KPMG

THE JOHNS HOPKINS UNIVERSITY

Consolidated Financial Statements

June 30, 2019 and 2018

(With Independent Auditors’ Report Thereon)

KPMG LLP
750 East Pratt Street, 18th Floor
Baltimore, MD 21202

Independent Auditors' Report

The Board of Trustees
The Johns Hopkins University:

We have audited the accompanying consolidated financial statements of The Johns Hopkins University (the University), which comprise the consolidated balance sheets as of June 30, 2019 and 2018, 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 Consolidated 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 The Johns Hopkins University as of June 30, 2019 and 2018, 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.

Emphasis of Matters

As discussed in note 1(v) to the consolidated financial statements, in 2019, the University adopted Accounting Standards Update (ASU) 2014-09, *Revenue from Contracts with Customers (Topic 606)*, as amended, and ASU 2018-08, *Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made*. Our opinion is not modified with respect to these matters.

KPMG LLP

Baltimore, Maryland
October 22, 2019

THE JOHNS HOPKINS UNIVERSITY

Consolidated Balance Sheets

June 30, 2019 and 2018

(In thousands)

Assets		**2019**	**2018**
Cash and cash equivalents	$	347,007	262,356
Operating investments		1,225,501	1,217,481
Cash, cash equivalents, and operating investments		1,572,508	1,479,837
Sponsored research accounts receivable, net		489,650	456,291
Accounts receivable, net		228,858	186,888
Contributions receivable, net		359,545	500,150
Prepaid expenses and deferred charges		77,060	63,150
Student loans receivable, net		27,021	30,834
Investments		7,190,782	5,144,881
Property and equipment, net		2,194,975	2,126,913
Investment in and loans to affiliates		303,984	300,579
Other assets		292,605	242,347
Interests in trusts and endowment funds held by others		113,426	116,098
Total assets	$	12,850,414	10,647,968
Liabilities and Net Assets			
Accounts payable and accrued expenses	$	685,413	636,682
Sponsored research deferred revenues		347,350	353,265
Other deferred revenues		135,875	124,435
Debt		1,254,153	1,246,992
Other long-term liabilities		343,547	306,567
Pension and postretirement obligations		184,612	100,717
Liabilities under split-interest agreements		79,375	78,085
Endowment and similar funds held for others		623,028	621,769
Total liabilities		3,653,353	3,468,512
Net assets:			
Without donor restrictions		3,077,677	2,989,309
With donor restrictions		6,119,384	4,190,147
Total net assets		9,197,061	7,179,456
Total liabilities and net assets	$	12,850,414	10,647,968

See accompanying notes to consolidated financial statements.

THE JOHNS HOPKINS UNIVERSITY

Consolidated Statements of Activities

Years ended June 30, 2019 and 2018

(In thousands)

	2019	2018
Changes in net assets without donor restrictions:		
Operating revenues:		
Tuition and fees, net of financial aid of $363,694 and $333,558, respectively	$ 690,465	657,682
Grants, contracts, and similar agreements	1,511,335	1,506,621
Facilities and administrative cost recoveries	372,478	360,106
Applied Physics Laboratory contract revenues	1,686,547	1,504,224
Sponsored research revenues	3,570,360	3,370,951
Contributions	123,341	135,812
Net assets released from restrictions	118,411	94,317
Contributions and donor support	241,752	230,129
Clinical services, net	745,197	708,693
Reimbursements from affiliated institutions	598,457	570,649
Other revenues	192,343	143,611
Endowment payout used to support operations	196,770	183,486
Auxiliary enterprises	106,189	104,056
Maryland State aid	27,253	22,857
Investment return	41,331	28,862
Total operating revenues	6,410,117	6,020,976
Operating expenses:		
Compensation	2,909,517	2,738,093
Benefits	913,782	865,426
Compensation and benefits	3,823,299	3,603,519
Subcontractors and subrecipients	518,102	474,121
Contractual services	853,147	781,861
Supplies, materials, and other	652,062	603,358
Depreciation	223,263	211,193
Travel	162,989	153,604
Interest	44,518	47,583
Total operating expenses	6,277,380	5,875,239
Excess of operating revenues over operating expenses	132,737	145,737

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THE JOHNS HOPKINS UNIVERSITY

Consolidated Statements of Activities

Years ended June 30, 2019 and 2018

(In thousands)

		2019	2018
Other changes in net assets without donor restrictions:			
Investment return in excess of endowment payout	$	21,617	38,360
Change in benefit plans funded status, excluding benefits cost		(88,659)	83,572
Other net periodic benefit cost		5,908	(321)
Change in fair value on interest rate swap agreements		(7,832)	5,978
Net assets reclassified		—	(110,892)
Other, net		22,342	21,125
Net assets released from restrictions		2,255	39,220
Other changes in net assets without donor restrictions		(44,369)	77,042
Total changes in net assets without donor restrictions		88,368	222,779
Changes in net assets with donor restrictions:			
Contributions		2,091,797	383,068
Investment return (less than) in excess of endowment payout		(41,894)	122,202
Net assets reclassified		—	110,892
Net assets released from restrictions		(120,666)	(133,537)
Total changes in net assets with donor restrictions		1,929,237	482,625
Total change in net assets		2,017,605	705,404
Net assets at beginning of year		7,179,456	6,474,052
Net assets at end of year	$	9,197,061	7,179,456

See accompanying notes to consolidated financial statements.

THE JOHNS HOPKINS UNIVERSITY

Consolidated Statements of Cash Flows

Years ended June 30, 2019 and 2018

(In thousands)

		2019	2018
Cash flows from operating activities:			
Changes in net assets	$	2,017,605	705,404
Adjustments to reconcile changes in net assets to net cash provided by operating activities:			
Depreciation, amortization, and loss on asset disposals		220,664	208,311
Noncash gift of investments		(1,885,023)	—
Contributions restricted for long-term investment		(227,248)	(289,935)
Net realized and unrealized gains from investments		(148,076)	(305,888)
Net unrealized losses (gains) from swaps		7,832	(5,978)
Earnings from joint ventures		(6,203)	(17,041)
Change in benefit plans funded status		83,895	(92,255)
Changes in operating assets and liabilities:			
Sponsored research and accounts receivable, net		(75,329)	(36,590)
Contributions receivable, net		140,605	(29,800)
Prepaid expenses and deferred charges		(13,910)	5,761
Other assets		(54,878)	1,336
Accounts payable and accrued expenses		41,846	40,868
Sponsored research, other deferred revenues and other long-term liabilities		39,293	(57,826)
Interests and liabilities related to trusts and split-interest agreements		4,473	6,442
Net cash provided by operating activities		145,546	132,809
Cash flows from investing activities:			
Purchases of investments		(4,477,898)	(4,351,587)
Proceeds from sales and maturities of investments		4,483,558	4,164,667
Purchases of property and equipment		(285,260)	(237,888)
Repayments of student loans, net of disbursements		3,813	3,839
Loans to affiliates		(1,639)	(39,895)
Repayments of loans to affiliates		7,614	41,956
Capital contributions to joint ventures, net of dividends		(3,177)	(27,351)
Change in endowment and similar funds held for others		(25,735)	(12,645)
Net cash used in investing activities		(298,724)	(458,904)
Cash flows from financing activities:			
Contributions restricted for long-term investment		227,248	289,935
Proceeds from borrowings		125,000	145,000
Early retirement and refinancings of debt		(50,000)	(134,880)
Scheduled debt payments		(64,419)	(56,971)
Net cash provided by financing activities		237,829	243,084
Net increase (decrease) in cash and cash equivalents		84,651	(83,011)
Cash and cash equivalents at beginning of year		262,356	345,367
Cash and cash equivalents at end of year	$	347,007	262,356

See accompanying notes to consolidated financial statements.

(1) Basis of Presentation and Summary of Significant Accounting Policies

(a) General

The Johns Hopkins University (the University) is a premier, privately endowed institution that provides education and related services to students and others, research and related services to sponsoring organizations, and professional medical services to patients. The University is based in Baltimore, Maryland, but also maintains facilities and operates education programs elsewhere in Maryland, in Washington, D.C., and in certain foreign locations. The University is internationally recognized as a leader in research, teaching, and medical care.

Education and related services (e.g., room, board, etc.) are provided to approximately 26,000 students, including 14,500 full-time students and 11,500 part-time students, and on a net basis provided approximately 11% of the University's operating revenues in both fiscal 2019 and 2018. Approximately 62% of the full-time students are graduate level (including postdoctoral) and 38% are undergraduate level. Students are drawn from a broad geographic area, including most of the states in the United States and numerous foreign countries. The majority of the part-time students are graduate level students from the Baltimore-Washington, D.C. area.

Research and related services (e.g., research training) are provided through approximately 2,100 government and private sponsors. Sponsored research revenues provided approximately 56% of the University's operating revenues in both fiscal years 2019 and 2018. Approximately 86% of those revenues were from departments and agencies of the United States government in both fiscal 2019 and 2018. Major government sponsors include the Department of Health and Human Services, the Department of Defense, the National Aeronautics and Space Administration, and the Agency for International Development.

Professional clinical services are provided by members of the University's faculty to patients at The Johns Hopkins Hospital (the Hospital) and other hospitals and outpatient care facilities in the Baltimore area and produced approximately 12% of the University's operating revenues in both fiscal 2019 and 2018. Services are predominantly provided to patients in the Baltimore area, other parts of Maryland, or surrounding states.

(b) Basis of Presentation and Use of Estimates

The consolidated financial statements include the accounts of the various academic and support divisions, the Applied Physics Laboratory (APL), 63019 Holdings, LLC, Johns Hopkins University Press, and certain other controlled affiliated organizations, including Jhpiego Corporation and Peabody Institute of the City of Baltimore (collectively, the consolidated financial statements). All significant inter-entity activities and balances are eliminated for financial reporting purposes. Investments in organizations that the University does not control, including Dome Corporation, FSK Land Corporation, Johns Hopkins Healthcare LLC, Johns Hopkins Home Care Group, Inc., Johns Hopkins Medical Institutions Utilities LLC (JHMI Utilities LLC), Johns Hopkins Medicine International LLC, and other affiliated entities, are accounted for using the equity method.

