LEHIGH UNIVERSITY

Consolidated Financial Statements and
Information on Federal Awards

June 30, 2019
(with comparative financial information for June 30, 2018)

(With Independent Auditors' Report Thereon)

LEHIGH UNIVERSITY

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KPMG LLP
1601 Market Street
Philadelphia, PA 19103-2499

Independent Auditors' Report

The Board of Trustees
Lehigh University:

Report on the Consolidated Financial Statements

We have audited the accompanying consolidated financial statements of Lehigh University and its subsidiaries, which comprise the consolidated statement of financial position as of June 30, 2019, and the related consolidated statements of activities and cash flows for the year 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 audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. 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 consolidated financial position of Lehigh University and its subsidiaries as of June 30, 2019, and the changes in its net assets and its cash flows for the year then ended in accordance with U.S. generally accepted accounting principles.

Emphasis of Matter

As discussed in Note 1(n) to the consolidated financial statements, in 2019, the University adopted new accounting guidance Accounting Standards Update No. 2016-14 (ASU 2016-14), *Not-for-Profit Entities (Topic 958) Presentation of Financial Statements of Not-for-Profit Entities*. Our opinion is not modified with respect to this matter.

Report on Summarized Comparative Information

We have previously audited the University's 2018 consolidated financial statements, and we expressed an unmodified audit opinion on those audited consolidated financial statements in our report dated October 24, 2018. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2018 is consistent, in all material respects, with the audited consolidated financial statements from which it has been derived before the adjustments to adopt ASU 2016-14. As part of our audit of the 2019 consolidated financial statements, we also audited the adjustments described in Note 1(n) that were applied to adopt ASU 2016-14 retrospectively in the 2018 consolidated financial statements. In our opinion such adjustments are appropriate and have been properly applied.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October 18, 2019 on our consideration of the University's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion of the effectiveness of the University's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Lehigh University and its subsidiaries' internal control over financial reporting and compliance.

KPMG LLP

Philadelphia, Pennsylvania
October 18, 2019

LEHIGH UNIVERSITY

Consolidated Statement of Financial Position

June 30, 2019
(with comparative financial information for June 30, 2018)

(In thousands)

Assets		**2019**	**2018**
Cash and cash equivalents (note 1(c))	$	50,690	58,037
Accounts receivable, net (note 6)		13,517	14,245
Prepaid expenses and other assets		9,883	13,734
Contributions receivable, net (note 9)		41,574	31,039
Notes receivable, net (note 7)		9,410	9,358
Investments (notes 3 and 5)		1,955,620	1,898,895
Funds held in trust by others		4,908	4,842
Property, plant, and equipment, net (note 8)		537,294	451,383
Total assets	$	2,622,896	2,481,533
Liabilities and Net Assets			
Accounts payable and accrued expenses	$	49,709	46,702
Deferred revenues		18,592	23,862
Annuity payment obligations		18,118	18,100
Other liabilities (notes 11, 12, and 14)		102,422	59,226
Deposits held for others		1,179	1,217
Refundable federal student loan funds		1,359	1,434
Bonds, loans, and notes payable (note 11)		368,731	375,091
Total liabilities		560,110	525,632
Net assets (notes 4 and 10):			
Without donor restrictions		1,026,825	995,046
With donor restrictions		1,035,961	960,855
Total net assets		2,062,786	1,955,901
Total liabilities and net assets	$	2,622,896	2,481,533

See accompanying notes to consolidated financial statements.

LEHIGH UNIVERSITY

Consolidated Statement of Activities

Year ended June 30, 2019
(with summarized comparative financial information for year ended June 30, 2018)

(In thousands)

