between one year and five years	255,715	253,889
More than five years	32,267	30,745
Gross contributions receivable	491,393	489,487
Allowance for uncollectible amounts	(47,125)	(35,444)
Unamortized discount at rates ranging from 0.1% to 7.5%	(14,915)	(12,338)
Net contributions receivable	\$ 429,353	\$ 441,705

At June 30, 2017 and 2016, the 10 largest outstanding donor pledge balances represented 42% and 46%, respectively, of Duke's gross contributions receivable.

At June 30, 2017 and 2016, Duke had also received bequest intentions and conditional promises to give of \$224,273 and \$172,414, respectively. These intentions and conditional promises to give are not recognized as assets or revenues in the consolidated financial statements.

5. Investments

The fair value of investments consists of the following at June 30:

	2017	2016
Short-term investments	\$ 1,860,873	\$ 1,351,724
U.S. Government securities	74,304	36,978
Fixed income	446,265	251,511
Equities	2,166,937	1,848,048
Hedged strategies	3,329,822	3,105,860
Private capital	2,691,195	2,338,137
Real assets	1,949,079	1,675,291
Other	183,773	295,877
Total investments	\$ 12,702,248	\$ 10,903,426

The composition of Duke's investments are as follows:

	2017	2016
LTP	\$ 9,097,394	\$ 8,462,951
HSP	2,736,773	2,027,028
Nonpooled ¹	868,081	413,447
Total investments	\$ 12,702,248	\$ 10,903,426

At June 30, 2017 and 2016, \$17,885 and \$63,928, respectively, was posted as collateral for derivatives and thus not readily available for use. Collateral held is included in short-term investments.

Duke's investment classes are described in further detail below. Classes include direct holdings, which are generally marketable securities, and interests in funds for which the related investment strategies are described.

Short-term investments includes cash collateral, money market funds, short-term U.S. Treasury, agency, corporate, and other highly liquid debt securities with an aggregate duration of less than a year.

U.S. Government securities includes U.S. Treasury and agency debt securities with maturities of more than one year and funds that invest in these types of investments.

Fixed income includes non-government U.S. and non-U.S. debt securities, funds holding similar securities, and debt-based derivatives.

Equities includes U.S. and non-U.S. stocks, equity-based derivatives and interests in funds that invest predominantly long but also short stocks. Exposure by market is approximately: 20% domestic, 25% developed international, 35% emerging international and 20% global.

Hedged strategies primarily includes interests in funds that invest both long and short in U.S. and non-U.S. stocks, credit-oriented securities and arbitrage strategies. Approximately 70% of the hedged strategies portfolio is invested through equity oriented strategies with the balance split between multi-strategy (20%) and credit strategies (10%) funds and accounts. Virtually all of Duke's investments in these funds are redeemable, and the underlying assets of the funds are predominately marketable securities and derivatives.

Private capital primarily includes interests in funds or partnerships that hold illiquid investments in venture capital, buyouts, and credit. These funds typically have periods of 10 or more years during which committed capital may be drawn. Distributions are received through liquidation of the underlying assets of the funds, which are anticipated to occur over the next 4 to 10 years. Certain private placement securities may also be held.

Real assets includes interests in funds or partnerships that hold illiquid investments in residential and commercial real estate, oil and gas production, energy, other commodities, and related services businesses. These funds typically have periods of 10 or more years during which committed capital may be drawn. Distributions are received through liquidations of the underlying assets of the funds, which are anticipated to occur over the next 5 to 12 years. Additionally, certain liquid commodity- and real estate-related

¹ Includes \$394,882 of unspent proceeds from the issuance of the 2017 taxable bonds described in Note 10.

equities, private placement securities and related derivatives are included.

Other primarily includes other derivative instruments.

Investment return

The total return for the LTP (in which 98.1% and 98.7% of Duke's traditional endowment was invested at June 30, 2017 and 2016, respectively) for fiscal 2017 and 2016 was 12.7% and (2.6%), respectively. The total return for the HSP for fiscal 2017 and 2016 was 12.1% and (3.3%), respectively. Both returns are net of external management fees but before internal costs. The total return for Duke's endowment, as such, is not calculated.

External management fees paid directly (i.e. segregated investment account fees) totaled \$14,166 and \$11,098, and internal costs totaled \$16,734 and \$16,200 in fiscal 2017 and 2016, respectively.

Investment return as reflected in the consolidated statements of activities is summarized as follows for the years ended June 30:

	2017	2016
Investment income	\$ 159,248	\$ 134,910
Realized and unrealized gains (losses), net	1,197,104	(435,184)
Total investment return (loss)	\$ 1,356,352	\$ (300,274)

OPERATING

The Duke Endowment	\$ 12,500	\$ 12,500
Endowment spending	411,103	364,336
Other investment income	117,539	97,408
Total operating return	\$ 541,142	\$ 474,244

NONOPERATING

Investment return in excess of (less than) amounts designated for current operations	815,210	(774,518)
Total investment return (loss)	\$ 1,356,352	\$ (300,274)

The following is a summary of the levels within the fair value hierarchy for Duke's investments at June 30:

Fair Value as of June 30, 2017	Level 1	Level 2	Level 3	Investments reported at NAV ¹	Total
Short-term investments	\$ 123,896	\$ 1,736,977	\$...	\$...	\$ 1,860,873
U.S. Government securities	48,023	26,281	...	...	74,304
Fixed income	29,361	365,306	...	51,598	446,265
Equities	1,104,751	188,931	72,660	800,595	2,166,937
Hedged strategies	44,510	76,398	...	3,208,914	3,329,822
Private capital	2,482	...	236,816	2,451,897	2,691,195
Real assets	129,998	(18)	28,173	1,790,926	1,949,079
Other	38,577	136,647	...	8,549	183,773
Total investments	\$ 1,521,598	\$ 2,530,522	\$ 337,649	\$ 8,312,479	\$ 12,702,248

Fair Value as of June 30, 2016	Level 1	Level 2	Level 3	Investments reported at NAV ¹	Total
Short-term investments	\$ 70,330	\$ 1,281,394	\$...	\$...	\$ 1,351,724
U.S. Government securities	34,786	2,192	...	...	36,978
Fixed income	24,430	186,241	...	40,840	251,511
Equities	684,072	149,910	61,637	952,429	1,848,048
Hedged strategies	272,992	80,285	...	2,752,583	3,105,860
Private capital	1,239	...	218,645	2,118,253	2,338,137
Real assets	71,264	7,089	28,180	1,568,758	1,675,291
Other	33,592	256,645	...	5,640	295,877
Total investments	\$ 1,192,705	\$ 1,963,756	\$ 308,462	\$ 7,438,503	\$ 10,903,426

¹ Certain investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheets.

As of June 30, 2017 and 2016, redemption frequency and the corresponding notice period for all investments are as follows:

Asset Class	Redemption frequency (in days) (if currently eligible) ¹	Redemption notice period (in days)
Short-term investments	daily	1
U.S. Government securities	daily	1
Fixed income	1 to 30	1 to 30
Equities	1 to 90	1 to 90
Hedged strategies	30 to >365	2 to 100
Private capital	N/A	N/A
Real assets	N/A	N/A
Other	N/A	N/A

The following tables present additional information about Level 3 investments. Both observable and unobservable inputs may be used to determine the fair value of positions that Duke has classified within the Level 3 category. As a result, the unrealized gains and losses for assets within the Level 3 category in the table below may include changes in fair value that were attributable to both observable and unobservable inputs.