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and judgments that affect the reported amounts of assets and liabilities and disclosures of contingencies at the dates of the consolidated financial statements and revenues and expenses recognized during the reporting periods. Actual results could differ from those estimates.

Net assets, revenues, gains and losses are classified based on the existence or absence of donor-imposed restrictions into two classes of net assets. Accordingly, net assets of the University are classified and reported as follows:

- *Without donor restrictions* – Net assets that are not subject to donor-imposed stipulations.
- *With donor restrictions* – Net assets subject to donor-imposed stipulations that are more specific than broad limits resulting from a not-for-profit's nature, environment in which it operates, and incorporating documents. Some donors impose restrictions that are temporary in nature, for example, stipulating that resources be used only after a specified date, for particular programs or services, or to acquire buildings or equipment. Other donors impose restrictions that are perpetual in nature, for example, donor-restricted endowment funds stipulating that resources be maintained in perpetuity. For such funds held by the University, the Maryland-enacted version of the Uniform Prudent Management of Investment Funds (UPMIFA) extends those restrictions to related investment returns and to other enhancements (diminishments) for general and specific purposes, primarily divisional and departmental support and student financial aid.

Revenues are reported as increases in net assets without donor restrictions unless their use is limited by donor-imposed restrictions. Expenses are reported as decreases in net assets without donor restrictions. Gains and losses on investments are reported as increases or decreases in net assets without donor restrictions unless their use is restricted by explicit donor stipulations or by law. Under Maryland law, appreciation on donor-restricted endowments is classified as net assets with donor restrictions until appropriated for expenditure. 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 and reclassified from net assets with donor restrictions to net assets without donor restrictions. Temporary restrictions on gifts to acquire long-lived assets are considered met in the period in which the assets are placed in service.

(c) Cash, Cash Equivalents, and Operating Investments

The University utilizes cash, cash equivalents, and operating investments to fund daily cash needs. Investments with original maturities at the date of purchase of 90 days or less are classified as cash equivalents. Investments with longer maturities are classified as operating investments. Operating investments, which include U.S. Treasury securities and other highly liquid fixed income investments, are stated at fair value, generally based on quoted market prices, and are used for general operating purposes.

(d) Contributions

Contributions, including unconditional promises to give, are recognized at fair value in the appropriate category of net assets in the period received, except that contributions that impose restrictions met in the same fiscal year are included in net assets without donor restrictions. Unconditional promises to give are recognized initially at fair value considering anticipated future cash receipts and discounting such amounts at a risk-adjusted rate. These inputs to the fair value estimate are considered Level 3 in the fair value hierarchy (see note 1(f)). Amortization of the discount is included in contributions revenue. Conditional promises to give are not recognized until one or more of the barriers have been overcome for the University to be entitled to the assets transferred and a right of return for the transferred assets or a right of release of the promisor's obligation to transfer assets has expired. Contributions of assets are recorded at their estimated fair value at the date of gift, except that contributions of works of art, historical treasures, and similar assets held as part of collections are not recognized or capitalized. Allowance is made for uncollectible contributions receivable based upon management's judgment and analysis of the creditworthiness of the donors, past collection experience, and other relevant factors.

(e) Investments and Investment Return

Investments in United States government and agency obligations, debt securities, and directly held United States and certain international equities in common collective trust funds (CCTFs) are stated at fair value, which are determined primarily based on quoted market prices. Fair values of CCTFs, similar to mutual funds that are deemed to have a readily determinable fair value (RDFV) are based on published net asset values (NAV). Investments in private equity and venture capital, certain real estate, natural resources, certain international equities in CCTFs and marketable alternatives, (collectively, alternative investments) are stated at estimated fair value based on the funds' net asset values, or their equivalents (collectively NAV) as a practical expedient. If it is probable that alternative investments will be sold for an amount different than NAV, measurement of the alternative investments will be adjusted to fair value. As of June 30, 2019 and 2018, the University had no plans or intentions to sell investments at amounts different from NAV. The NAVs, which are estimated and reported by the general partners or investment managers, are reviewed and evaluated by the University's investment office. These estimated fair values may differ from the values that would have been used had a ready market existed for these investments, and the differences could be significant. Investments in certain real estate assets are recorded at fair value based upon independent third-party appraisals.

Investments are exposed to several risks, including interest rate, credit, liquidity, and overall market volatility. Due to the level of risk associated with certain investment securities, changes in the value of investment securities could occur in the near term, and these changes could materially affect the amounts reported in the accompanying consolidated financial statements. Liquidity risk represents the possibility that the University may not be able to rapidly adjust the size of its portfolio holdings in times of high volatility and financial stress at a reasonable price. If the University was forced to dispose of an illiquid investment at an inopportune time, it might be forced to do so at a substantial discount to fair value.

Investment return included in operating revenues consists of income and realized gains and losses on operating investments, including cash equivalents, and nonpooled endowment funds (except where restricted by donors). Endowment payout for pooled endowment and similar funds approved by the Board of Trustees is also recognized in operating revenues.

Unrealized gains and losses of operating investments and nonpooled endowment funds, any difference between the total return recognized and the payout for pooled endowment and similar funds, and income and realized gains restricted by donors are reported as nonoperating activities.

(f) Fair Value Measurements

Assets and liabilities that are reported at fair value on a recurring basis are categorized into a fair value hierarchy. As described further in the notes to the consolidated financial statements, such assets include investments, deferred compensation assets, and interests in trusts and endowment funds held by others, and such liabilities include interest rate swaps, obligations under deferred compensation arrangements, and endowment and similar funds held for others. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The three levels of the fair value hierarchy are as follows:

- Level 1: Quoted prices in active markets for identical assets or liabilities.
- Level 2: Observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the asset or liabilities.

When observable prices are not available, certain real asset investments are valued using one or more of the following valuation techniques: market approach – this approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities; income approach – this approach determines a valuation by discounting future cash flows; or cost approach – this approach is based on the principle of substitution and the concept that a market participant would not pay more than the amount that would currently be required to replace the asset. These valuation techniques may include inputs such as price information, operating statistics, specific and broad credit data, recent transactions, earnings forecasts, discount rates, reserve reports, and other factors.

(g) Split-Interest Agreements and Interests in Trusts

The University's split-interest agreements with donors consist primarily of irrevocable charitable remainder trusts and charitable gift annuity agreements for which the University serves as trustee. Assets held under these arrangements are included in investments and are recorded at fair value. Contribution revenues are recognized at the date the trusts or agreements are established after recording liabilities for the present value of the estimated future payments to be made to the donors and/or other beneficiaries. The liabilities are adjusted during the terms of the trusts for changes in the values of the assets, accretion of the discounts, and other changes in estimates of future benefits. Assets and liabilities under the University's charitable gift annuity agreements were $64,025 and $63,262 classified in investments and $34,810 and $32,897 classified in liabilities under split-interest agreements, respectively, as of June 30, 2019 and 2018.

(h) Property and Equipment

Property and equipment are stated at cost if purchased, or at estimated fair value at the date of gift if donated, less accumulated depreciation and amortization. Depreciation of buildings, equipment, and library collections and amortization of leasehold improvements are computed using the straight-line method over the estimated useful lives of the assets or lease term, if shorter. Land and certain historic buildings are not subject to depreciation. Title to certain equipment purchased using funds provided by government sponsors is vested in the University and is included in property and equipment on the

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consolidated balance sheets. Certain equipment used by the APL in connection with its performance under agreements with the United States government is owned by the government. These facilities and equipment are not included in the consolidated balance sheets; however, the University is accountable to the government for them. Repairs and maintenance costs are expensed as incurred.

Costs of purchased software are capitalized along with internal and external costs incurred during the application development stage (i.e., from the time the software is selected until it is ready for use). Capitalized costs are amortized on a straight-line basis over the expected life of the software. Computer and software maintenance costs are expensed as incurred.

Costs relating to retirement, disposal, or abandonment of assets for which the University has a legal obligation to perform certain activities are accrued using either site-specific surveys or square foot estimates, as appropriate.

(i) Tuition and Fees, Net of Financial Aid

Student tuition and fees are recorded as revenue as services are provided during the year the related academic services are rendered which generally aligns with the University's fiscal year. Tuition and fees received in advance of services provided are recorded as other deferred revenues and amounted to $97,082 and $87,692 at June 30, 2019 and 2018, respectively. The University provides institutional financial aid to eligible students, generally in an "aid package" that may also include loans, compensation under work-study programs, and/or grant and scholarship awards. The loans are provided primarily through programs of the United States government (including direct and guaranteed loan programs) under which the University is responsible only for certain administrative duties. The institutional grants and scholarships include awards provided from gifts and grants from private donors, income earned on endowment funds restricted for student aid, and University funds.

The composition of student tuition and fees, net revenue was as follows for the years ended June 30, 2019 and 2018:

		2019	2018
Undergraduate programs	$	174,290	183,356
Graduate programs		440,720	399,974
Other programs		75,455	74,352
	$	690,465	657,682

Other programs includes the University's Center for Talented Youth (a gifted education program for school-age children), continuing medical education, health services, and various nondegree programs.

(j) Grants, Contracts, and Similar Agreements

Grants, contracts, and similar agreements are funded by various federal and private sponsors. The vast majority of such agreements are considered nonexchange transactions and restricted by sponsors for specific research or other program purposes. Revenues are recognized within net assets without donor restrictions as conditions are met, (i.e., generally as qualifying expenditures are incurred). These revenues include recoveries of facilities and administrative costs, which are generally determined as a negotiated or agreed-upon percentage of direct costs, with certain exclusions. Payments received from sponsors in advance of conditions being met are reported as sponsored research deferred revenues. Of the $347,350 in sponsored deferred revenues as of June 30, 2019, $281,021 relates to nonexchange contracts and $66,329 relates to exchange contracts.