	2019			
	Without donor restrictions	With donor restrictions	Total	2018
Support and revenues:				
Tuition and fees, net (note 1(h))	$ 196,477	—	196,477	197,046
Federal grants and contracts (note 1(e))	28,643	—	28,643	28,100
State and local grants and contracts (note 1(e))	7,526	—	7,526	7,214
Private grants and contracts	5,222	—	5,222	6,180
Contributions (note 1(e))	14,326	—	14,326	16,253
Investment return, net (note 3)	90,948	—	90,948	86,392
Auxiliary enterprises, net (note 1(i))	44,491	—	44,491	43,235
Independent operations (note 1(a))	11,441	—	11,441	21,974
Other sources	9,827	—	9,827	9,923
Net assets released from restrictions	3,161	(3,161)	—	—
Total support and revenues	412,062	(3,161)	408,901	416,317
Expenses:				
Salaries and wages	180,186	—	180,186	175,241
Employee benefits	59,508	—	59,508	61,178
Purchased services	35,753	—	35,753	34,458
Occupancy	34,274	—	34,274	32,999
Depreciation	29,997	—	29,997	28,549
Interest	13,636	—	13,636	13,886
Independent operations	10,458	—	10,458	11,054
Other business expenses	51,626	—	51,626	47,910
Total expenses (note 13)	415,438	—	415,438	405,275
Operating (loss) income	(3,376)	(3,161)	(6,537)	11,042
Nonoperating activity:				
Investment return, net (note 3):				
University	45,154	26,460	71,614	61,561
Independent operations	(262)	—	(262)	(2,606)
Gifts and trusts	2,582	51,440	54,022	32,779
Net assets released from restrictions and changes in donor intent	216	(216)	—	—
Change in fair value of interest rate swaps (note 12)	(9,262)	—	(9,262)	7,008
Postretirement plan changes other than net periodic benefit costs (note 14):				
University	(3,405)	—	(3,405)	941
Independent operations	(93)	—	(93)	50
Other	(3,465)	583	(2,882)	(635)
Nonoperating income	31,465	78,267	109,732	99,098
Increase in net assets	28,089	75,106	103,195	110,140
Net assets at beginning of year, as reported	995,046	960,855	1,955,901	1,845,761
Impact of change in accounting policy (note 1(n))	3,690	—	3,690	—
Balance as of beginning of year	998,736	960,855	1,959,591	1,845,761
Net assets at end of year	$ 1,026,825	1,035,961	2,062,786	1,955,901

See accompanying notes to consolidated financial statements.

LEHIGH UNIVERSITY

Consolidated Statement of Cash Flows

Year ended June 30, 2019
(with comparative financial information for year ended June 30, 2018)

(In thousands)

		2019	2018
Cash flows from operating activities:			
Change in net assets	$	103,195	110,140
Adjustments to reconcile change in net assets to net cash used in operating activities:			
Gifts and trusts restricted for long-term investment		(41,258)	(29,411)
Noncash contributions		(1,690)	(4,553)
Investment earnings restricted for long-term investment		(727)	(360)
Net realized and unrealized gains on investments		(148,762)	(139,678)
Change in fair value of interest rate swap agreements		9,196	(5,716)
Payment of annuity obligations		1,337	1,320
Other nonoperating activity		1,791	251
Depreciation and amortization		31,057	30,020
Independent operations provision for uncollectible accounts		(86)	740
University provision for uncollectible accounts		186	77
Change in operating assets and liabilities:			
Decrease in accounts receivable		1,255	3,076
(Increase) decrease in contributions receivable		(10,535)	2,862
(Decrease) increase in accounts payable and accrued expenses		(840)	4,394
Decrease in deferred revenues		(1,580)	(1,492)
Increase (decrease) in annuity payment obligations		18	(331)
Decrease in deposits held for others		(38)	(129)
Increase in accrued postretirement benefit cost		5,941	1,305
Increase in prepaid expenses and other assets		(864)	(1,500)
Increase (decrease) in other liabilities		9	(1,288)
Net cash used in operating activities		(52,395)	(30,273)
Cash flows from investing activities:			
Proceeds from sale and maturity of investments		1,426,946	1,499,661
Purchases of investments		(1,334,497)	(1,387,477)
Student loans and other notes advanced		(1,464)	(966)
Independent operations loans advanced		(1,179)	(1,469)
Student loans and other notes collected		1,134	3,303
Independent operations loans collected		642	393
Purchase of land, buildings, and equipment		(80,822)	(55,895)
Net cash provided by investing activities		10,760	57,550
Cash flows from financing activities:			
Proceeds from issuance of indebtedness		—	2,307
Repayments of principal of indebtedness		(6,285)	(23,119)
Gifts and trusts restricted for long-term investment		41,258	29,411
Investment earnings restricted for long-term investment		727	360
Decrease in refundable loan funds		(75)	(584)
Payment of annuity obligations		(1,337)	(1,320)
Net cash provided by financing activities		34,288	7,055
Net (decrease) increase in cash and cash equivalents		(7,347)	34,332
Cash and cash equivalents at beginning of year		58,037	23,705
Cash and cash equivalents at end of year	$	50,690	58,037
Supplemental data:			
Cash paid for interest	$	13,959	14,341
Increase in accounts payable and accrued expenses for property, plant, and equipment		3,432	—
Increase in other liabilities for property, plant, and equipment		32,763	7,358

See accompanying notes to consolidated financial statements.

(1) Summary of Significant Accounting Policies

(a) Organization

Lehigh University (the University), an independent, nondenominational, coeducational university, is incorporated in the Commonwealth of Pennsylvania as a nonprofit corporation and is a tax-exempt organization as described in Section 501(c)(3) of the Internal Revenue Code of 1986, as amended. The University is accredited by the Middle States Association of Colleges and Schools.

Founded in 1865, the University has approximately 5,000 undergraduates within its three major units – the College of Arts and Sciences, the College of Business, and the P.C. Rossin College of Engineering and Applied Science – and approximately 1,800 students enrolled in graduate programs offered through these colleges and in the College of Education.