	Balance as of June 30, 2016	Net realized and unrealized gains	Purchases	Sales	Net transfers out	Balance as of June 30, 2017
Equities	\$ 61,637	\$ 11,023	\$...	\$...	\$...	\$ 72,660
Private capital	218,645	4,540	40,985	(27,354)	...	236,816
Real assets	28,180	7,841	8,867	(16,180)	(535)	28,173
Total Level 3 investments	\$ 308,462	\$ 23,404	\$ 49,852	\$ (43,534)	\$ (535)	\$ 337,649

	Balance as of June 30, 2015	Net realized and unrealized losses	Purchases	Sales	Net transfers (out) in	Balance as of June 30, 2016
Equities	\$ 64,112	\$ (2,475)	\$...	\$...	\$...	\$ 61,637
Private capital	236,693	(6,213)	48,937	(34,585)	(26,187)	218,645
Real assets	24,070	(6,774)	11,056	(9,264)	9,092	28,180
Total Level 3 investments	\$ 324,875	\$ (15,462)	\$ 59,993	\$ (43,849)	\$ (17,095)	\$ 308,462

During fiscal 2017, Level 3 securities totaling \$535 were reorganized into investments reported at NAV during the year. In fiscal 2016 investments reported at NAV totaling \$9,092 became private, restricted, or not publicly traded and were consequently transferred to Level 3. In addition, Level 3 securities totaling \$26,187 were reorganized into investments reported at NAV during fiscal 2016. The change in net unrealized gains (losses) related to Level 3 assets still held at June 30, 2017 and 2016 was \$23,709 and (\$10,102), respectively, recorded in investment return in excess of (less than) amounts designated for current operations on the consolidated statements of activities.

6. Net Assets

Temporarily restricted net assets consist of the following at June 30:

	2017	2016
Appreciation on donor-restricted endowments	\$ 2,501,852	\$ 2,205,070
Contributions for physical plant	139,093	202,575
Contributions for instruction, research and divisional support	201,426	169,170
Annuity and other split-interest agreements	24,574	19,797
Other	11,023	12,703
Temporarily restricted net assets	\$ 2,877,968	\$ 2,609,315

¹ Based on current terms, it is possible that these redemption rights may be restricted or eliminated by the funds in the future in accordance with the underlying fund agreement.

Permanently restricted net assets consist of the following at June 30:

	2017	2016
Instruction, research, and student aid:		
Donor-restricted endowments	\$ 1,982,993	\$ 1,840,083
Contributions receivable, net	138,401	155,979
Total instruction, research, and student aid	2,121,394	1,996,062
Interests in perpetual trusts held by others	807,341	774,420
Annuity and other split-interest agreements	38,102	38,958
Student loan funds	11,792	17,842
Permanently restricted net assets	\$ 2,978,629	\$ 2,827,282

7. Endowment

Duke's endowment consists of over 5,100 individual funds established for a variety of purposes including both donor-restricted endowment funds and funds designated by the Board to function as endowments. The endowment also includes interests in perpetual trusts held by others. Net assets associated with endowment funds are classified and reported based on the existence or absence of donor-imposed restrictions.

Interpretation of Relevant Law

The Board has decided to continue to require the preservation of the historic dollar value of endowment funds absent explicit donor stipulations to the contrary. Duke therefore classifies as permanently restricted net assets the sum of (a) the original value of gifts donated

to the permanent endowment, (b) the original value of subsequent gifts to the permanent endowment, and (c) additions 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. Appreciation on donor-restricted endowment funds is classified as temporarily restricted net assets until those amounts are appropriated for expenditure by Duke in a manner consistent with the standard of prudence prescribed by the Uniform Prudent Management of Institutional Funds Act (UPMIFA). The amounts appropriated for expenditure are based on the endowment spending rate per unit and the number of units for each fund. The spending rate is approved by the Board as part of Duke's operating budget.

Endowment net assets consist of the following at June 30, 2017:

	Unrestricted	Temporarily Restricted	Permanently Restricted	2017 Total
Donor-restricted endowment funds	\$...	\$ 2,501,852	\$ 1,982,993	\$ 4,484,845
Board-designated endowment funds	2,618,989	...	...	2,618,989
Interests in perpetual trusts held by others	...	...	807,341	807,341
Total endowed net assets	\$ 2,618,989	\$ 2,501,852	\$ 2,790,334	\$ 7,911,175

Endowment net assets consist of the following at June 30, 2016:

	Unrestricted	Temporarily Restricted	Permanently Restricted	2016 Total
Donor-restricted endowment funds	\$...	\$ 2,205,070	\$ 1,840,083	\$ 4,045,153
Board-designated endowment funds	2,020,207	...	...	2,020,207
Interests in perpetual trusts held by others	...	...	774,420	774,420
Total endowed net assets	\$ 2,020,207	\$ 2,205,070	\$ 2,614,503	\$ 6,839,780

Spending Policy

Duke utilizes the total return concept (income yield and appreciation) in the management of its endowment. Duke has implemented a spending policy designed to stabilize annual spending levels and preserve the real value of the endowment over time. In accordance with Duke's policy, a predetermined endowment spending rate consistent with Duke's total return objective has been established and approved by the Board. Should endowment returns prove to be insufficient to support this policy, the balance is provided from accumulated capital gains. Should endowment returns exceed the amounts necessary to attain this objective, the balance is reinvested. The effective spending rates for fiscal 2017 were 5.9% for financial aid endowments and 4.6% for non-financial aid endowments. The annual distribution under the spending policy described above is reported as investment return included in operating revenues. Additionally, the Board authorizes the use of specific amounts of previously reinvested income, capital gains, and principal related to unrestricted funds functioning as endowment for special academic development initiatives and to support the operations and maintenance of certain facilities. The amounts reported in the consolidated statements of activities include supplemental endowment distributions totaling \$235,748 and \$125,407 in fiscal 2017 and 2016, respectively.

Return Objectives and Risk Parameters

Under the policy approved by the Board, the endowment assets are invested in a manner that is intended to produce results that exceed the price and yield results of a benchmark composed of 70% of the MSCI All Country World Index and 30% of the Bloomberg Barclays U.S. Aggregate Bond Index. Duke expects its endowment funds, over long time periods, to provide an average annual real rate of return of approximately 5.0%. Actual returns in any given year may vary from this amount.

Funds with Deficiencies

From time to time, the fair value of assets associated with a permanently restricted fund may fall below the fund's original value. Deficiencies of this nature are reported in unrestricted net assets. Subsequent gains that restore the fair value of such funds to the required level are classified as an increase in unrestricted net assets within the nonoperating activities section of the consolidated statements of activities.