Approximately 78% and 76% of receivables related to reimbursement of costs incurred under grants and contracts as of June 30, 2019 and 2018, respectively, were from agencies or departments of the United States government. There is no assurance that sponsored research activities can and will continue to be made at current levels as awards are subject to the availability of and annual appropriation of funds. Accordingly, the University estimates that conditional awards outstanding as of June 30, 2019 approximate its recent annual sponsored program activity.

(k) Clinical Services, Net

Clinical services revenues are recognized in the period in which services are rendered based on gross charges less negotiated fixed discounts (explicit price concessions) which include contractual adjustments specific to the third party payer contracts, less amounts for “implicit price concessions”. Fixed discounts are generally determined based on regulatory authorities, determined by legislative statute (Medicare and Medicaid), or negotiated in the case of commercial payers. Implicit price concessions are estimated based on the historical collection experience using a portfolio approach as a practical expedient.

The composition of clinical services revenue by primary payer for the years ended June 30, 2019 and 2018 was as follows:

	2019		2018	
PPO/HMO	$ 331,409	44.5 %	307,169	43.3 %
Medicare	139,092	18.7	128,864	18.2
Medicaid	72,236	9.7	66,515	9.4
Blue Cross/Blue Shield	59,810	8.0	58,082	8.2
Self Pay	58,132	7.8	51,562	7.3
All other clinical	84,518	11.3	96,501	13.6
	$ 745,197	100.0 %	708,693	100.0 %

(l) Affiliated Institutions

The University has separate administrative agreements for the exchange of services with the Hospital and other medical and educational institutions. These agreements are executed on an annual basis based on negotiated rates and reimbursement of actual costs. Costs incurred by the University in providing services to these institutions and the related reimbursements are generally recognized as services are provided and are reported as operating expenses and revenues, respectively, in the appropriate classifications.

The University holds several endowment and similar funds, which are designated for purposes or activities that are carried out by the Hospital and The Johns Hopkins Hospital Endowment Fund Incorporated (JHHEFI). The assets of these funds are included in investments. The carrying values of the funds are adjusted for earnings from and changes in the fair values of the investments and reduced for any distributions paid and are classified as liabilities on the consolidated balance sheets as endowment and similar funds held for others.

(m) Auxiliary Enterprises

Auxiliary enterprises, including residence halls, food service, parking, the press, and telecommunications, provide services to students, faculty, and staff. Fees for such services are recognized as revenue as the services are provided. Student related activities included in auxiliary enterprises amounted to $56,211 and $55,187 in fiscal 2019 and 2018, respectively.

(n) Other Revenues

Other revenues include revenues from royalties and patents, medical and professional reimbursements, joint ventures, and other miscellaneous activities. Such revenues are recognized when goods or services are provided to customers.

(o) Insurance and Self Insurance

The University, together with other institutions, has formed captive insurance companies that arrange and provide professional liability, general liability, and property damage insurance for their shareholders. Defined portions of claims paid by these companies are self-insured. The University's claims liabilities are recognized as claims are incurred using actuarial studies based upon historical claims data, cost trends, and other actuarial estimates. Insurance expenses are recognized as operating expenses as incurred. In addition, the University is self-insured for certain other risks, primarily health, and workers' compensation. Professional insurance liabilities associated with providing clinical services are reflected as gross claims on the consolidated balance sheets. In addition, medical malpractice insurance recoveries of $75,573 and $53,832 as of June 30, 2019 and 2018, respectively, are reported on the consolidated balance sheets as other assets. Accrued self-insurance liabilities, including medical malpractice insurance, aggregated $82,026 and $75,645 as of June 30, 2019 and 2018, respectively.

(p) Refundable Advances from the United States Government

Funds provided by the United States government under the Federal Perkins, Nursing and Health Professions Student Loan programs are loaned to qualified students, administered by the University, and may be reloaned after collections. These funds are ultimately refundable to the government and are included in other long-term liabilities. These advances totaled $22,244 and $22,682 as of June 30, 2019 and 2018, respectively.

(q) Income Taxes

The University is qualified as a not-for-profit organization under Section 501(c)(3) of the Internal Revenue Code, as amended. Accordingly, it is not subject to income taxes except to the extent it has taxable income from activities that are not related to its exempt purpose. The University annually reviews its tax positions and has determined that there are no material uncertain tax positions that require recognition in the consolidated financial statements.

(r) Leases

The University conducts certain operations in leased facilities, which have minimum lease obligations under noncancelable operating leases. Certain leases contain rent escalations, renewal options, and require payments for taxes, insurance, and maintenance. Rent expense is recognized in operations as incurred, except for escalating rents, which are recognized on a straight-line basis over the life of the lease.

The University also enters into lease agreements that are classified as capital leases. Buildings and equipment under capital leases are initially recorded at the lower of the net present value of the minimum lease payments or the value of the leased asset at the inception of the lease. Depreciation expense related to capital leases totaled $5,624 in both fiscal 2019 and 2018.

(s) Derivative Financial Instruments

The University and its external investment managers are authorized to use specified derivative financial instruments in managing the assets under their control, subject to restrictions and limitations adopted by the Board of Trustees. The University uses interest rate swap agreements to manage interest rate risk associated with certain variable rate debt or to adjust its debt structure. Derivative financial instruments are measured at fair value and recognized in the consolidated balance sheets as assets or liabilities, with changes in fair value recognized in the consolidated statements of activities.

(t) Deferred Compensation Plans

The University maintains deferred compensation plans for certain employees. As of June 30, 2019 and 2018, other investments, included in other assets on the consolidated balance sheets, represent investments held by the University under these deferred compensation agreements. Such amounts approximate the University's related liability to the employees and are included in other long-term liabilities. The assets and liabilities of the deferred compensation plans are categorized in Level 1 of the fair value hierarchy. The fair value of deferred compensation plan assets as of June 30, 2019 and 2018 is $134,852 and $130,232, respectively.

(u) Statement of Cash Flows Supplemental Information

Property and equipment additions included in accounts payable and accrued expenses increased $6,885 and $8,933 as of June 30, 2019 and 2018, respectively.

(v) Recently Adopted Accounting Standards

ASU 2014-09, *Revenue from Contracts with Customers*, *as amended (Topic 606)* was issued by the FASB in May 2014 and is intended to improve the financial reporting requirements for revenue from contracts with customers. Under Topic 606, revenue from contracts with customers is recognized when control of the promised goods or services is transferred in an amount that reflects the consideration to which the University expects to be entitled in exchange for those goods or services (i.e., the transaction price). The ASU establishes a five-step model and application guidance for determining the timing and amount of revenue recognition. The related application guidance in the ASU replaces most existing revenue recognition guidance in GAAP. The ASU became effective for the University for the year ended June 30, 2019. The University's adoption of the ASU did not materially change the timing or amount of revenue recognized by the University. However, the ASU requires that tuition, fees and auxiliary student revenues be presented in the consolidated statement of activities at the transaction price, i.e., net of any institutional student aid. Previously, such revenues were presented gross, i.e., at published rates, followed by a reduction for institutional student aid. Accordingly, the University's 2018 consolidated statement of activities has been revised to conform to the 2019 presentation.

ASU 2018-08, *Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made*, was issued by the FASB in June 2018. The new ASU is intended to assist entities in (1) evaluating whether transactions should be accounted for as contributions (nonexchange transactions) within the scope of Topic 958, *Not-for-Profit Entities*, or as exchange transactions subject to other guidance and (2) determining whether a contribution is conditional. The ASU clarifies that a contribution is conditional if the agreement includes one or more barriers that must be overcome for the recipient to be entitled to the assets transferred and a right of return for the transferred assets or a right of release of the promisor's obligation to transfer assets. The ASU became effective for the University for the year ended June 30, 2019. The University's adoption of the ASU on a modified prospective basis did not have a material effect on its consolidated financial statements.

(w) Recent Accounting Pronouncements

In February 2016, the FASB issued 2016-02, *Leases (Topic 842)*. Under the new provisions, all lessees will report on the balance sheet a right-of-use asset and a liability for the obligation to make payments with the exception of those leases with a term of 12 months or less. The new provisions will be effective for fiscal years beginning after December 15, 2018. The University is evaluating the expected impact of this standard on its consolidated financial statements for adoption in fiscal year 2020. However, the University has concluded that the most significant effects will relate to the recognition of lease liabilities and right-of-use assets for operating leases greater than one year on the consolidated balance sheets, as well as additional disclosures about the University's leases.

(x) Reclassifications

Certain 2018 amounts have been reclassified in order to conform to the 2019 functional expense information presentation. The University reclassified $37,333 in functional expenses between contractual services and supplies, materials and other in the instruction, research and clinical practice and institutional support functions.

(2) Applied Physics Laboratory

The Applied Physics Laboratory (APL), located in Howard County, Maryland, was established during World War II with funding from the United States government. APL functions as a research facility and conducts research and development primarily in national defense and space sciences. The University owns and operates the facility and conducts research under a multiple task order contract with the United States Navy (the Navy Contract) and separate contracts with other government agencies. APL is organized as a Limited Liability Company (LLC), wholly owned by the University, and operates as a division of the University.

In accordance with an agreement between the United States government and the University, APL has been designated a national resource. Under the agreement, if the University determines that it can no longer sponsor APL or the Secretary of the Navy determines that the Navy can no longer contract with the University with respect to APL on mutually satisfactory terms, the University is required to establish a charitable trust to provide for the continued availability of the APL. The trust would be administered by five trustees and the corpus would consist of the University's interest in the APL facilities, including land to the extent necessary, and the balances in the University's APL stabilization, contingency, and research fund on the date the trust is established, less certain costs. Upon termination of the trust, the corpus, in whole or in part, as determined by the trustees, would be returned to and held and used by the University for such educational or research purposes and in such manner as the trustees and University agree.