The University's subsidiary organization, LU Properties, LLC (LU Properties), a Pennsylvania limited liability company, serves as Manager for twenty-three limited liability companies that were established as a result of a real estate gift. The University is the sole member of all of the limited liability companies. As Manager, LU Properties is responsible for the strategic and operational aspects of the real estate investment. The results of their operations are shown as nonoperating investment return in the University's consolidated statement of activities.

LU Properties also serves as Manager for South River Investments LLC (South River) and So-Beth Funding LLC (So-Beth Funding). South River, a Pennsylvania limited liability company, was formed to own and develop certain real estate properties in the local community. The results of South River's operations appear in note 13, *Functional Allocation of Expenses*.

So-Beth Funding was formed to improve the condition of residential properties and quality of property management in the South Bethlehem community in order to create a more attractive and safe neighborhood for University students and the greater community. The results of So-Beth Funding's operations appear primarily as investment return in the University's consolidated statement of activities.

The Ben Franklin Technology Partners of Northeastern PA (BFTP) and Manufacturers Resource Center (MRC) are also wholly owned subsidiaries of the University. The results of their operations are shown as independent operations in the University's consolidated statement of activities.

BFTP is an entity that encourages public and private sector cooperation in stimulating economic growth. BFTP provides funds to its clients under the terms of its early stage loan programs and manufacturer grants. Considering the nature of the loans and collection history, BFTP has recorded an estimated allowance for doubtful collections.

MRC provides resources to help small and medium-sized regional manufacturing companies enhance their ability to compete successfully by providing consulting, education, and strategic partnering services.

The majority of the independent operations operating revenue reported in the University's consolidated statement of activities relates to BFTP and MRC revenue received in the form of federal and state grants, client fees for services, and investment return.

The assets and liabilities of all subsidiary organizations appear in the appropriate line items of the consolidated statement of financial position.

(b) Basis of Presentation

The accompanying consolidated financial statements of the University include all subsidiary organizations and have been prepared on the accrual basis of accounting and in conformity with U.S. generally accepted accounting principles (GAAP). All significant inter-organizational balances and transactions have been eliminated.

The University's consolidated financial statements are presented in accordance with the external financial reporting requirements for not-for-profit organizations, which include three basic financial statements and the classification of resources into two separate classes of net assets, as follows:

Without Donor Restrictions – Net assets that are free of donor-imposed restrictions. Net assets without donor restrictions may be designated for specific purposes by action of the Board of Trustees or senior management.

With Donor Restrictions – This category includes net assets subject to donor-imposed restrictions that may be met by actions of the University or by the passage of time. Also included in this category are net assets subject to donor-imposed restrictions to be maintained permanently by the University. Donors of these assets generally permit the University to use all or part of the investment income on related investments for general or specific purposes in accordance with a Board approved spending policy.

Note 10, *Net Assets*, provides additional information regarding the composition of net assets with and without donor restrictions.

Nonoperating activities reflect transactions of a long-term investment or capital nature, including contributions restricted for acquisitions of facilities and equipment, contributions restricted with donor-imposed stipulations, change in the fair value of interest rate swaps, gains and losses on investments net of the University's spending policy, and certain postretirement benefits-related changes in net assets.

(c) Cash Equivalents

All highly liquid investments with an original maturity of three months or less, except those held for long-term investment purposes, are considered to be cash equivalents.

(d) Investments

Investments are stated at fair value or net asset value (NAV) as a practical expedient to fair value (note 5).

Unrealized gains and losses on investments are included in nonoperating investment return in the consolidated statement of activities.

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The University's investments are exposed to various risks such as interest rate, market, and credit risks. Such risks, and the resulting investment security values, may be influenced by changes in economic conditions and market perceptions and expectations. Accordingly, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the consolidated statement of financial position.

(e) Contributions and Government Grants

Contributions received, including unconditional promises to give, are recognized as revenues when the donor's commitment is received. Unconditional promises to give are recognized at the estimated present value of the future cash flows, net of allowances. Allowances for uncollectible amounts are recorded based on management's estimate of realizability of the underlying pledges.

Unconditional contributions, gifts, and grants with no purpose or time restrictions are reported as revenues without donor restrictions. Contributions made towards long-lived assets are held as donor restricted until the asset is completed and available for use. At such time, the contribution is considered to be released from restriction and reclassified to net assets without donor restrictions. Contributions that are released from restriction within the year received are classified as net assets without donor restrictions. Gifts of noncash assets are recorded at their fair value.

A contribution, gift, or grant is conditional if an agreement includes a barrier that must be overcome and either a right of return of assets transferred or a right of release of a promisor's obligation to transfer assets. The presence of both a barrier and a right of return or right of release indicates that a recipient is not entitled to the contribution until it has overcome the barrier(s) in the agreement. Conditional promises to give are not recognized until they become unconditional, that is, when the barrier(s) in the agreement are overcome.