Changes in endowment net assets for the years ended June 30, 2017 and 2016 are as follows:

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Balance as of June 30, 2015	\$ 2,236,026	\$ 2,508,705	\$ 2,551,814	\$ 7,296,545
Investment return:				
Investment income	19,678	40,552	...	60,230
Net depreciation in fair value	(94,949)	(154,371)	(40,666)	(289,986)
Total investment loss	(75,271)	(113,819)	(40,666)	(229,756)
Contributions	...	...	103,355	103,355
New Board designated endowment funds	33,972	...	...	33,972
Appropriations for expenditure	(174,520)	(189,816)	...	(364,336)
Balance as of June 30, 2016	\$ 2,020,207	\$ 2,205,070	\$ 2,614,503	\$ 6,839,780
Investment return:				
Investment income	28,948	52,734	...	81,682
Net appreciation in fair value	274,279	445,134	36,828	756,241
Total investment return	303,227	497,868	36,828	837,923
Contributions	...	...	139,003	139,003
New Board designated endowment funds	581,679	...	...	581,679
Appropriations for expenditure	(210,017)	(201,086)	...	(411,103)
Appropriations for capital	(76,107)	...	...	(76,107)
Balance as of June 30, 2017	\$ 2,618,989	\$ 2,501,852	\$ 2,790,334	\$ 7,911,175

8. Pension and Other Postretirement Benefit Plans

Defined Contribution Retirement Savings Plan

Faculty and staff members of Duke are eligible to participate in a defined contribution plan. Faculty and exempt staff members are eligible to receive employer-provided contributions in this plan. For fiscal 2017 and 2016, Duke contributed \$152,164 and \$141,308, respectively, to this plan. Duke expects to contribute \$156,809 to this plan in fiscal 2018.

Defined Benefit Pension and Postretirement Medical Benefit Plans

Duke has a noncontributory defined benefit pension plan for substantially all non-exempt employees. The benefit for this plan is based on years of service and the employee's compensation during the last 10 years of employment. Duke expects to contribute \$21,776 to the plan in fiscal 2018.

At June 30, 2017 and 2016, the accumulated benefit obligation for the pension benefits was \$1,892,596 and \$1,860,740, respectively. At June 30, 2017 and 2016, the plan was under funded in relation to accumulated benefits by \$240,543 and \$350,604, respectively.

Duke also sponsors an unfunded, defined benefit postretirement medical plan that covers all full-time employees who elect coverage and

satisfy the plan's eligibility requirements when they retire. The plan is contributory with retiree contributions established as a percentage of the total cost of medical care for retirees and their dependents. Duke pays all benefits on a current basis. DUHS employees hired after June 30, 2002 are not eligible for DUHS contributions to the cost of this benefit and must bear the full cost themselves if elected at retirement. As a healthcare provider, Duke utilizes an incremental cost approach to determine its liability for the postretirement medical plan. The total liability reflects estimated additional costs to provide medical benefits to retirees within DUHS facilities plus the full cost to provide medical benefits to retirees at facilities other than DUHS.

The measurement date for both the defined benefit pension plan and the postretirement medical benefit plan is June 30. Duke recognizes the full funded status of its defined benefit pension and other postretirement benefit plans in the consolidated balance sheets. Accordingly, the liability for pension benefits as recognized in the consolidated balance sheets represents the actuarially determined projected benefit obligation (PBO) in excess of the fair value of plan assets at year end. The liability for other postretirement benefits as recognized in the consolidated balance sheets represents the actuarially determined accumulated postretirement benefit obligation at year end.

The following tables provide a reconciliation of the plans' PBO and fair value of assets:

	Pension Benefits		Postretirement Benefits	
	2017	2016	2017	2016
<i>Reconciliation of benefit obligation</i>				
PBO at beginning of year	\$ 2,028,803	\$ 1,615,110	\$ 206,968	\$ 184,616
Service cost	83,077	65,861	3,869	3,318
Interest cost	69,962	75,406	7,088	8,094
Actuarial (gain) loss	(71,229)	329,289	24,007	20,419
Benefit payments	(56,462)	(54,163)	(8,891)	(9,479)
Administrative expenses (estimated)	(3,000)	(2,700)	...	...
PBO at end of year	<u>\$ 2,051,151</u>	<u>\$ 2,028,803</u>	<u>\$ 233,041</u>	<u>\$ 206,968</u>
<i>Reconciliation of fair value for plan assets</i>				
Fair value of plan assets at beginning of year	\$ 1,510,136	\$ 1,596,507	\$...	\$...
Actual return (loss) on plan assets	180,357	(49,695)	...	...
Employer contributions	21,057	20,259	...	...
Participant contributions	186	173	...	...
Benefit payments	(56,462)	(54,163)	...	...
Administrative expenses	(3,221)	(2,945)	...	...
Fair value of plan assets at end of year	<u>\$ 1,652,053</u>	<u>\$ 1,510,136</u>	<u>\$...</u>	<u>\$...</u>
<i>Funded status</i>				
Net accrued benefit liability	\$ (399,098)	\$ (518,667)	\$ (233,041)	\$ (206,968)

The following table provides the components of net periodic benefit cost (reported as employee benefits in the consolidated statements of activities) for the plans for fiscal 2017 and 2016:

	Pension Benefits		Postretirement Benefits	
	2017	2016	2017	2016
Service cost	\$ 83,077	\$ 65,861	\$ 3,869	\$ 3,318
Interest cost	69,962	75,406	7,088	8,094
Expected return on plan assets	(118,507)	(112,585)	...	...
Amortization of prior-service cost (asset)	1,814	2,135	...	(1,326)
Expected participant contributions	(178)	(163)	...	...
Recognized actuarial loss (gain)	19,758	...	(80)	(2,286)
Net periodic benefit cost	\$ 55,926	\$ 30,654	\$ 10,877	\$ 7,800

The prior-service costs are amortized on a straight-line basis over the average remaining service period of active participants. The expected amortization of prior-service cost for fiscal 2018 is \$1,814 and \$0 for the pension and postretirement benefits, respectively. The expected amortization of actuarial losses for fiscal 2018 is \$9,025 and \$0 for the pension and postretirement benefits, respectively. Unrecognized prior-service costs were \$6,705 and \$0 and unrecognized actuarial losses were \$327,204 and \$2,497 for the pension and postretirement benefits, respectively, as of June 30, 2017. Unrecognized prior-service costs were \$8,520 and \$0 and unrecognized actuarial losses (gains) were \$479,827 and (\$21,590) for the pension and postretirement benefits, respectively, as of June 30, 2016.

The assumptions used in the measurement of Duke's benefit obligation and benefit cost are shown in the following table:

	Pension Benefits				Postretirement Benefits			
	2017		2016		2017		2016	
Weighted average assumptions as of measurement date	Obligation	Cost	Obligation	Cost	Obligation	Cost	Obligation	Cost
Discount rate	3.75%	3.50%	3.50%	4.75%	3.75%	3.50%	3.50%	4.50%
Expected return on plan assets	N/A	7.50%	N/A	7.50%	N/A	N/A	N/A	N/A
Rate of compensation increase	2.50%	2.50%	2.50%	3.00%	N/A	N/A	N/A	N/A

In order to determine the benefit obligation as of June 30, 2017, the per capita costs of covered health care benefits was assumed to increase 7.5% for non-Medicare eligible employees and 8.7% for Medicare eligible employees, declining to an ultimate annual rate of increase of 5.0% by 2028 for non-Medicare and Medicare eligible employees. The benefit expense for fiscal 2017 was driven by the rates used to determine the obligation at June 30, 2016, which were 7.5% for non-Medicare eligible employees and 6.9% for Medicare eligible employees declining to an ultimate annual rate of increase of 5.0% by 2023 for non-Medicare eligible employees and 2022 for Medicare eligible employees.

Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plans. A 1.0% change in assumed health care cost trend rates would have the following effect:

	1.0% Increase	1.0% Decrease
Effect on total of service and interest cost components of net periodic postretirement health care benefit cost	\$ 1,783	\$ (1,459)
Effect on the health care component of the accumulated postretirement benefit obligation	\$ 31,575	\$ (26,362)

The projected payments to beneficiaries under the respective plans for each of the five fiscal years subsequent to June 30, 2017 are as follows:

	Pension Benefits	Postretirement Benefits
2018	\$ 61,499	\$ 9,436
2019	64,967	10,228
2020	68,770	10,837
2021	73,760	11,517
2022	79,142	12,110

Projected aggregate payments for pension and postretirement benefits for the five year period ending June 30, 2027 are \$486,616 and \$67,935, respectively.

Defined Benefit Pension Plan Assets

The pension plan's investment strategy focuses on maximizing total return and places limited emphasis on liability matching and no emphasis on generating income. Over the long term, the plan's average exposure target is 49% equity (public and private investments in companies), 13% commodity (direct commodity exposure, commodity related equities, and private investments in energy, power, infrastructure and timber), 11% real estate (private real estate and REITs), 13% credit (investment-grade bonds, corporate bonds, bank debt, asset backed securities, etc.), 5% rates (public obligations including treasuries and

agencies), and 9% other (U.S. Treasury Inflation Protected Securities, non-U.S. inflation linked bonds, and absolute return oriented hedge funds).

The expected return on pension plan assets is established at an amount that reflects the targeted asset allocation and expected returns for each component of the plan assets. The expected return was developed using a stochastic forecast model of long-term expected returns for each asset class. The rate is reviewed periodically and adjusted, as appropriate, to reflect changes in the expected market performance or in targeted asset allocation ranges.

The following is a summary of the levels within the fair value hierarchy for Duke's plan assets at June 30:

Fair value as of June 30, 2017	Level 1	Level 2	Level 3	Investments reported at NAV ¹	2017 Total
Short-term investments	\$ (154)	\$ 254,114	\$...	\$...	\$ 253,960
Fixed income	5,833	32,989	...	...	38,822
Equities	176,310	29,715	...	126,863	332,888
Hedged strategies	3,104	5,952	...	415,738	424,794
Private capital	389	...	30,062	306,053	336,504
Real assets	17,850	(16)	...	238,678	256,512
Other	(7,870)	16,443	...	...	8,573
Total investments	\$ 195,462	\$ 339,197	\$ 30,062	\$ 1,087,332	\$ 1,652,053

Fair value as of June 30, 2016	Level 1	Level 2	Level 3	Investments reported at NAV ¹	2016 Total
Short-term investments	\$ (557)	\$ 247,148	\$...	\$...	\$ 246,591
Fixed income	5,506	31,049	...	...	36,555
Equities	109,898	13,945	...	173,700	297,543
Hedged strategies	33,301	7,939	...	345,967	387,207
Private capital	195	...	27,855	264,975	293,025
Real assets	9,962	1,018	...	212,338	223,318
Other	(6,813)	32,710	...	...	25,897
Total investments	\$ 151,492	\$ 333,809	\$ 27,855	\$ 996,980	\$ 1,510,136

¹ Certain investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient have not been categorized in the fair value hierarchy. Plan investments reported at NAV have the same strategies as those in Duke's investment pools described in Note 5.

The following tables present additional information about Level 3 plan assets. Both observable and unobservable inputs may be used to determine the fair value of positions that the Plan has classified within the Level 3 category. As a result, the unrealized gains and losses for assets within the Level 3 category in the table below may include changes in fair value that were attributable to both observable and unobservable inputs.

	Balance as of June 30, 2016	Net realized and unrealized losses	Purchases	Sales	Net transfers out	Balance as of June 30, 2017
Private capital	\$ 27,855	\$ (306)	\$ 5,082	\$ (2,569)	\$...	\$ 30,062

	Balance as of June 30, 2015	Net realized and unrealized losses	Purchases	Sales	Net transfers out	Balance as of June 30, 2016
Private capital	\$ 31,999	\$ (3,266)	\$ 5,772	\$ (2,626)	\$ (4,024)	\$ 27,855

During fiscal 2017, there were no transfers between investments reported at NAV and Level 3. During fiscal 2016, Level 3 securities totaling \$4,024 were reorganized into investments reported at NAV. The change in net unrealized gains (losses) related to Level 3 assets still held at June 30, 2017 and 2016 was \$1,969 and (\$2,509), respectively, recorded within nonperiodic changes in defined benefit plans on the consolidated statements of activities.

9. Land, Buildings, and Equipment

Land, buildings, and equipment, net, are summarized as follows at June 30:

	2017	2016
Land and land improvements	\$ 355,273	\$ 309,096
Buildings and utilities	5,360,704	4,833,782
Computer software	402,712	397,588
Equipment, furniture and vessels	1,535,744	1,446,972
Library and art collections	485,221	457,736
Construction in progress	440,970	547,161
Land, buildings and equipment, gross	8,580,624	7,992,335
Accumulated depreciation	(4,614,591)	(4,303,874)
Land buildings and equipment, net	\$ 3,966,033	\$ 3,688,461

Interest on borrowings to finance facilities is capitalized during construction, net of any investment income earned through the temporary investment of project borrowings on tax-exempt debt. Total net interest cost of \$4,547 and \$4,205 was capitalized in fiscal 2017 and 2016, respectively.

Duke has identified conditional asset retirement obligations primarily related to the costs of asbestos removal and disposal that will result from future remediation activity. The liability was estimated using inflation rates ranging from 3.4% to 5.0% and discount rates ranging from 2.7% to 4.6%. Conditional asset retirement obligations recognized at June 30, 2017 and 2016 were \$53,117 and \$54,158, respectively, and are reported in other liabilities on the consolidated balance sheets.

10. Notes and Bonds Payable

Notes and bonds payable at June 30 consist of the following:

	Fiscal year of maturity	Effective interest rate	Outstanding principal	
			2017	2016
University Tax-Exempt Bonds:				
Variable-rate bonds				
Series 1987A	2018	0.6%	\$ 6,900	\$ 12,900
Series 1991B	2022	0.7%	40,000	40,000
Series 1992A	2027	0.6%	35,240	35,240
Fixed-rate bonds				
Series 2006A	2018	4.9%	1,830	285,500
Series 2006B	2043	4.3%	...	95,435
Series 2009B	2039	5.0%	...	247,090
Series 2014A	2042	5.0%	119,115	119,115
Series 2014B	2045	5.0%	84,710	84,710
Series 2014C	2043	5.0%	33,000	33,000
Series 2015B	2056	5.0%	368,905	368,905
Series 2016B	2045	4.6%	328,605	...
University Taxable Bonds:				
Fixed-rate bonds				
Series 2007A	2037	5.9%	200,000	200,000
Series 2015A	2049	4.1%	175,865	175,865
Series 2016A	2047	3.2%	528,780	...
DUHS Tax-Exempt Bonds:				
Variable-rate bonds				
Series 2005A and B	2028	1.4%	123,530	133,185
Series 2006A, B, and C (see Note 11)	2039	1.2%	121,620	121,620
Series 2012B (see Note 11)	2023	1.5%	28,650	28,650
Series 2016B	2042	1.3%	90,000	90,000
Series 2016C	2042	1.4%	90,000	90,000
Fixed-rate bonds				
Series 2010A	N/A	4.9%	...	120,000
Series 2012A	2042	4.7%	278,305	279,570
Series 2016A	2028	2.0%	155,720	167,075
Series 2016D	2042	3.5%	125,100	...
DUHS Taxable Bonds:				
Fixed-rate bonds				
Series 2017A	2047	3.9%	600,000	...
Tax-exempt commercial paper	<1 year	0.7%	33,860	33,860
Taxable commercial paper	<1 year	0.7%	60,162	60,162
Other notes payable	Various	Various	12,922	12,791
Capital lease obligations (see Note 15)	Various	Various	128,952	125,497
Unamortized premium			179,661	134,997
Debt issuance costs			(18,713)	(9,453)
Notes and bonds payable			\$ 3,932,719	\$ 3,085,714