The University works under an omnibus contract with the U.S. Navy. The most recent contract provides for a five-year initial term ending in September 2017, plus a five-year renewal option, which was exercised in February 2017 and subsequently amended in May 2019 to increase the aggregate purchase limit to $7,117,558 over the ten-year contract period ending September 2022.

Approximately 73% and 18% of APL's revenues in both fiscal years 2019 and 2018 were from the Department of Defense (primarily under the Navy Contract) and the National Aeronautics and Space Administration, respectively. Contract work includes evaluation and design of various types of missile systems and command, control, and communication systems, assessment of submarine technologies, design of space systems for precision tracking, location and navigation, and conduct of space experiments. The contracts define costs for which reimbursements may be received and provide a management fee to the University. The Navy Contract requires that a portion of the fees earned under the Navy Contract be retained and used for various purposes, including, among other things, working capital, capital projects, and reserves.

APL principally provides services under cost plus fixed-fee contracts for which revenue is recognized in the period that costs are incurred. Contract accounts receivable are recorded at invoiced amounts. The allowance for doubtful accounts is estimated based on historical trends of past-due accounts, and specific identification and review of past-due accounts.

Under ASU 2014-09, revenue from contracts with customers is recognized when control of the promised goods or services is transferred in an amount that reflects the consideration to which the University expects to be entitled in exchange for those goods or services (i.e., the transaction price).

Contracts awarded by federal and other sponsors, which are considered exchange transactions, are recognized as revenue as performance obligations are satisfied, which is generally as qualifying expenditures are incurred. Total revenue from contracts was $1,662,619 and $1,477,569 for the years ended June 30, 2019 and 2018, respectively.

Total revenue from nonexchange transactions was $23,929 and $26,655 for the years ended June 30, 2019 and 2018, respectively.

(Continued)

(3) Accounts Receivable

Accounts receivable, net are summarized as follows as of June 30, 2019 and 2018:

	2019	2018
Affiliated institutions, primarily the Hospital (note 11)	$ 56,124	37,445
Students	23,895	19,959
Others	64,307	45,495
Total, net of allowances of $8,498 in 2019 and $8,656 in 2018	144,326	102,899
Receivables for clinical professional fees, net of explicit and implicit price concessions of $155,736 in 2019 and $153,484 in 2018	84,532	83,989
	$ 228,858	186,888

The mix of gross accounts receivable for clinical professional fees from patients and third-party payors consisted of the following as of June 30, 2019 and 2018: commercial third parties 44% for both years; Medicare 20% and 21%, respectively; Medicaid 14% and 15%, respectively; Blue Cross/Blue Shield 5% and 6%, respectively; and patients 17% and 14%, respectively.

(4) Contributions Receivable

Contributions receivable, net are summarized as follows as of June 30, 2019 and 2018:

	2019	2018
Unconditional promises scheduled to be collected in:		
Less than one year	$ 202,776	136,160
One year to five years	175,124	401,188
Over five years	13,925	13,825
	391,825	551,173
Less unamortized discount (interest rates ranging from 0.7% to 5.1%) and allowances for uncollectible contributions	32,280	51,023
	$ 359,545	500,150

As of June 30, 2019 and 2018, 62% and 68%, respectively, of the gross contributions receivable were due from ten donors. Approximately 90% and 52% of contribution revenues for fiscal 2019 and 2018, respectively, were from ten donors. As of June 30, 2019, the University had also been informed of bequest intentions and conditional promises to give aggregating in excess of $900,000, which have not been recognized as assets or revenues. Once recognized, these gifts will generally be restricted for specific purposes stipulated by the donors, primarily endowments for faculty support, scholarships, or general operating support of a particular department or division of the University.

(5) Investments and Investment Return

The overall investment objective of the University is to invest its assets in a prudent manner that will achieve a long-term rate of return sufficient to fund a portion of its annual operating activities and increase investment value after inflation. The University diversifies its investments among various asset classes incorporating multiple strategies and managers. The Committee on Investments of the Board of Trustees oversees the University's investment program in accordance with established guidelines, which cover asset allocation and performance objectives and impose various restrictions and limitations on the managers. These restrictions and limitations are specific to each asset classification and cover concentrations of market risk (at both the individual issuer and industry group levels), credit quality of fixed-income and short-term investments, use of derivatives, investments in foreign securities, and various other matters. The managers may make use of exchange-traded interest rate futures contracts, forward currency contracts, and other derivative instruments.

Investments are summarized as follows as of June 30, 2019 and 2018:

		2019	2018
Operating investments	$	1,225,501	1,217,481
Investments		7,190,782	5,144,881
	$	8,416,283	6,362,362
Cash and cash equivalents	$	301,847	2,354
United States government and agency obligations		1,253,009	1,469,911
Debt securities		375,421	361,565
United States equities		1,107,571	699,824
International equities		801,319	934,030
Private equity and venture capital		1,240,850	792,624
Real estate		543,953	451,520
Natural resources		534,966	300,104
Marketable alternatives		2,257,347	1,350,430
	$	8,416,283	6,362,362

The following table summarizes the University's investments as of June 30, 2019 and 2018 for which NAV was used as a practical expedient to estimate fair value:

	Fair value determined using NAV 2019	Fair value determined using NAV 2018	Unfunded commitments 2019	Unfunded commitments 2018	Redemption frequency 2019	Redemption notice period 2019
International equities	$ 472,683	629,794	9,800	—	61% Monthly 21% Quarterly 12% Annually 6% 3- to 5-Year	1 to 90 days
United States equities	213,266	—	24,200	—	12% Monthly 3% Quarterly 59% Annually 26% 2- to 5-Year	1 to 90 days
Private equity and venture capital	1,197,873	792,624	639,226	406,185	N/A	N/A
Real estate	445,655	308,334	287,827	298,039	N/A	N/A
Natural resources	482,075	292,566	120,433	117,350	N/A	N/A
Marketable alternatives	2,257,347	1,350,430	221,199	129,472	See chart below	5 to 90 days (1)
	$ 5,068,899	3,373,748	1,302,685	951,046		

(1) Investments that are not redeemable total $222,744 and $212,266 as of June 30, 2019 and 2018, respectively.

The commitments may be drawn down over the next several years upon request by the general partners and fund managers. The University expects to finance these commitments with available cash and expected proceeds from the sales of securities.

Marketable alternatives have the following redemption periods as of June 30, 2019 and 2018:

	2019	2018
Quarterly redemptions	$ 682,513	434,754
Annual redemptions	506,839	223,213
Quarterly or annually over 1- to 3-year period	558,851	324,313
Rolling 3- to 5-year redemptions	286,400	155,884
Drawdown funds over 10-year period	222,744	212,266
	$ 2,257,347	1,350,430

Information with respect to investee strategies and redemptions for those investments in funds whose fair value is estimated based upon reported NAVs follow:

(a) International Equities

This includes commingled funds that invest in publicly traded common stock of developed and emerging market companies. One fund offers annual liquidity while all other funds allow monthly or quarterly redemptions with various notice requirements ranging from 1 to 120 days.

(b) Private Equity and Venture Capital

This includes funds making investments in leveraged buyouts of both public and private companies, as well as investments in venture capital, growth-stage investing, and distressed debt. These are limited partnerships where distributions are made to investors through the liquidation of the underlying assets. It is expected to take up to 10 years to fully distribute these assets.

(c) Real Estate

This includes limited partnerships making investments in real estate. These investments make distributions to investors through the liquidation of underlying assets. It is expected to take up to 15 years to fully distribute these assets.

(d) Natural Resources

This includes limited partnerships making investments in oil and gas, timber, agriculture, minerals, and other commodities. These investments make distributions to investors through the liquidation of the underlying assets. It is expected to take up to 15 years to fully distribute these assets.

(e) Marketable Alternatives

This includes multi-strategy, credit and distressed debt, relative value, and event-driven funds in hedge fund and drawdown formats. Hedge funds have various redemption periods as summarized in the table above, with notice requirements ranging from 20 to 90 days. Drawdown funds are limited partnerships where distributions are made to investors through the liquidation of the underlying assets. It is expected to take up to 10 years to fully distribute these drawdown funds.

Investment return is classified in the consolidated statements of activities as follows for the years ended June 30, 2019 and 2018:

	2019	2018
Without donor restrictions:		
Operating, including endowment payout	$ 238,101	212,348
Nonoperating	21,617	38,360
With donor restrictions	(41,894)	122,202
	$ 217,824	372,910

(6) Fair Value Measurements

The following table presents investments that are measured at fair value on a recurring basis as of June 30, 2019:

	Fair value as of June 30, 2019	Level 1	Level 2	Level 3	Funds at NAV
Operating investments:					
United States government and agency obligations	$ 872,208	872,208	—	—	—
Debt securities	353,293	182,249	171,044	—	—
Total operating investments	1,225,501	1,054,457	171,044	—	—
Investments, at fair value:					
Cash and cash equivalents	301,847	301,847	—	—	—
United States government and agency obligations	380,801	380,801	—	—	—
Debt securities	22,128	16,898	2,222	3,008	—
United States equities	1,107,571	894,305	—	—	213,266
International equities	801,319	328,636	—	—	472,683
Private equity and venture capital	1,240,850	—	—	42,977	1,197,873
Real estate	543,953	19,998	—	78,300	445,655
Natural resources	534,966	14,596	—	38,295	482,075
Marketable alternatives	2,257,347	—	—	—	2,257,347
Total investments, at fair value	7,190,782	1,957,081	2,222	162,580	5,068,899
Total investments	$ 8,416,283	3,011,538	173,266	162,580	5,068,899

The following table presents investments that are measured at fair value on a recurring basis as of June 30, 2018:

	Fair value as of June 30, 2018	Level 1	Level 2	Level 3	Funds at NAV
Operating investments:					
United States government and agency obligations	$ 874,372	874,372	—	—	—
Debt securities	343,109	143,994	199,115	—	—
Total operating investments	1,217,481	1,018,366	199,115	—	—

	Fair value as of June 30, 2018	Level 1	Level 2	Level 3	Funds at NAV
Investments, at fair value:					
Cash and cash equivalents	$ 2,354	2,354	—	—	—
United States government and agency obligations	595,539	595,539	—	—	—
Debt securities	18,456	18,456	—	—	—
United States equities	699,824	699,824	—	—	—
International equities	934,030	304,236	—	—	629,794
Private equity and venture capital	792,624	—	—	—	792,624
Real estate	451,520	18,871	—	124,315	308,334
Natural resources	300,104	7,538	—	—	292,566
Marketable alternatives	1,350,430	—	—	—	1,350,430
Total investments, at fair value	5,144,881	1,646,818	—	124,315	3,373,748
Total investments	$ 6,362,362	2,665,184	199,115	124,315	3,373,748

The methods and assumptions used to estimate the fair value of investments are defined in note 1(f).