Contributions from federal and state government agencies are included as federal and state grants and contracts in the consolidated statement of activities.

(f) Split-Interest Agreements and Annuities Payable

The University's split-interest agreements with donors consist primarily of annuity, life income, and charitable trusts for which the University serves as trustee. A majority of the assets held in these trusts are included in investments. Contribution revenues are recognized at the date the trusts are established after recording liabilities for the present value of the estimated future payments to be made to the donors and/or other beneficiaries. The liabilities are adjusted during the term of the trusts for changes in the value of the assets and changes in the estimated present value of future cash outflows and other changes in the estimates of future benefits.

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The annuities payable represent the net present value of future cash outflows over the annuitant's life expectancy, as required by the annuity agreements. The net present value is calculated using a discount rate range of 1.57% to 7.50%. The University is required by the laws of certain states to register and maintain reserves against charitable gift annuities. Such required reserves amounted to approximately $11.3 million and $11.1 million as of June 30, 2019 and 2018, respectively, and are reported within investments in the consolidated statement of financial position. Actual reserves meet or exceed the requirements and are invested in accordance with the laws of the state in which the University offers gift annuities. These assets are managed internally in a conservative and disciplined manner.

(g) Property, Plant, and Equipment

Property, plant, and equipment are carried at cost or at the fair market value at the date of the gift, less accumulated depreciation. Depreciation is computed on a straight-line basis over the estimated useful lives of the related asset. Depreciation is not recorded on land or collections. Depreciable assets and lives generally are as follows:

Buildings	50 to 60 years
Equipment and books	5 to 10 years
Leasehold and other improvements	10 to 20 years

(h) Tuition and Fees

Tuition and fees are reported net of financial aid that effectively reduces the amount of tuition and fees collected from students. Net tuition and fees are recorded as revenue during the year that the related academic services are rendered. Financial aid amounts offset against gross tuition and fees for 2019 and 2018 were $106.4 million and $99.6 million, respectively.

(i) Auxiliary Enterprises

Auxiliary enterprises revenue, primarily from room and board, is reported net of financial aid that effectively reduces the amount collected from students. Net room and board revenues are reported in the fiscal year in which the academic programs and services are delivered.

(j) Asset Retirement Liabilities

The University recognizes a liability for legal obligations associated with asset retirements in the period in which the obligation is incurred if a reasonable estimate of the fair value of the obligation can be made. When the liability is initially recorded, the University capitalizes the cost of the asset retirement obligation by increasing the carrying amount of the related long-lived asset. The liability is accreted to its present value each period, and the capitalized cost associated with the retirement obligation is depreciated over the useful life of the asset. Upon settlement of the obligation, any difference between the cost to settle the asset retirement obligation and the liability recorded is recognized as a gain or loss in the consolidated statement of activities.

(k) Deferred Revenues

Revenues received in exchange transactions for specific activities that have not yet taken place are recorded as deferred revenue. Significant components of deferred revenue include student tuition and educational fees received in advance of services to be rendered and unexpended advances of grant and contract revenues.

(l) Use of Estimates

The preparation of the University's consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the dates of the consolidated statement of financial position and the reported amounts of revenue and expense included in the consolidated statement of activities. Actual results could differ from such estimates. Significant estimates include alternative investments that are measured at NAV per share as a practical expedient for fair value, the postretirement benefit liability, the allocation of functional expenses, anticipated endowment distributions, and contributions receivable that are recognized at the estimated present value of the future cash flows, net of allowances.

(m) Reclassifications

Certain 2018 amounts have been reclassified to conform to their presentation in the 2019 consolidated financial statements.

(n) Recent Accounting Pronouncements

(i) Presentation of Financial Statements of Not-for-Profit Entities

In August 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update No. 2016-14 (ASU 2016-14), *Not-for-Profit Entities (Topic 958) Presentation of Financial Statements of Not-for-Profit Entities.* ASU 2016-14 is intended to improve the net asset classification requirements and the information presented in the consolidated financial statements and notes about a not-for-profit entity's liquidity, financial performance, and cash flows. This guidance includes the presentation of two classes of net assets rather than the previously required three and enhanced disclosures about limits on the use of resources, liquidity, expenses, and underwater endowment funds. Additionally, this guidance requires expenses to be reported by both their natural and functional classification in one location. The University adopted ASU 2016-14 for its fiscal year ended June 30, 2019.