As of June 30, 2017 and 2016, Duke had line of credit agreements totaling \$275,000 to supplement working capital and investment commitments, with no outstanding borrowings under these agreements. The lines of credit have varying expiration dates through fiscal 2022.

Fiscal Year	Principal Payments
2018	\$ 134,092
2019	31,760
2020	32,920
2021	33,970
2022	35,120
Thereafter	3,374,957
Total principal payments	\$ 3,642,819

Duke capitalizes and amortizes the original issue premium and issue costs related to applicable bond issues in a manner that approximates the interest method. Total amortization expense for issue costs and premiums was \$8,683 and \$2,920 for fiscal 2017 and 2016, respectively, and is included in interest expense in the consolidated statements of activities.

In October 2016, the University issued Series 2016A taxable bonds in the amount of \$528,780, the proceeds of which were used to retire the Series 2009B bonds (\$247,090) as well as fund various projects. The issuance includes \$21,683 of debt extinguishment costs.

In November 2016, the University issued Series 2016B tax-exempt bonds in the amount of \$328,605 the proceeds of which were used to refund the Series 2006A bonds (\$281,905) and 2006B bonds (\$95,435). The bonds were issued at a premium of \$52,038.

In August 2016, DUHS issued Series 2016D tax-exempt bonds in the amount of \$125,100 to fund an escrow account that was irrevocably placed with a trustee to meet the principal and interest payments of the Series 2010A bonds (\$120,000). The refunding transaction resulted in a loss on extinguishment of debt of \$18,328 representing the write-off of the unamortized bond issue costs and the escrow funding requirements for principal and interest payments in excess of the face value of the 2010A refunded bonds. The refunding meets the requirements of derecognition of the bond liability for fiscal year 2017.

In June 2017, DUHS issued Series 2017A taxable bonds in the amount of \$600,000, the proceeds of which will be used to finance various capital additions and improvements at healthcare facilities and pay certain expenses of issuing the bonds. DUHS executed a forward treasury rate lock agreement to hedge against potential rising interest rates during the period leading up to the issuance of the bonds. A rate lock payment of \$7,889 is included in debt issuance costs.

Trust indentures underlying the DUHS Revenue Bonds contain certain covenants and restrictions. DUHS was in compliance during fiscal 2017 and 2016.

11. Derivative and Other Financial Instruments

Investment strategies employed by DUMAC and investment managers retained by DUMAC incorporate the use of various derivative financial instruments. DUMAC uses these instruments for a number of investment purposes, including hedging or altering exposure to certain asset classes and cost-effectively adding exposures to portions of the portfolio. Positions are expected to create gains or losses that, when combined with the applicable portion of the total investment portfolio, provide an expected result.

During fiscal 2017 and 2016, Duke, or external investment managers on Duke's behalf, entered into swap agreements, futures contracts, or forward contracts, and acquired warrants or rights to increase, reduce or otherwise modify investment exposures. These instruments expose Duke to risk of an unexpected movement in the fair value of the underlying security, a counterparty failing to meet its obligations, and, in certain circumstances, not being able to unwind a position at current fair market value due to market illiquidity. Duke has established procedures to monitor and manage these risks.

Duke's investment related derivative exposures, categorized by primary underlying risk, are as follows:

Primary underlying risk as of June 30, 2017	Long Notional	Short Notional	Derivative assets	Derivative liabilities	Gain (loss)
Equity Price ¹	\$ 3,286,057	\$ 2,010,648	\$ 77,764	\$ (57,946)	\$ 174,003
Interest Rate ²	2,223,674	2,786,999	3,468	(2,607)	2,156
Commodity Price ³	434,008	105,294	9,272	(3,586)	(63,764)
Credit ⁴	5,142,806	2,069,005	127,750	(35,553)	(15,337)
Foreign currency exchange rate ⁵	294,548	1,493,946	5,191	(24,983)	3,424
Total	\$ 11,381,093	\$ 8,465,892	\$ 223,445	\$ (124,675)	\$ 100,482

¹ Includes options, swaps, and futures contracts.

² Includes options, swaps, swaptions, and futures contracts.

³ Includes options and futures contracts.

⁴ Includes credit default swaps, swaptions, and credit total return swaps.

⁵ Includes options and forward contracts.

Primary underlying risk as of June 30, 2016	Long Notional	Short Notional	Derivative assets	Derivative liabilities	Gain (loss)
Equity Price ¹	\$ 2,325,553	\$ 932,984	\$ 49,665	\$ (38,048)	\$ 15,024
Interest Rate ²	423,368	730,247	3,337	(1,385)	(4,456)
Commodity Price ³	566,581	261,218	15,082	(12,218)	(118,965)
Credit ⁴	4,617,247	1,571,665	174,955	(20,262)	5,265
Foreign currency exchange rate ⁵	274,939	1,142,598	20,650	(15,406)	18,661
Total	\$ 8,207,688	\$ 4,638,712	\$ 263,689	\$ (87,319)	\$ (84,471)

As part of relative value strategies, Duke and investment managers on Duke's behalf entered into credit default swap derivative transactions on investment grade and high yield securities which typically have terms of five years or less to buy and sell credit protection. At June 30, 2017 and 2016, the notional of protection sold was \$4,955,891 and \$4,098,947 and the notional of protection bought with identical underlying assets was \$890,669 and \$498,051, respectively. These instruments are included in the credit line of the preceding tables.

Duke's investment related derivative assets and liabilities at June 30, by counterparty, are as follows:

	2017			2016		
	Assets	Liabilities	Cash Collateral (Held) Pledged	Assets	Liabilities	Cash Collateral (Held) Pledge
Counterparty A	\$ 45,931	\$ (28,053)	\$ (11,626)	\$ 61,977	\$ (5,131)	\$ (51,190)
Counterparty B	50,903	(23,464)	(28,721)	43,137	(7,148)	(38,361)
Counterparty C	42,443	(12,508)	39,473	57,205	(15,111)	98,358
Counterparty D	10,053	(6,716)	8,530	34,108	(14,702)	34,197
Counterparty E	5,257	(8,651)	14,903	9,834	(6,471)	12,868
Counterparty F	12,074	(9,873)	...	3,418	(12,103)	...
Counterparty G	40,192	(15,091)	(20,670)	34,133	(1,489)	(26,090)
Counterparty H	8,104	(2,686)	(6,350)	7,776	(13,328)	12,310
All Others	8,488	(17,633)	510	12,111	(11,853)	...
Total	\$ 223,445	\$ (124,675)	\$ (3,951)	\$ 263,699	\$ (87,336)	\$ 42,092

In addition, Duke has executed derivative financial instruments in the normal course of managing its debt portfolio using long term strategies. Duke has interest rate swap agreements that are designed to synthetically decrease the variable rate exposure associated with its portfolio of debt. In addition, Duke has a swap agreement designed to reduce the interest rate risk on variable rate indebtedness by utilizing the spread between the yield curves for taxable debt securities and tax-exempt municipal debt securities.