The following table presents the University's activity for Level 3 investments measured at fair value on a recurring basis for the years ended June 30, 2019 and 2018:

	Debt securities	Private equity and venture capital	Real estate	Natural resources
Balance as of June 30, 2017	$ —	—	120,091	—
Net realized and unrealized losses	—	—	4,224	—
Sales and distributions	—	—	—	—
Balance as of June 30, 2018	—	—	124,315	—
Net realized and unrealized losses	9	—	(45,700)	—
Sales and distributions	—	—	(315)	—
Purchases and contributions	2,999	42,977	—	38,295
Balance as of June 30, 2019	$ 3,008	42,977	78,300	38,295

For the years ended June 30, 2019 and 2018, the University did not have any transfers between fair value levels.

(7) Property and Equipment

Property and equipment, net, are summarized as follows as of June 30, 2019 and 2018:

	2019	2018	Range of useful lives
Land	$ 116,825	115,815	N/A
Land improvements	113,199	112,192	15 years
Buildings and leasehold improvements	3,449,885	3,338,224	10–40 years
Equipment	1,062,860	1,008,385	7–15 years
Capitalized software costs	128,035	125,453	3–10 years
Library collections	347,330	330,602	25 years
Construction in progress	217,109	144,753	N/A
	5,435,243	5,175,424	
Less accumulated depreciation and amortization	3,240,268	3,048,511	
	$ 2,194,975	2,126,913	

(8) Debt

Debt is summarized as follows as of June 30, 2019 and 2018:

	2019	2018
Bonds payable, net	$ 843,018	896,438
Notes payable – taxable	280,864	214,799
Commercial paper revenue notes – tax-exempt	67,169	67,169
Capital lease obligations (note 15)	63,102	68,586
	$ 1,254,153	1,246,992

(a) Bonds Payable

Bonds payable were 1) issued by the Maryland Health and Higher Educational Facilities Authority (MHHEFA) or 2) taxable bonds issued directly, and consist of the following as of June 30, 2019 and 2018:

		2019	2018
Revenue Bonds Series 2005A, variable effective rate (1.83%), due July 2036	$	69,265	69,265
Taxable Bonds 2009 Series A, 5.25%, due July 2019		—	50,000
Revenue Bonds Series 2012A, 4.00% to 5.00%, due July 2041		153,150	153,150
Taxable Bonds 2013 Series A, 4.08%, due July 2053		355,000	355,000
Revenue Bonds Series 2013B, 4.25% to 5.00%, due July 2041		99,625	99,625
Taxable Bonds 2015 Series A, 3.75%, due July 2045		150,000	150,000
Subtotal		827,040	877,040
Premium and discount, net		20,495	24,116
Debt issuance cost, net		(4,517)	(4,718)
	$	843,018	896,438

The bonds payable outstanding as of June 30, 2019 and 2018 are unsecured general obligations of the University. The loan agreements generally provide for semiannual payments of interest.

(b) Notes Payable – Taxable

Notes payable – taxable consist of the following as of June 30, 2019 and 2018:

		2019	2018
Note due December 2019	$	7,907	15,169
Note due April 2020		—	50,000
Note, 2.74%, due November 2023		25,000	25,000
Note, 2.89%, due November 2024		24,030	25,000
Note, 2.90%, due November 2024		23,927	24,630
Note, 2.94%, due November 2027		25,000	25,000
Note, 3.83%, due October 2028		25,000	—
Note, 3.92%, due November 2028		50,000	—
Notes, 4.16%, due May 2048		50,000	50,000
Note, 4.50%, due November 2049		50,000	—
	$	280,864	214,799

The note due December 2019 is secured by certain of the University’s property and bears interest at a fixed rate of 8.88%. The note is due in annual installments.

The note due April 2020, in the principal amount of $50,000, was an unsecured general obligation of the University and bore interest at a variable rate, 2.42% as of June 30, 2018. The note was retired in November 2018.

The notes due November 2023 through November 2049 are unsecured general obligations of the University.

(c) Commercial Paper

Under the commercial paper program, the University may have commercial paper outstanding of up to $400,000. The notes are unsecured, bear interest at rates that are fixed at the date of issue and may have maturities up to 270 days from the date of issue. The notes outstanding as of June 30, 2019 bear interest at a weighted average rate of 1.52%.

The tax-exempt commercial paper revenue notes were issued by MHHEFA to finance and refinance the costs of qualified assets. It is anticipated that the University will continuously renew maturing notes for a period of up to 120% of the estimated useful lives of the related assets.

(d) Interest Costs

Total interest costs incurred and paid were $51,551 in 2019 and $53,519 in 2018, of which $4,114 in 2019 and $3,074 in 2018 were capitalized.

(e) Other Credit Agreements

The University maintains standby liquidity and line of credit agreements with several commercial banks as follows:

	Amount	Maturity	Purpose
$	100,000	March 2020	Revolving line of credit
	100,000	November 2020	Standby liquidity agreement
	50,000	December 2020	Standby liquidity agreement
	150,000	March 2020	Lines of credit
	50,000	July 2020	Line of credit

To support liquidity under the bond and commercial paper revenue notes programs, the University has two standby liquidity agreements with commercial banks. These agreements are intended to enable the University to fund the purchase of variable rate demand bonds, which are tendered and not remarketed, and to pay the maturing principal of and interest on commercial paper notes in the event they cannot be remarketed. Advances under these agreements are unsecured, bear interest at a rate that varies based on certain market indices, and are due by the stated expiration date unless extended by a term loan. There were no borrowings under any of the University’s standby credit facilities during fiscal 2019 and 2018.

The University may borrow up to $100,000 under a revolving line of credit designated for working capital purposes at APL. Advances under the revolving line of credit are unsecured, due on demand, and bear interest at a rate that varies based on certain market indices. There were no borrowings outstanding on the revolving line of credit as of June 30, 2019 and 2018.

(f) Interest Rate Swap Agreements

Under interest rate swap agreements, the University and the counterparties agree to exchange the difference between fixed rate and variable rate interest amounts calculated by reference to specified notional principal amounts during the agreement period. Notional principal amounts are used to express the volume of these transactions, but the cash requirements and amounts subject to credit risk are substantially less.

The following table summarizes the general terms of the University's fixed payor swap agreements as of June 30, 2019:

Effective date		Notional amount	Termination date	Interest rate paid	Interest rate received
June 2005	$	69,265	July 2036	3.87%	SIFMA, 1.9% as of June 30, 2019
July 2007		7,290	July 2027	3.45	67.0% of 1-month LIBOR, 1.61% as of June 30, 2019
July 2008		27,565	July 2020	3.43	67.0% of 1-month LIBOR, 1.61% as of June 30, 2019
Total	$	104,120			

Parties to interest rate swap agreements are subject to market risk for changes in interest rates and risk of credit loss in the event of nonperformance by the counterparty.

The fair value of each swap is the estimated amount the University would receive or pay to terminate the swap agreement at the reporting date considering current interest rates and creditworthiness of the swap counterparties. The aggregate fair value of the University's interest rate swap agreements as of June 30, 2019 and 2018 was a liability of $23,971 and $16,139, respectively, excluding accrued interest, and is reported as other long-term liabilities. Changes in the fair value of the interest rate swap agreements are reported as nonoperating activities. The change in fair value was a loss of $7,832 in fiscal 2019 and a gain of $5,978 in fiscal 2018.

The University is required to post collateral under these agreements when certain thresholds are exceeded. As of June 30, 2019 and 2018, these thresholds were met and no collateral was posted.

(g) Annual Principal Payments

The following table summarizes the aggregate annual maturities of bonds payable, notes payable, and the maturities of specific tax-exempt commercial paper revenue note tranches, for the five fiscal years subsequent to June 30, 2019:

Fiscal year		Bonds payable	Notes payable	Commercial paper notes	Total
2020	$	8,595	9,570	—	18,165
2021		8,590	2,719	—	11,309
2022		8,595	2,826	—	11,421
2023		16,655	3,823	—	20,478
2024		8,060	30,567	7,310	45,937
Thereafter		776,545	231,359	59,859	1,067,763
	$	827,040	280,864	67,169	1,175,073

Due to requirements to pay the trustee in advance of the payment due date, scheduled maturities in the table above are reflected in the fiscal year that they will be paid to the trustee.