A recap of the net asset reclassifications driven by the adoption of ASU 2016-14 as of June 30, 2018 follows:

		ASU 2016-14 Classifications		
Net Assets Classifications		**Without donor restrictions**	**With donor restrictions**	**Total net assets**
As previously presented:				
Unrestricted	$	988,590	—	988,590
Temporarily restricted		—	397,169	397,169
Permanently restricted		—	570,142	570,142
Net assets as previously presented		988,590	967,311	1,955,901
Reclassifications to implement ASU 2016-14:				
Underwater endowments		6,456	(6,456)	—
Net assets, as reclassified	$	995,046	960,855	1,955,901

(ii) *Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made*

In June 2018, the FASB issued Accounting Standards Update No. 2018-08 (ASU 2018-08), *Not-for-Profit Entities (Topic 958) Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made*. ASU 2018-08 is intended to assist entities in evaluating whether transactions should be accounted for as contributions or exchange transactions and in determining whether a contribution is conditional. The University adopted ASU 2018-08 for its fiscal year ended June 30, 2019. This ASU did not significantly impact the University's consolidated financial statements.

(iii) *Revenue from Contracts with Customers*

In May 2014, the FASB issued Accounting Standards Update No. 2014-09 (ASU 2014-09), *Revenue from Contracts with Customers (Topic 606).* ASU 2014-09 is intended to improve revenue recognition standards. The University adopted ASU 2014-09 for its fiscal year ended June 30, 2019. The University applied ASU 2014-09 modified retrospective method by recognizing the cumulative effect of initially applying ASU 2014-09 to the opening net assets balance at July 1, 2018. The cumulative effect of the adoption results in an increase of $3.7 million to the beginning net assets balance. This ASU did not significantly impact the University's consolidated financial statements.

(o) Prior Year Summarized Financial Information

The consolidated statement of activities includes certain prior year summarized comparative information in total but not by net asset class. Such information does not include sufficient detail to constitute a presentation in conformity with GAAP. Accordingly, such information should be read in conjunction with the University's consolidated financial statements for the year ended June 30, 2018, from which the summarized information was derived.

(2) Financial Assets and Liquidity Resources

Financial assets and liquidity resources available within one year for general expenditures, such as operating expenses, scheduled principal payments on debt, and capital construction costs not financed with debt, at June 30, 2019 and 2018 are as follows (in thousands):

		2019	2018
Financial assets:			
Cash and cash equivalents	$	28,693	34,528
Accounts receivable, net		12,917	13,645
Contributions without donor restrictions due in one year or less		6,673	8,495
Investments not subject to donor restrictions or board designations		255,708	287,246
		303,991	343,914
Liquidity resources:			
Commercial paper, $75 million authorized, $20 million outstanding on June 30, 2019 and 2018, respectively		55,000	55,000
Total available within one year	$	358,991	398,914

The University manages its financial assets to be available as its general expenditures, liabilities, and other obligations come due. In addition, the University invests cash in excess of daily requirements in short-term investments. The University has both operating reserves and physical plant renewal and replacement reserves set aside to be drawn upon to meet its operating and contractual obligations. The reserves are held in the cash and cash equivalents line on the statement of financial position. The University is subject to certain debt covenants. Note 11, *Bonds, Loans, and Notes Payable*, provides additional information about the University's obligations under such covenants.

In addition, as of June 30, 2019, the University's governing board and senior management have designated $422.6 million to function as endowment and $207.7 million as long term investments. Although the University does not intend to spend from the board designated endowment or long term investment funds other than amounts appropriated for general expenditure as part of its annual budget approval and appropriation process, these funds could be made available, if necessary. However, the endowment and

(Continued)

long term investment funds contain investments with provisions that limit or prevent liquidation that would reduce the total investments that could be made available (note 5).

Distributions from endowments with donor restrictions for the fiscal year ending June 30, 2020 are anticipated to be approximately $39.8 million. Such distributions will be funded from fiscal year 2020 net investment return and from endowment investment return earned in prior years if income is less than the University's spending policy. Note 4, *Endowment Net Assets,* provides additional information about the University's endowment spending policy.

Student loans receivable are not considered to be available to meet general expenditures because principal and interest on these loans are used solely to make new loans.

(3) Investments

Investments by major category at June 30, 2019 and 2018 are as follows (in thousands):

		2019	2018
Short-term investments	$	100,496	132,093
Fixed income investments:			
U.S. government		188,595	175,888
Corporate		123,244	164,711
Other		3,099	3,312
Corporate stocks		15,556	14,359
Mutual and exchange-traded funds		168,505	163,528
Real estate		42,071	21,158
Alternative investments:			
Public equity		610,297	581,031
Absolute return		318,527	301,981
Private investments		381,257	336,968
Life insurance and other investments		3,973	3,866
Total investments	$	1,955,620	1,898,895

The University's investments are comprised of the assets of the University's endowment, assets supporting certain split interest agreements, and other investments for general operating purposes. Investments are reported at fair value or NAV as a practical expedient to fair value. Note 5, *Fair Value Measurements*, provides additional information about inputs used to determine fair value and about investments reported at NAV.