The following table summarizes the general terms for each of Duke's swap agreements:

Effective date	Associated debt series	Maturity date	Current notional amount	Rate Duke pays	Rate Duke receives
Interest rate:					
August 12, 1993	2012B	June 2023	\$ 28,650	5.09%	SIFMA
May 19, 2005	N/A	June 2028	\$ 279,955	3.60%	61.5% of one-month LIBOR plus 0.28%
April 1, 2009	Portfolio ⁶	June 2039	\$ 127,505	3.80%	67.0% of one-month LIBOR
Basis:					
July 6, 2001	N/A	July 2021	\$ 400,000	SIFMA	72.13% of one-month LIBOR

¹ Includes options, swaps, and futures contracts.

² Includes options, swaps, swaptions, and futures contracts.

³ Includes options and futures contracts.

⁴ Includes credit default swaps, swaptions, and credit total return swaps.

⁵ Includes options and forward contracts.

⁶ Notional amount of the April 2009 Interest Rate Swap declines coincident with the principal schedules for the Series 2006A/B/C bonds. The residual portion is \$5,885.

The fair value of each swap is the estimated amount Duke would receive or pay to terminate the swap agreement at the reporting date, taking into account current interest rates and the current creditworthiness of the swap counterparties. The fair value is included in other liabilities on the consolidated balance sheets. The change in fair value is included as a gain or loss in other nonoperating activities on the consolidated statements of activities. The net settlement amount incurred on the swaps is included in interest expense on the consolidated statements of activities. The collateral to support the related swaps is included in short-term investments within investments on the consolidated balance sheets. The debt derivative instruments contain cross-collateralization provisions that require each counterparty to post collateral if the fair value meets certain thresholds.

DUHS derivative instruments contain provisions requiring long-term, unsecured debt to be maintained at specified credit ratings from Moody's Investor Service and Standard & Poor's Rating Service. If the ratings of DUHS's debt were to fall below certain benchmarks, the counterparty could request immediate payment on derivatives in net liability positions. At June 30, 2017, DUHS's long-term debt ratings exceeded these requirements. The aggregate fair value of all derivative instruments with credit-risk related contingent features that were in a liability position on June 30, 2017 and 2016 was \$80,651 and \$117,187, respectively, for which DUHS has posted collateral of \$13,675 and \$21,869, respectively, in the normal course of business. If the credit-risk related features underlying these agreements were triggered on June 30, 2017 and 2016, DUHS would have been required to post an additional \$66,976 and \$95,318, respectively, of collateral to its counterparties.

Financial Information Related to Swap Agreements	2017		2016	
	Fair Value	Gain	Fair Value	Gain (Loss)
August 1993 Interest Rate Swap	\$ (4,037)	\$ 2,097	\$ (6,134)	\$ 28
May 2005 Interest Rate Swap	(34,522)	18,347	(52,869)	(8,320)
April 2009 Interest Rate Swap	(40,949)	15,493	(56,442)	(17,757)
July 2001 Basis Swap	(1,143)	599	(1,742)	(1,780)
Total	\$ (80,651)	\$ 36,536	\$ (117,187)	\$ (27,829)

The April 2009 Interest Rate Swap is subject to a mandatory early termination right on June 1, 2020. When this right is exercised, DUHS may revoke it, at which time DUHS' collateral threshold reduces to \$0 for the remainder of the swap agreement.

Duke is exposed to financial loss in the event of nonperformance by a counterparty to any of the financial instruments described above. General market conditions could impact the credit standing of the counterparties and, therefore, potentially impact the value of the instruments on Duke's consolidated balance sheets. Duke controls this

counterparty credit risk by considering the credit rating, business risk, and reputation of any counterparty before entering into a transaction, monitoring for any change in the credit standing of its counterparty during the life of the transaction, and requiring collateral be posted when predetermined thresholds are crossed. Duke is also exposed to interest rate risk driven by factors influencing the spread between the taxable and tax-exempt market interest rates on its basis swap.

12. Affiliated Organizations

The Private Diagnostic Clinic, PLLC (the PDC)

The PDC is a professional limited liability company consisting of physicians practicing primarily within DUHS facilities and PDC clinics. The purpose of the PDC is to provide a structure separate from Duke in which the members of the physician faculty of the School of Medicine may engage in the private practice of medicine and still serve as members of the faculty of the University conducting clinical teaching and medical research. Under multiple agreements between the PDC and Duke, the PDC: (1) makes payments for professional services supplied by Duke to the PDC; (2) pays rent for the PDC's use of space; and (3) makes payments for the goodwill and other benefits derived from the PDC's association with Duke. A substantial portion of the payments is used by Duke to support academic programs in the clinical departments of the School of Medicine. These payments totaled \$76,758 and \$69,328 for fiscal 2017 and 2016, respectively, and are recognized as revenue in grants, contracts and similar agreements in the consolidated statements of activities.

The Duke Endowment

Established in 1924 by James Buchanan Duke, The Duke Endowment is a charitable trust created to promote philanthropic purposes by making grants for educational, health care, child care, and religious purposes within North Carolina and South Carolina. The University is a named beneficiary of The Duke Endowment and receives substantial support from The Duke Endowment in the forms of unrestricted operating support and discretionary grants.

While Duke and The Duke Endowment have a common heritage, each having been founded through the generosity of James Buchanan Duke, they are two separate entities, each with its own purposes, office, officers, and trustees. The Duke Endowment has been required by its indenture to distribute certain amounts of income to Duke from the Original Corpus, Corpus Item VIII, and Corpus Item XI, subject to a limited right to withhold by The Duke Endowment trustees. Through June 30, 2017, this right to withhold has never been exercised.

The Duke Endowment trustees now invest for total return in accordance with current investment practices, with the result that (a) the distinction between “principal” and “income” in the traditional sense can no longer be readily identified, if at all, and (b) the traditional “income” that can be identified is often inadequate to meet beneficiary needs. Accordingly, by an Order dated December 15, 2009, the Superior Court of Mecklenburg County, North Carolina further broadened the authority of The Duke Endowment trustees to distribute principal to its beneficiaries.

Unrestricted operating support from The Duke Endowment was \$12,500 for fiscal 2017 and 2016. Such amounts are reflected in investment return designated for current operations in the consolidated statements of activities.

Duke received discretionary grant payments from The Duke Endowment of \$34,046 and \$31,418 for fiscal 2017 and 2016, respectively.

At June 30, 2017 and 2016, the portion of The Duke Endowment’s net assets included in permanently restricted net assets on Duke’s consolidated balance sheets, and from which Duke derives unrestricted operating support, had a fair value of \$702,855 and \$671,542 respectively. Duke has no equity interest in the principal of The Duke Endowment trust, which had a fair value of approximately \$3.5 billion at June 30, 2017.