(9) Net Assets

Net assets without donor restrictions consists of the following as of June 30, 2019 and 2018:

		2019	2018
Net investment in plant	$	940,822	879,921
Board designated endowment funds		973,320	958,270
Undesignated		1,163,535	1,151,118
	$	3,077,677	2,989,309

Net assets with donor restrictions consists of the following as of June 30, 2019 and 2018:

		2019	2018
Donor-restricted endowment funds	$	5,302,619	3,232,250
Contributions receivable for endowment		118,466	222,940
Contributions receivable for operating		174,237	197,910
Contributions restricted for facilities		116,326	96,232
Land subject to time and purpose restrictions		26,300	71,000
Perpetual trusts for scholarship and program support		61,157	60,322
Other contributions, including annuities and other trusts		320,279	309,493
	$	6,119,384	4,190,147

Other contributions, including annuities and other trusts are restricted for faculty support, research, and program support.

(10) University Endowment

The University's endowment consists of approximately 4,100 individual funds established for a variety of purposes and includes both donor-restricted endowment funds and funds designated by the Board of Trustees to function as endowments. Net assets associated with endowment funds are classified and reported based on the existence or absence of donor-imposed restrictions.

The Board of Trustees of the University has interpreted the Maryland enacted version of Uniform Prudent Management of Institutional Funds Act (UPMIFA) as allowing the University to appropriate for expenditure or accumulate so much of an endowment fund as the University determines is prudent for the uses, benefits, purposes, and duration for which the endowment fund is established, subject to the intent of the donor as expressed in the gift instrument.

The Board of Trustees of the University manages and invests the individual endowment funds in the exercise of ordinary business care and prudence under facts and circumstances and considering the purposes, factors, and other requirements of UPMIFA. The University classifies as net assets with donor restrictions (a) the original value of gifts donated, which are donated to the endowment, (b) the original value of subsequent gifts to the endowment, and (c) accumulations to the endowment, which are not expendable on a current basis in accordance with the directions of the applicable donor gift instrument at the time the accumulation is added to the fund. At times, the fair value of individual donor restricted endowment funds may be in an underwater position (fall below historical book value) and are reported in net assets with donor restrictions. With respect to underwater endowments the spending occurs only to the extent that the fair value of the endowment fund is 75% of historical book value.

The University has adopted investment policies for its endowment, including board-designated funds, which attempt to provide a predictable stream of funding in support of the operating budget, while seeking to preserve the real value of the endowment assets over time. The University relies on a total return strategy under which investment returns are achieved through both appreciation (realized and unrealized) and yield (interest and dividends). Investments are diversified by asset class, as well as by investment manager and style, with a focus on achieving long-term return objectives within prudent risk constraints.

Subject to the intent of the donor, the Board of Trustees appropriates for expenditure or accumulates funds in the endowments in the exercise of ordinary business care and prudence under the facts and circumstances and considering the purposes, factors, and other requirements of UPMIFA. The annual appropriation is determined in the context of the University's spending rate policy. The current policy, which is based on a long-term investment return assumption as well as an estimated inflation factor, targets the appropriation to be in a range of 4.5% to 5.5% of the prior three years' average value of the endowment.

Endowment net assets consist of the following as of June 30, 2019:

		Without donor restrictions	With donor restrictions	Total
Investments by type of fund:				
Donor-restricted endowments:				
Historical gift value	$	—	4,483,000	4,483,000
Appreciation		—	819,619	819,619
Board-designated endowments		973,320	—	973,320
Total endowment net assets	$	973,320	5,302,619	6,275,939

Endowment net assets consist of the following as of June 30, 2018:

		Without donor restrictions	With donor restrictions	Total
Investments by type of fund:				
Donor-restricted endowments:				
Historical gift value	$	—	2,405,921	2,405,921
Appreciation		—	826,329	826,329
Board-designated endowments		958,270	—	958,270
Total endowment net assets	$	958,270	3,232,250	4,190,520

As of June 30, 2019 and 2018, donor-restricted endowments with original gift values of $244,503 and $93,454 were underwater by $1,077 and $239, respectively. These deficits resulted from unfavorable market fluctuations that occurred shortly after the investment of newly established endowments and authorized appropriation that was deemed prudent.

Changes in endowment net assets for the years ended June 30, 2019 and 2018 are as follows:

		Without donor restrictions	With donor restrictions	Total
Endowment net assets, June 30, 2017	$	1,002,871	2,741,880	3,744,751
Investment return		77,609	253,356	330,965
Contributions and designations		30,642	267,648	298,290
Appropriation for expenditure		(41,960)	(141,526)	(183,486)
Endowment reclass		(110,892)	110,892	—
Endowment net assets, June 30, 2018		958,270	3,232,250	4,190,520
Investment return		41,413	144,934	186,347
Contributions and designations		18,634	2,077,208	2,095,842
Appropriation for expenditure		(44,997)	(151,773)	(196,770)
Endowment net assets, June 30, 2019	$	973,320	5,302,619	6,275,939

As a result of the fiscal year 2018 adoption of ASU 2016-14, *Presentation of Financial Statements of Not-for-Profit Entities,* the University conducted a review of endowments classified as without donor restrictions and determined some endowments were misclassified due to a policy change. This resulted in an FY18 endowment reclass of $110,892 from net assets without donor restrictions to net assets with donor restrictions.

Endowments are to be utilized for the following purposes as of June 30, 2019:

		Without donor restrictions	With donor restrictions	Total
Faculty support	$	290,870	1,679,825	1,970,695
Scholarship support		168,052	2,631,509	2,799,561
Program support		394,430	458,734	853,164
Research		119,968	532,551	652,519
	$	973,320	5,302,619	6,275,939

Endowments are to be utilized for the following purposes as of June 30, 2018:

		Without donor restrictions	With donor restrictions	Total
Faculty support	$	282,530	1,567,012	1,849,542
Scholarship support		165,977	733,415	899,392
Program support		392,343	439,108	831,451
Research		117,420	492,715	610,135
	$	958,270	3,232,250	4,190,520

(Continued)

(11) Affiliated Institutions

Reimbursements from affiliated institutions consist of the following for the years ended June 30, 2019 and 2018:

		2019	2018
Johns Hopkins Health System	$	42,819	50,588
Johns Hopkins Hospital		323,490	293,478
Johns Hopkins Bayview Medical Center		81,260	77,689
Other Johns Hopkins entities		124,633	122,899
Other affiliated medical institutions		26,255	25,995
	$	598,457	570,649

(a) The Johns Hopkins Health System (JHHS)

JHHS is incorporated and governed separately from the University and is the parent entity of an academically based health system, which includes the Hospital, Johns Hopkins Bayview Medical Center, Howard County General Hospital, Suburban Hospital, Sibley Memorial Hospital, All Children's Hospital, and other related organizations. The University and JHHS have established a Board of Johns Hopkins Medicine (JHM) to direct, integrate, and coordinate the clinical activities of the two organizations. JHM does not have the authority to incur debt or issue guarantees and its annual budgets require the approval of the Boards of Trustees of both the University and JHHS.

Reimbursements from JHHS relate primarily to purchased services for clinical and nonclinical operations.

(b) The Hospital

The Hospital is a member of JHHS and serves as the primary teaching facility of the University's School of Medicine. Because of the closely related nature of their operations, the University and the Hospital share facilities and provide services to each other to fulfill their purposes more effectively. The sharing of facilities and services is negotiated annually and set forth in a Joint Administrative Agreement (JAA). Charges to the Hospital under the JAA, related primarily to the provision of professional medical services from the University, aggregated $229,354 in fiscal 2019 and $224,230 in fiscal 2018. Charges to the University under the JAA, related primarily to contractual services, aggregated $48,820 in fiscal 2019 and $47,089 in fiscal 2018, and are included in operating expenses in the consolidated statements of activities.

(c) Johns Hopkins Bayview Medical Center (JHBMC)

JHBMC is a community-based teaching hospital and long-term care facility. The University and JHBMC also share facilities and provide services to each other and negotiate the costs annually under a JAA. Charges to JHBMC under the JAA, related primarily to the provision of professional medical services from the University, aggregated $75,874 in fiscal 2019 and $73,200 in fiscal 2018.

(d) The Johns Hopkins Hospital Endowment Fund Incorporated (JHHEFI)

In July 2007, the University and JHHEFI entered into an agreement whereby JHHEFI transferred approximately $381,000 to the University to invest in the University's Endowment Investment Pool (EIP) and have the University manage these assets on JHHEFI's behalf. The funds were invested with other University assets in the University's name and title, and in accordance with the University's EIP investment policies and objectives. JHHEFI receives payouts as determined by their Board of Trustees and may terminate the agreement upon 180 days' written notice with liquidations to be made over a three-year period as specified in the agreement. The assets are included in investments in the consolidated balance sheets, and a corresponding liability of $502,375 and $501,217 is included in endowment and similar funds held for others as of June 30, 2019 and 2018, respectively. The corresponding liability has a fair value measurement of Level 3. JHHEFI's assets represent approximately 9.9% of the combined investment pool of $5,055,993 as of June 30, 2019.

(e) Jointly Owned Entities

As of June 30, 2019 and 2018, the University and JHHS and its affiliates jointly own several entities that are accounted for on the equity method. The University's aggregate investments in and advances to these joint ventures was approximately $297,274 and $294,320 as of June 30, 2019 and 2018, respectively. Equity in operating earnings of affiliates aggregated approximately $7,613 in fiscal 2019 and $19,589 in fiscal 2018.

In 2005, one of these entities, JHMI Utilities LLC, was formed to provide utility services for the East Baltimore campus. The University and Hospital, each owning 50% of JHMI Utilities LLC, provide all of its funding, including debt service, through payments for services received. Utility and telecommunications services provided to the University in fiscal 2019 and 2018 were approximately $31,895 and $32,136, respectively. JHMI Utilities LLC entered into an agreement with the University to finance a portion of the costs of installation of an enterprise information technology system that will provide integrated patient care information and service across JHM. The project has been successfully implemented with the total project cost at approximately $277,200 as of June 30, 2019. The cost of implementing the enterprise information technology strategy was financed through a combination of loans from, or guarantees by, the University and JHHS. The University has committed to funding up to $36,800 of the project. As of June 30, 2019 and 2018, $19,500 and $20,952, respectively, was outstanding on the loan. In addition, the University has agreed to guarantee a pooled loan of up to $16,800.