The majority of endowment and annuity fund investments are combined in investment pools with each individual account subscribing to or disposing of shares on the basis of the fair value per share. The investment objective is to maximize long-term total return through a combination of income and capital appreciation in a manner consistent with sound investment practices.

The components of total investment return are reflected below (in thousands). Investment earnings at both June 30, 2019 and 2018 are net of investment expenses.

		2019	2018
Investment earnings	$	15,656	15,060
Net realized and unrealized gains		146,906	132,893
		162,562	147,953
Independent operations		2,255	7,650
Total	$	164,817	155,603

Investment return, as reflected in the consolidated statement of activities, consists of the following components (in thousands):

		2019	2018
Operating:			
Endowment spending distribution	$	66,871	66,083
Spending distribution – other		11,736	11,742
Other investment earnings		12,341	8,567
		90,948	86,392
Independent operations		2,517	10,256
Total operating		93,465	96,648
Nonoperating:			
Endowment spending distribution		883	775
Other investment losses (net)		(155)	(415)
Net realized and unrealized gains, net of spending distribution		70,886	61,201
		71,614	61,561
Independent operations		(262)	(2,606)
Total nonoperating		71,352	58,955
Total investment return	$	164,817	155,603

(4) Endowment Net Assets

The University's endowment consists of approximately 2,800 individual funds established for a variety of purposes. Its endowment includes both donor-restricted funds and funds designated by the Board of Trustees or senior management to function as endowments (board-designated). Net assets associated with endowment funds are classified and reported based upon the existence or absence of donor-imposed restrictions.

From time to time, the fair value of assets associated with donor restricted endowment funds may fall below the original gift amount. Deficiencies of this nature are reported in net assets with donor restrictions. These deficiencies resulted from unfavorable market fluctuations that occurred after the investment of the new donor restricted contributions.

Underwater donor restricted endowment funds at June 30, 2019 and 2018 are as follows (in thousands):

		2019	2018
Fair value of underwater endowment funds	$	91,662	106,359
Original endowment gift amounts		95,813	112,829
Underwater amounts	$	(4,151)	(6,470)

Endowment funds include funds actively managed by the University as part of a single commingled investment pool as well as a limited number of individual funds that are separately invested or held in trust by others. The principal financial objective of the endowment pool is that the real purchasing power of the endowment principal should be preserved and, if possible, enhanced, to help ensure the University's financial future. The productivity of the endowment pool must strike a balance between the preservation of principal in real terms for perpetuity and supporting a spending policy that sustains the educational mission of the University.

The Prudent Investor Rule of the Commonwealth of Pennsylvania views investment prudence on the part of the fiduciary from the standpoint of the total portfolio. Therefore, any reasonable investment may be considered for endowment pool assets as long as the risk and return tradeoff of the entire portfolio is prudent. The University's investment policy includes a target asset allocation, well diversified among suitable asset classes that is expected to generate, on average, the level of expected return necessary to meet endowment objectives at a responsible level of volatility consistent with achieving that return. To monitor the effectiveness of the investment strategy of the endowment pool, performance goals are established to exceed the expected real rate of return, established benchmark indices, and the median return of comparable endowment funds.

Commonwealth of Pennsylvania law permits the University to allocate to operating income a minimum of 2% and a maximum of 7% of a three-year moving average of the market value of the endowed assets. Unless the terms of the gift instrument state otherwise, accumulated endowment gains may be spent over time by the University. Net gains in excess of the spending policy are reflected as nonoperating investment return activity.

The University has an endowment spending policy based on 5% of a three-year moving average market value with a minimum increase of 0% per year and a maximum increase of 10% per year over the prior year's spending rate.

Any income earned in excess of the spending limit is reinvested while funds may be withdrawn from investment return earned in prior years if income is less than the spending policy provision. This is designed to insulate investment policy from budgetary pressures, and to insulate program spending from fluctuations in capital markets. Average annual spending rates per share were 5.1% for fiscal years 2019 and 2018, respectively.

Endowment net asset composition as of June 30, 2019 (in thousands):

		Without donor restrictions	With donor restrictions	Total
Donor-restricted endowment funds (corpus)	$	—	553,202	553,202
Board-designated endowment funds (corpus)		226,379	—	226,379
Accumulated gains on endowment funds		196,179	379,029	575,208
Total endowment net assets	$	422,558	932,231	1,354,789

Endowment net asset composition as of June 30, 2018 (in thousands):

		Without donor restrictions	With donor restrictions	Total
Donor-restricted endowment funds (corpus)	$	—	531,644	531,644
Board-designated endowment funds (corpus)		224,896	—	224,896
Accumulated gains on endowment funds		190,027	355,072	545,099
Total endowment net assets	$	414,923	886,716	1,301,639

Changes in endowment net assets for the year ended June 30, 2019 (in thousands):