13. Functional Expenses

Expenses are reported in the consolidated statements of activities in natural categories. Functional expenses for fiscal 2017 and 2016 were categorized as follows:

	2017	2016
Health care services	\$ 2,318,328	\$ 2,131,790
Instruction and sponsored research	2,006,520	1,916,648
General administration	1,023,191	959,969
Auxiliary enterprises	299,184	262,474
Student services and aid	155,736	157,158
Total operating expenses	\$ 5,802,959	\$ 5,428,039

Functional expenses are shown in categories recommended by the National Association of College and University Business Officers. Duke’s primary program services are health care services, sponsored and separately budgeted research, and instruction and departmental research. Expenses reported as general administration, auxiliary enterprises, libraries, student services, and student aid are incurred in support of these primary program services.

Plant operation and maintenance expense is allocated to program and supporting activities based upon periodic assessment of facilities usage. Total amounts allocated in fiscal 2017 and 2016 were \$162,786 and \$161,851, respectively.

14. Managing Conflicts of Interest

Members of Duke’s governing boards and senior administration may, from time to time, be associated, either directly or indirectly, with companies doing business with Duke.

Written conflict of interest policies are maintained for members of the governing boards of the University, DUHS, and DUMAC that require, among other things, that no member of a governing board may participate in any decision in which he or she (or an immediate family member) has a material financial interest. Each governing board member is required to certify compliance with the conflict of interest policy on an annual basis and indicate whether Duke does business with an entity in which that member (or an immediate family member) has a material financial interest. When such relationships exist, measures, including written management plans, are taken to mitigate any actual or perceived conflict, including requiring that such transactions be conducted at arm’s length, for good and sufficient

consideration, based on terms that are fair and reasonable to and in the best interests of Duke, and in accordance with applicable conflict of interest laws and policies in effect. No such associations that have been disclosed are considered to be material to the consolidated financial statements.

For members of the senior administration, Duke requires annual disclosure of significant financial interests in, or employment or consulting relationships with, entities doing business with Duke. These annual disclosures cover members of the senior administration and their immediate family members. When such relationships exist, measures are taken to appropriately manage the actual or perceived conflict in the best interests of Duke. No such associations that have been disclosed are considered to be material to the consolidated financial statements.

15. Commitments and Contingencies

Construction and Purchase Commitments

At June 30, 2017 and 2016, open contracts for the construction of physical properties amounted to \$226,761 and \$312,745, respectively, and outstanding purchase orders for normal operating supplies and equipment amounted to \$16,621 and \$14,608, respectively.

Leases

Duke leases various machinery, equipment and buildings under operating and capital leases expiring at various dates through 2032. Total rental expense in fiscal 2017 and 2016 for all operating leases was \$90,625 and \$75,018, respectively.

Future minimum lease payments under noncancelable capital and operating leases as of June 30, 2017 are as follows:

Year	Capital Leases	Operating Leases	Total
2018	\$ 10,413	\$ 99,463	\$ 109,876
2019	9,186	101,066	110,252
2020	8,069	89,544	97,613
2021	8,313	78,911	87,224
2022	8,569	77,334	85,903
Thereafter	269,601	394,096	663,697
Total minimum lease payments	314,151	840,414	1,154,565
Less sublease rentals by the PDC	...	(23,661)	(23,661)
Total minimum payments less subleases	314,151	\$ 816,753	\$ 1,130,904
Less: Interest portion	(185,199)		
Capital lease obligations	\$ 128,952		

Medical Malpractice Coverage

DCC (see Note 1) insures a portion of the medical malpractice risks and patient general liability risks of DUHS clinical providers and the PDC. The assets, liabilities, and results of operations for DCC have been reflected in the unrestricted net assets of Duke. Policy limits for the years ended June 30, 2017 and 2016 were \$110,000 per incident and \$145,000 in the aggregate for fiscal 2017 and \$155,000 in the aggregate for fiscal 2016. DCC limits its exposure to loss through reinsurance and excess loss agreements.

Estimated professional liability costs include the estimated cost for reported claims incurred in the DCC program. DCC evaluates its estimated professional liability on a discounted actuarial basis. The discount rate at June 30, 2017 and 2016 is 3.5%. Accrued professional liability costs as of June 30, 2017 and 2016 amounted to \$38,710 and \$34,785, respectively. Cash, investments, and other receivables in this amount have been designated by DUHS to settle these claims. Also included in estimated professional liability costs are estimated

claims incurred but not reported related to DUHS in the amounts of \$6,588 and \$7,272 as of June 30, 2017 and 2016, respectively.

The estimated liability for professional and general liability claims may be significantly affected if current and future claims differ from historical trends. While the administration monitors reported claims closely and considers potential outcomes as estimated by its actuaries when determining its professional and patient general liability accruals, the complexity of the claims, the extended period of time to settle the claims, and the wide range of potential outcomes complicate the estimation. In the opinion of the administration, adequate provision has been made for this related risk.

Self-Insurance

Duke provides employee healthcare benefits, long-term disability benefits, unemployment benefits, and workers' compensation benefits primarily through employer contributions, participant contributions, and excess loss insurance, and manages those programs through third-party administrators. In the opinion of the administration, adequate provision has been made for the related risks within accounts payable and accrued payroll or accrued postretirement/postemployment and other benefit obligations on Duke's consolidated balance sheets.

Partnership Investment Commitments

There were \$1.8 billion of commitments to private capital and real asset investments as of June 30, 2017. These funds may be drawn down over the next several years upon request by the general partners. Duke expects to finance these commitments with available cash and expected proceeds from the sales of securities.

Contingencies

Duke is involved in various legal actions occurring in the normal course of activities. While the final outcomes cannot be determined at this time, the administration is of the opinion that the resolution of these matters will not have a material adverse effect on Duke's financial position.

Duke has been named as a defendant in three lawsuits, alleging false claims, antitrust, and ERISA violations. The administration currently believes that the resolution of these cases will not result in a material impact on the consolidated financial statements.

Laws and regulations governing Medicare, Medicaid, and other federal programs are complex and subject to interpretation. Duke, in part through its compliance program, seeks to ensure compliance with such laws and regulations, and to rectify instances of noncompliance with governmental program rules. Duke believes that it is in compliance with all applicable laws and regulations and is not aware of any pending or threatened investigations involving allegations of potential wrongdoing that would have a material effect on Duke's consolidated financial statements. Compliance with such laws and regulations is subject to future government review and interpretation as well as significant regulatory action, including fines, penalties and exclusion from the Medicare, Medicaid, and other Federal programs.