Although the University's ownership interest in each of the jointly owned entities is generally 50%, the University and JHHS have entered into separate agreements whereby certain activities or lines of business within these entities are not shared equally.

The following table summarizes the aggregate condensed financial information of the jointly owned entities and the University's proportionate share of the entities as of and for the years ended June 30, 2019 and 2018, respectively:

		2019		2018	
		Total	**University interest**	**Total**	**University interest**
Assets	$	1,298,710	588,185	1,264,217	583,303
Liabilities		832,480	372,761	812,429	376,808
Operating revenues		2,812,007	1,181,709	2,672,243	1,153,492
Operating expenses		2,787,401	1,174,096	2,614,578	1,133,902

(12) Pension and Postretirement Benefit Plans

The University has several benefit plans that are available to substantially all full-time employees. Most of these plans are defined contribution plans for which the University's policy is to fund benefit costs as earned. The University also has a defined benefit pension plan covering bargaining unit employees and those classified as support staff. Benefit plan expenses were $249,164 in fiscal 2019 and $242,787 in fiscal 2018, including $229,224 and $215,957, respectively, related to defined contribution plans. Of the total benefit expense, APL's defined contribution plan accounted for $81,167 in fiscal 2019 and $75,487 in fiscal 2018.

Effective July 1, 2011, the University closed the support staff pension plan to new participants other than bargaining unit employees. In addition, the University offered a choice to current participants between the current support staff pension plan and its 403(b) plan. The University has retiree benefits plans that provide postretirement medical benefits to employees, including those at APL, who meet specified minimum age and service requirements at the time they retire. The University pays a portion of the cost of participants' medical insurance coverage. The University's portion of the cost for an individual participant depends on various factors, including the age, years of service, and time of retirement or retirement eligibility of the participant. The University has established a trust fund for its retiree benefits plans and intends to make contributions to the fund approximately equal to the annual net postretirement benefit cost.

Effective July 1, 2018, APL adopted an amendment to the postretirement medical plan for employees who retired after December 31, 2012. For those employees, the percentage of premium paid by APL would become a fixed dollar amount beginning in 2021 and it would be based on the premium rates of 2020. The plan change increased the accumulated postretirement benefit obligation by $9,272 for the year ended June 30, 2019.

In 2010, the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act (collectively, the Health Care Acts) were signed into law. The Health Care Acts include several provisions that may affect the University's postretirement benefit plans, and have been considered in the measurement of the postretirement benefit obligation.

(Continued)

The University uses a June 30 measurement date for its defined benefit pension plan and retiree benefit plans. Information relating to the benefit obligation, assets, and funded status of the defined benefit pension plan and the postretirement benefit plans as of and for the years ended June 30, 2019 and 2018 is summarized as follows:

		Pension plan		Postretirement plans	
		2019	**2018**	**2019**	**2018**
Change in benefit obligation:					
Benefit obligation at beginning of year	$	691,268	697,585	245,014	277,368
Service cost		13,978	15,664	7,034	7,824
Interest cost		28,592	26,915	9,720	9,674
Participant contributions		—	—	10,718	10,840
Plan amendment		—	—	9,272	—
Actuarial loss (gain)		77,036	(27,655)	6,868	(40,798)
Benefits paid		(22,145)	(21,241)	(21,547)	(21,025)
Medicare subsidies received		—	—	940	1,131
Benefit obligation at end of year		788,729	691,268	268,019	245,014
Change in plan assets:					
Fair value of plan assets at beginning of year		531,825	495,292	303,740	286,689
Actual return on plan assets		30,075	30,944	18,665	20,446
University contributions		19,940	26,830	—	5,659
Participant contributions		—	—	10,643	10,840
Benefits paid		(22,145)	(21,241)	(21,547)	(21,025)
Medicare subsidies received		—	—	940	1,131
Fair value of plan assets at end of year		559,695	531,825	312,441	303,740
Funded status recognized as pension and postretirement obligations, net	$	(229,034)	(159,443)	44,422	58,726

The accumulated benefit obligation for the pension plan was $763,194 and $668,452 as of June 30, 2019 and 2018, respectively.

The table below reflects the net pension and postretirement benefit cost reported in operating as benefits expense and nonoperating as other net periodic benefit cost for the years ended June 30, 2019 and 2018:

	Pension plan		Postretirement plans	
	2019	**2018**	**2019**	**2018**
Operating:				
Service cost	$ 13,978	15,664	7,034	7,824
Total operating, included in benefits	13,978	15,664	7,034	7,824
Nonoperating:				
Interest cost on accumulated benefit obligation	28,592	26,915	9,720	9,674
Amortization of prior service credit (cost)	(167)	(167)	350	(788)
Expected return on plan assets	(31,944)	(29,379)	(20,994)	(19,796)
Amortization of actuarial loss (gain)	9,481	13,797	(946)	65
Total nonoperating	5,962	11,166	(11,870)	(10,845)
Total net pension and postretirement benefit cost (credit)	$ 19,940	26,830	(4,836)	(3,021)

The table below reflects the changes in plan assets and benefits obligations recognized as nonoperating items for the years ended June 30, 2019 and 2018:

	Pension plan		Postretirement plans	
	2019	**2018**	**2019**	**2018**
Net loss (gain) for the year	$ 78,906	(29,221)	9,199	(41,444)
New unrecognized prior service cost	—	—	9,272	—
Amortization of prior service credit (cost)	167	167	(350)	788
Amortization of net gain (loss)	(9,481)	(13,797)	946	(65)
Net loss (gain) recognized in nonoperating activities	$ 69,592	(42,851)	19,067	(40,721)

The table below reflects the amortization of amounts expected to be recognized as components of net periodic benefit expense in nonoperating activities during fiscal 2020:

		Pension plan	Postretirement plans
Net loss	$	(15,579)	(78)
Prior service credit (cost) amortization		167	(350)
	$	(15,412)	(428)

The weighted average assumptions used to determine benefit obligations and net periodic benefit costs are as follows:

	Pension plan		Postretirement plans	
	2019	2018	2019	2018
Weighted average assumptions used to determine benefit obligations at June 30:				
Discount rate	3.50 %	4.18%	3.42%–3.56%	4.14%–4.21%
Average rate of compensation increase	2.90	2.90	N/A	N/A
Rate of increase in healthcare costs for next year	N/A	N/A	6.30	6.60
Weighted average assumptions used to determine net periodic benefit cost:				
Discount rate	4.18 %	3.90%	4.14%–4.21%	3.80%–3.94%
Expected rate of return on plan assets	6.75	6.75	7.00	7.00
Rate of compensation increase	2.90	2.90	N/A	N/A
Rate of increase in healthcare costs	N/A	N/A	6.60	6.90

The expected long-term rate of return for the assets of the plans is based on historical and expected long-term future asset class returns. The rate is reviewed annually and adjusted as appropriate to reflect changes in projected market performance or in the targeted asset allocations.

The rate of increase in healthcare costs was assumed to begin with an initial rate of 6.6% in 2019 and decrease to 4.5% in 2036 and to remain at that level thereafter. Assumed healthcare cost trend rates have a significant effect on the reported postretirement benefit cost and obligation. A one-percentage-point change in the assumed rates used at June 30, 2019 would have the following effects:

		Increase	Decrease
Total service and interest cost components	$	303	(278)
Postretirement benefit obligation		6,656	(5,981)

(a) Plans' Assets

The purpose of the pension and postretirement plans is to meet the retirement benefit obligations of eligible University employees. The plans' assets are invested with the objective of meeting these obligations under the rules stipulated by the Employee Retirement Income Security Act.

An asset allocation has been established, which endeavors to adequately cover the liability stream posed by the beneficiaries of the plans and minimize the frequency and amount of the plans' contributions by the University. The intended benefits of this diversification are reduced risk and improved investment returns.

(b) Pension Plan

The following table presents the fair value and categorization within the fair value hierarchy of the assets of the defined benefit pension plan as of June 30, 2019 and 2018:

		2019			2018		
		Total	Level 1	Funds at NAV	Total	Level 1	Funds at NAV
Cash and cash equivalents	$	170	170	—	445	445	—
Fixed income securities		203,656	195,711	7,945	172,219	164,159	8,060
United States equities and international equities		275,814	275,814	—	259,486	259,486	—
Real assets		—	—	—	20,737	—	20,737
Marketable alternatives		80,055	—	80,055	78,938	—	78,938
Total	$	559,695	471,695	88,000	531,825	424,090	107,735

(c) Postretirement Plans

The following table presents the fair value and categorization within the fair value hierarchy of the assets of the postretirement plans as of June 30, 2019 and 2018:

	2019			2018		
	Total	**Level 1**	**Funds at NAV**	**Total**	**Level 1**	**Funds at NAV**
Cash and cash equivalents	$ 2,481	2,481	—	3,532	3,532	—
Fixed income securities	92,038	92,038	—	87,609	87,609	—
United States equities and international equities	175,372	175,372	—	170,162	170,162	—
Marketable alternatives	42,550	—	42,550	42,437	—	42,437
Total	$ 312,441	269,891	42,550	303,740	261,303	42,437

The Plans have no unfunded commitments to fund managers as of June 30, 2019 and 2018.

The University's target asset allocations for the pension plan and the postretirement plans as of June 30, 2019 and 2018:

	Pension plan		Postretirement plans	
	2019	**2018**	**2019**	**2018**
Fixed income securities	30 %	30 %	35 %	35 %
United States equities and international equities	55	55	55	55
Real estate	5	5	—	—
Marketable alternatives	10	10	10	10
Total	100 %	100 %	100 %	100 %

(d) Cash Flows

The University expects to contribute $27,300 to the pension plan in fiscal 2020.