		Without donor restrictions	With donor restrictions	Total
Net assets, June 30, 2018	$	414,923	886,716	1,301,639
Investment return, net		41,519	63,336	104,855
Contributions and other additions, net		457	21,087	21,544
Endowment distributions		(28,848)	(38,906)	(67,754)
Other changes		(5,493)	(2)	(5,495)
Total change in endowment funds		7,635	45,515	53,150
Net assets, June 30, 2019	$	422,558	932,231	1,354,789

Changes in endowment net assets for the year ended June 30, 2018 (in thousands):

		Without donor restrictions	With donor restrictions	Total
Net assets, June 30, 2017	$	396,445	831,541	1,227,986
Investment return, net		49,938	68,552	118,490
Contributions and other additions, net		1,131	23,330	24,461
Endowment distributions		(29,871)	(36,987)	(66,858)
Other changes		(2,720)	280	(2,440)
Total change in endowment funds		18,478	55,175	73,653
Net assets, June 30, 2018	$	414,923	886,716	1,301,639

(5) Fair Value Measurements

The three levels of the fair value hierarchy are described below. The hierarchy gives the highest priority to unadjusted quoted or published prices in active markets for identical assets or liabilities (Level 1 measurements) and lowest priority to unobservable inputs (Level 3 measurements):

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

Level 2 – Quoted prices for instruments that are identical or similar in markets that are not active and model-derived valuations for which all significant inputs are observable, either directly or indirectly in active markets.

Level 3 – Prices or valuations that require inputs that are both significant to the fair value measurement and are unobservable.

The hierarchy requires the use of observable market data when available. The level in the fair value hierarchy within which a fair value measurement in its entirety falls is based on the lowest level input that is significant to the measurement.

The following discussion describes the valuation methodologies used for assets and liabilities measured at fair value:

(a) Short-Term Assets and Liabilities

The carrying amount of student accounts receivable, accounts payable and accrued expenses, and the commercial paper component of the University's debt approximates fair value due to the short maturity of these financial instruments.

(b) Notes Receivable

Notes receivable are carried at face value less an allowance for doubtful accounts. A reasonable estimate of the fair value of loans receivable under student loan programs is not practical to determine because the federally sponsored loans are subject to significant government restrictions as to marketability, interest rates, and repayment terms. Because of the early stage nature of the companies to which program loans are provided by BFTP and the lack of a secondary market for such securities, it is not practical to determine their fair value.

(c) Contributions Receivable

The University values contributions receivable at fair value on the date the pledge is received using the present value of future cash flows. Contributions receivable are not measured at fair value subsequent to this initial measurement, because the discount rate selected for each contribution remains constant over time.

(d) Funds Held in Trust by Others

Funds held in trust by others are held and administered by outside trustees, with the University deriving income or a residual interest from the assets of such funds. Funds held in trust by others are recognized at the estimated fair value of the assets or the present value of the future cash flows when the irrevocable trust is established or the University is notified of its existence. As of June 30, 2019 and 2018, the inputs to fair value of these funds are classified as Level 2 or Level 3, depending on whether the assets will ultimately be distributed to the University.

(e) Split-Interest Agreements

Depending on the type of agreement, fair value measurements for split-interest agreements are performed either at inception or on a recurring basis. Fair value of the residual gift is generally based on the present value of expected future cash flows including payments to beneficiaries and investment return, and Level 3 inputs include the life expectancy of the donor and other beneficiaries as well as financial assumptions.

(f) Interest Rate Swaps

The fair value of the University's interest rate swap obligation is based on valuations provided by an independent party, taking into account current interest rates and the current creditworthiness of the swap counterparties, which are considered Level 2 inputs to fair value.

(g) Investments

Fair value of equity securities has been determined from observable market or published quotations, when available. Fair value for fixed maturity securities is based upon prices provided by the University's investment managers and custodian banks. Both the investment managers and the custodian banks use a variety of pricing sources to determine fixed maturity market valuations.

Estimated fair value of alternative investments that are not readily marketable is recorded at the NAV as provided by external investment managers as a practical expedient for fair value. The University reviews and evaluates the values provided by external investment managers and agrees with the valuation methods and assumptions used in determining the NAV of those investments.

Certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in the tables below are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the statement of financial position.

The following table presents the University's fair value hierarchy for investments at June 30, 2019 (in thousands):

	Fair value measurements at reporting date using				
	Quoted or published prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Measured at NAV per share (or its equivalent)	Total
Short-term investments	$ 100,496	—	—	—	100,496
Fixed income investments:					
U.S. government	157,513	31,082	—	—	188,595
Corporate	—	123,244	—	—	123,244
Other	—	3,099	—	—	3,099
Corporate stocks	15,556	—	—	—	15,556
Mutual and exchange-traded funds	168,505	—	—	—	168,505
Real estate	—	42,071	—	—	42,071
Alternative investments:					
Public equity	—	15,142	—	595,155	610,297
Absolute return	—	—	—	318,527	318,527
Private investments	—	—	—	381,257	381,257
Life insurance and other investments	3,958	15	—	—	3,973
Total investments	$ 446,028	214,653	—	1,294,939	1,955,620