Balance Sheets SCHEDULE 1

THE UNIVERSITY (SUPPLEMENTARY INFORMATION)
JUNE 30, 2017 AND 2016
(DOLLARS IN THOUSANDS)

	2017	2016
Assets:		
Cash and cash equivalents	\$ 443,535	\$ 174,348
Accounts receivable, net	244,052	232,616
Prepaid expenses, inventories, and other assets	61,962	60,007
Contributions receivable, net	428,559	439,869
Investments	9,290,625	8,129,791
Deposits with bond trustees	28,601	45,323
Land, buildings, and equipment, net	2,479,606	2,229,999
Interests in perpetual trusts held by others	805,474	772,553
Due from Duke University Health System	...	510,000
Total assets	<u>\$ 13,782,414</u>	<u>\$ 12,594,506</u>
Liabilities:		
Accounts payable and accrued payroll	\$ 356,081	\$ 327,042
Deferred revenues and deposits	204,619	193,688
Notes and bonds payable	2,148,917	1,884,237
Annuity and other split-interest obligations	60,369	53,372
Accrued postretirement/postemployment and other benefit obligations	340,141	370,986
Other liabilities	179,164	174,556
Total liabilities	<u>3,289,291</u>	<u>3,003,881</u>
Net Assets:		
Unrestricted	4,693,704	4,211,843
Temporarily restricted	2,834,495	2,565,199
Permanently restricted	2,964,924	2,813,583
Total net assets	<u>10,493,123</u>	<u>9,590,625</u>
Total liabilities and net assets	<u>\$ 13,782,414</u>	<u>\$ 12,594,506</u>

The supplementary information in this schedule presents the balance sheets of the University, exclusive of DUHS.
See accompanying Independent Auditors' Report.

Statements of Activities SCHEDULE 2

THE UNIVERSITY (SUPPLEMENTARY INFORMATION)
YEARS ENDED JUNE 30, 2017 AND 2016
(DOLLARS IN THOUSANDS)

	2017	2016
Unrestricted Net Assets:		
<i>Operating revenues:</i>		
Tuition and fees	\$ 771,103	\$ 733,497
Less student aid	(294,544)	(279,874)
Tuition and fees, net	476,559	453,623
Grants, contracts and similar agreements:		
Government sources	595,899	557,337
The Private Diagnostic Clinic, PLLC	60,464	54,625
Other	477,144	459,817
Total grants, contracts and similar agreements	1,133,507	1,071,779
Contributions	137,956	125,410
Investment return designated for current operations:		
The Duke Endowment	12,500	12,500
Endowment spending	410,054	363,423
Other investment income	111,239	91,349
Total investment return designated for operations	533,793	467,272
Auxiliary enterprises	234,641	211,765
Operating support from DUHS	102,271	97,937
Other	140,553	135,431
Net assets released from restrictions	72,775	57,116
Total operating revenues	2,832,055	2,620,333
<i>Operating expenses:</i>		
Salaries and wages	1,292,757	1,212,257
Employee benefits	297,712	301,721
Student aid	43,897	42,243
Other operating expenses	777,238	743,252
Interest expense	74,745	66,136
Depreciation expense	212,930	199,549
Total operating expenses	2,699,279	2,565,158
Operating surplus	132,776	55,175

Statements of Activities SCHEDULE 2 (CONTINUED)

	2017	2016
Nonoperating activities:		
Net assets released from restrictions	\$ 83,297	\$ 43,499
Investment return in excess of (less than) amounts designated for current operations	239,361	(370,175)
Nonperiodic changes in defined benefit plans	39,259	(197,652)
Other, net	(12,832)	(4,155)
Change in unrestricted net assets from nonoperating activities	349,085	(528,483)
Transfers of net assets from DUHS	...	510,000
Change in unrestricted net assets	481,861	36,692
Temporarily Restricted Net Assets:		
Contributions	115,141	81,017
Net assets released from restrictions	(156,072)	(100,615)
Investment return in excess of (less than) amounts designated for current operations	299,166	(310,757)
Other, net	11,061	10,106
Change in temporarily restricted net assets	269,296	(320,249)
Permanently Restricted Net Assets:		
Contributions	121,855	123,252
Investment return (less than) in excess of amounts designated for current operations	(1,945)	1,951
Gains (losses) on interests in perpetual trusts held by others	32,921	(51,708)
Other, net	(1,490)	(12,648)
Change in permanently restricted net assets	151,341	60,847
Change in total net assets	902,498	(222,710)
Net assets at beginning of year	9,590,625	9,813,335
Net assets at end of year	\$ 10,493,123	\$ 9,590,625
Certain amounts disaggregated above are presented below in the aggregate:		
Contributions	\$ 374,952	\$ 329,679
Investment return	1,070,375	(211,709)

The supplementary information in this schedule presents the statements of activities of the University, exclusive of DUHS. See accompanying Independent Auditors' Report.

Statements of Cash Flows SCHEDULE 3

THE UNIVERSITY (SUPPLEMENTARY INFORMATION)
YEARS ENDED JUNE 30, 2017 AND 2016
(DOLLARS IN THOUSANDS)

	2017	2016
<i>Cash flows from operating activities:</i>		
Change in net assets	\$ 902,498	\$ (222,710)
Adjustments to reconcile change in net assets to net cash used in operating activities:		
Depreciation expense	212,930	199,549
Nonperiodic changes in defined benefit plans	(39,259)	197,652
Provision for bad debt	(15,917)	763
Transfers from DUHS	...	(510,000)
Loss (gain) on extinguishment of debt	15,559	(1,922)
Loss on disposals of land, buildings and equipment	1,277	5,610
Restricted contributions received for long-term investment and capital projects	(248,306)	(215,652)
Permanently restricted investment loss (gain)	1,945	(1,951)
Gains on other nonoperating items	...	(1,956)
Net realized and unrealized (gains) losses on investments	(938,838)	319,668
(Gains) losses on interests in perpetual trusts held by others	(32,921)	51,708
Change in:		
Accounts receivable, net	(14,545)	(19,961)
Prepaid expenses, inventories, and other assets	(1,955)	(3,050)
Contributions receivable, net	27,227	10,620
Accounts payable and accrued payroll	32,124	(18,790)
Deferred revenues and deposits	10,931	17,173
Annuity and other split-interest obligations	6,997	1,824
Accrued postretirement/postemployment and other benefit obligations	8,414	5,591
Other liabilities	4,608	(2,483)
Net cash used in operating activities	(67,231)	(188,317)

Statements of Cash Flows SCHEDULE 3 (CONTINUED)

	2017	2016
<i>Cash flows from investing activities:</i>		
Purchases of investments	(11,758,100)	(11,696,204)
Proceeds from sales and maturities of investments	12,046,104	11,907,758
Purchases of land, buildings, and equipment	(466,899)	(457,456)
Disbursements for loans to students	(3,832)	(6,873)
Repayments of loans by students	6,941	7,128
Change in deposits with bond trustees	16,722	(22,274)
Net cash used in investing activities	(159,064)	(267,921)
<i>Cash flows from financing activities:</i>		
Restricted contributions received for long-term investment and capital projects	248,306	215,652
Permanently restricted investment (loss) gain	(1,945)	1,951
Gains on other nonoperating items	...	1,956
Principal payments on notes and bonds payable	(648,322)	(368,416)
Proceeds from borrowings	897,443	656,863
Net cash provided by financing activities	495,482	508,006
Net change in cash and cash equivalents	269,187	51,768
Cash and cash equivalents at beginning of year	174,348	122,580
Cash and cash equivalents at end of year	\$ 443,535	\$ 174,348
<i>Supplemental disclosure of cash flow information:</i>		
Noncash transfer from DUHS	\$ 501,417	\$...

The supplementary information in this schedule presents the statements of cash flows of the University, exclusive of DUHS.
See accompanying Independent Auditors' Report.



2017 football season opening game in Wallace Wade Stadium.





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