The benefits expected to be paid and Medicare subsidies to be received in the five years subsequent to June 30, 2019 and in aggregate for the five fiscal years thereafter are as follows:

Fiscal year		Pension plan	Postretirement plans	Medicare subsidies
2020	$	27,684	11,840	1,751
2021		29,392	12,735	525
2022		31,230	13,490	550
2023		32,984	14,184	576
2024		34,760	14,851	597
2025–2029		198,153	81,748	3,372

(13) Functional Expense Information

Operating expenses by nature and function are summarized as follows for the year ended June 30, 2019:

	2019 Programs							
	Instruction, research and clinical practice	APL	Student services	Auxiliaries	Libraries	Total programs	Institutional support	Total expenses
Compensation	$ 1,826,521	761,393	56,958	17,993	15,931	2,678,796	230,721	2,909,517
Benefits	482,055	338,237	16,841	4,776	4,437	846,346	67,436	913,782
Subcontractors and subrecipients	330,044	188,058	—	—	—	518,102	—	518,102
Contractual services	521,281	68,111	39,587	36,399	7,590	672,968	180,179	853,147
Supplies, materials and other	404,935	160,748	12,090	29,686	8,535	615,994	36,068	652,062
Depreciation	96,544	63,125	4,760	8,123	15,917	188,469	34,794	223,263
Travel	119,636	29,767	4,710	498	396	155,007	7,982	162,989
Interest	29,992	92	1,252	2,721	805	34,862	9,656	44,518
Total	$ 3,811,008	1,609,531	136,198	100,196	53,611	5,710,544	566,836	6,277,380

Operating expenses by nature and function are summarized as follows for the year ended June 30, 2018:

	2018							
	Programs							
	Instruction, research and clinical practice	APL	Student services	Auxiliaries	Libraries	Total programs	Institutional support	Total expenses
Compensation	$ 1,734,475	688,533	56,853	17,143	16,069	2,513,073	225,020	2,738,093
Benefits	447,689	325,010	16,686	4,237	4,332	797,954	67,472	865,426
Subcontractors and subrecipients	323,009	151,112	—	—	—	474,121	—	474,121
Contractual services	502,171	65,480	37,517	36,233	7,002	648,403	133,458	781,861
Supplies, materials and other	398,147	129,251	11,132	29,012	8,739	576,281	27,077	603,358
Depreciation	92,458	58,445	4,517	7,897	15,107	178,424	32,769	211,193
Travel	114,692	26,364	3,983	454	426	145,919	7,685	153,604
Interest	31,186	1,397	1,312	2,889	840	37,624	9,959	47,583
Total	$ 3,643,827	1,445,592	132,000	97,865	52,515	5,371,799	503,440	5,875,239

Costs related to the operation and maintenance of property, including depreciation of property and equipment and interest on related debt, are allocated to program and supporting activities based upon periodic inventories of facilities. Other net periodic benefit costs recorded in nonoperating expense were $(5,908) and $321 for the years ended June 30, 2019 and 2018, respectively.

(14) Liquidity and Availability

The University regularly monitors liquidity required to meet its operating needs and other contractual commitments, while also striving to maximize the investment of its available funds.

As of June 30, 2019, the following assets could readily be available within one year to meet general expenditures:

	2019	2018
Cash and cash equivalents	$ 347,007	262,356
Operating investments	1,001,292	1,027,478
Sponsored research accounts receivable, net	489,650	456,291
Accounts receivable, net	228,858	186,888
Contributions receivable, net	94,089	51,742
Approved endowment payout for upcoming fiscal year	326,650	204,797
Investments in and loans to affiliates	6,980	7,569
Payout from interests in trusts and endowment funds held for others	5,317	4,336
Financial assets available to meet general expenditures over the next year	$ 2,499,843	2,201,457

The University has various sources of liquidity at its disposal, including cash and cash equivalents, marketable debt securities, a line of credit for working capital purposes, and a commercial paper facility.

The University's cash flows have seasonal variations during the year attributable to tuition billings, patient service billings and concentration of contributions received at calendar and fiscal year-end. Operating investments have been reduced for an estimate of expenditures that will occur on grants and gifts beyond one year, as well as, cash received for capital contributions. Principal and interest on student loans are not included as those amounts are used solely to make new loans and are, therefore, not available to meet current operating needs. Based on historical experience, only the portion of contributions receivable for operations expected to be received within one year is considered liquid. Investments in and loans to affiliates include only the loan principal payments due from affiliates in the next year.

(15) Lease Commitments

The University leases other facilities used in its academic and research operations under long-term operating leases expiring at various dates to 2032, subject to renewal options in certain cases. Certain of these facilities are leased from affiliated entities.

The aggregate annual minimum guaranteed rents to be paid to the expiration of the initial terms of these leases are as follows as of June 30, 2019:

	Affiliates	Others	Total
2020	$ 16,620	34,506	51,126
2021	13,486	31,332	44,818
2022	12,107	26,328	38,435
2023	8,215	21,264	29,479
2024	6,394	20,128	26,522
After 2024	23,088	38,827	61,915
	$ 79,910	172,385	252,295

Rental expense for the long-term operating leases was $54,440 and $48,517 in fiscal 2019 and 2018, respectively.

The University also leases building and leasehold improvements and certain equipment under capital leases. The following is a summary of minimum lease payments for these leases as of June 30, 2019:

2020	$	7,987
2021		8,050
2022		8,283
2023		8,524
2024		8,772
After 2024		42,842
Minimum lease payments		84,458
Less imputed interest (at rates from 3.24% to 8.41%)		21,356
Present value of minimum lease payments	$	63,102

As of June 30, 2019, the gross amount of assets and accumulated depreciation thereon accounted for as capital leases amounted to $95,149 and $51,043, respectively.

(16) Other Commitments and Contingencies

(a) Guarantees

The University and the Hospital have also provided guarantees of principal and interest payments related to loans granted to JHMI Utilities LLC under the MHHEFA Pooled Loan Program. As of June 30, 2019, the University's guarantee amounted to $16,761 and continues until maturity of the loans occurring through 2029.

(b) Regulatory and Legal Matters

Amounts received and expended by the University under various federal and state programs are subject to audit by governmental agencies. In the opinion of management, audit adjustments, if any, will not have a material adverse effect on the financial position of the University.

The University is subject to various claims, litigation, tax, and other assessments in connection with its domestic and foreign operations. In the opinion of management, adequate provision has been made for losses on these matters, where material, including insurance for malpractice and general liability claims, and their ultimate resolution will not have a material adverse effect on the financial position of the University.

(i) Specific Matters

Estate of Arturo Giron Alvarez, et al. v. The John Hopkins University, et al., Case No: 1:15-cv-00950-MJG (D. Md.). On April 1, 2015, the above-styled complaint was filed against The Johns Hopkins University (the University), its Bloomberg School of Public Health and its School of Medicine, The Johns Hopkins Health System Corporation and The Johns Hopkins Hospital (collectively, the Johns Hopkins Defendants), as well as another institution and a pharmaceutical company (collectively, defendants). The claims arose from human experiments conducted in Guatemala between 1946 and 1948 (the Study) under the auspices of the United States Public Health Service, the Guatemala government, and the Pan-American Sanitary Bureau. Now on their third amended complaint, plaintiffs allege that physicians and scientists employed by defendants approved, encouraged, and directed nonconsensual and nontherapeutic human experiments in Guatemala, in which research subjects were intentionally exposed to and infected with venereal diseases without informed consent, and that the individuals were not advised about the consequences of the experiments or given follow-up care, treatment, or education. The third amended complaint alleges claims under both the Guatemala civil code and the federal Alien Tort Statute (the ATS), and seeks compensatory damages in excess of $75,000 and punitive damages of $1,000,000,000. The Johns Hopkins Defendants dispute both the factual allegations and legal claims. The Johns Hopkins Defendants have also advised us that they did not initiate, pay for, direct, or conduct the Study. In 2010, the United States government accepted responsibility for the Study and apologized to all who were affected by it. A prior lawsuit against officials of the United States government for the same injuries alleged in the suit against the Johns Hopkins Defendants was dismissed; see Garcia v. Sebelius, 867 F.Supp. 2d 125, 144 (D.D.C. 2012).

On August 30, 2017, the Court issued a memorandum decision dismissing all of plaintiffs' Guatemala law claims, but denying defendants' motion to dismiss the third amended complaint with respect to the ATS claims. On May 16, 2018, defendants filed a motion for judgment on the pleadings, based upon the Supreme Court's decision in Jesner v. Arab Bank, PLC, 138 S. Ct.1386 (2018), which holds that the ATS does not authorize federal courts to create federal common law causes of action against foreign corporations, as doing so would usurp Congress's role and violate the separation of powers. Defendants argued that although the Supreme Court's formal holding applied to foreign corporations – the only type of corporation that was a party to the case – the Supreme Court's reasoning should apply to domestic corporations as well. On January 3, 2019, the Honorable Theodore D. Chuang denied the motion, declining to extend the majority's reasoning in Jesner to domestic corporations. On April 23, 2019, however, Judge Chuang granted defendants' Motion to Certify Interlocutory Appeal, and on May 17, 2019, the Fourth Circuit granted defendants' petition for permission to appeal. Defendants' opening brief was submitted on July 29, 2019.

In the meantime, expert discovery has closed and the bulk of the factual discovery has been completed. Summary judgment motions are due on November 14, 2019.

(17) Subsequent Events

The University evaluated subsequent events through October 22, 2019, which is the date the consolidated financial statements were issued. There were no additional matters that required adjustment to or disclosure in the consolidated financial statements.