The following table presents the University's fair value hierarchy for investments at June 30, 2018 (in thousands):

	Fair value measurements at reporting date using				
	Quoted or published prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Measured at NAV per share (or its equivalent)	Total
Short-term investments	$ 132,093	—	—	—	132,093
Fixed income investments:					
U.S. government	139,320	36,568	—	—	175,888
Corporate	—	164,711	—	—	164,711
Other	—	3,312	—	—	3,312
Corporate stocks	14,359	—	—	—	14,359
Mutual and exchange-traded funds	163,528	—	—	—	163,528
Real estate	—	21,158	—	—	21,158

	Fair value measurements at reporting date using				
	Quoted or published prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Measured at NAV per share (or its equivalent)	Total
Alternative investments:	$				
Public equity	—	14,695	—	566,336	581,031
Absolute return	—	—	—	301,981	301,981
Private investments	—	—	—	336,968	336,968
Life insurance and other investments	3,861	5	—	—	3,866
Total investments	$ 453,161	240,449	—	1,205,285	1,898,895

The following redemption table clarifies the nature, risk, and liquidity of the University's investments in alternative investment vehicles that are reported at NAV per share (or its equivalent) at June 30, 2019 (in thousands):

	Fair value	Estimated remaining lives	Unfunded commitments (4)	Redemption terms	Redemption notice period
Public equity (1)	$ 595,155	N/A	$ —	weekly – 2 years	0–120 Days
Absolute return (2):					
	280,914	N/A	5,000	Monthly – annually when eligible	45–90 Days
	37,613	up to 5 years	52,911	Generally not eligible	—
	318,527		57,911		
Private investments (3)	381,257	up to 10 years	250,371	Generally not eligible	—
Total	$ 1,294,939		$ 308,282		

(1) This category's primary objective is to capture the returns of publicly traded equities on a global market basis in order to provide long-term growth to the endowment.

(2) The primary objective of this category is to capture the returns associated with skill-based active management by exploiting the inefficiencies associated with marketable securities, thus providing a diversifying return stream with low correlation to returns of stocks. These funds should also provide principal protection in equity sell-offs.

(3) This category includes investments in private equity and real estate funds. The primary objective of private equity funds is to achieve long-term returns in excess of public equity investments in part by earning an illiquidity premium. The primary objective of real estate funds is to provide portfolio diversification, with long-term returns expected to be between that of stocks and bonds. These funds will also potentially offer some protection for the endowment in the event of inflation. Private investments typically have commitment periods up to 12 years.

(4) The University is obligated under certain investment agreements to periodically advance additional funding up to contractual levels. The investment agreements do not specify exact funding dates, however, it is likely that funding will occur over the next several years. Funds to meet these commitments will be generated from rebalancing the investment pool asset allocation, as well as donor gifts and existing cash.

(6) Accounts Receivable, Net

Accounts receivable at June 30, 2019 and 2018 (net of allowances for doubtful accounts) are as follows (in thousands):

	2019	2018
Accounts receivable, net:		
Student accounts	$ 533	398
Grants and contracts	7,201	6,997
Investment income	2,329	2,327
Other	3,454	4,523
	$ 13,517	14,245

Allowances for doubtful accounts were $2.4 million and $3.1 million in 2019 and 2018, respectively.

(7) Notes Receivable, Net

Notes receivable at June 30, 2019 and 2018 are as follows (in thousands):

		2019	2018
Notes receivable, net:			
University:			
Student loans	$	6,841	7,436
Other		1,102	250
Less allowance for doubtful loans		(271)	(271)
Total University		7,672	7,415
Independent operations:			
Program loans		11,115	11,399
Less allowance for doubtful accounts		(9,377)	(9,456)
Total independent operations		1,738	1,943
	$	9,410	9,358

Independent operations notes receivable primarily consist of loans provided by BFTP to early stage firms. The majority of these loans are fully reserved.

(8) Property, Plant, and Equipment, Net

Property, plant, and equipment are summarized as follows at June 30, 2019 and 2018 (in thousands):

		2019	2018
Land and improvements	$	70,868	66,646
Buildings and improvements		723,012	685,779
Furniture, equipment, books, and collections		220,397	215,404
Construction in progress		100,974	35,415
		1,115,251	1,003,244
Less accumulated depreciation		(577,957)	(551,861)
Total	$	537,294	451,383

Depreciation expense totaled $31.6 million and $30.0 million for the years ended June 30, 2019 and 2018, respectively. Interest expense that was capitalized totaled $1.1 million and $0.5 million for the years ended June 30, 2019 and 2018, respectively.

(Continued)

(9) Contributions Receivable, Net

Unconditional promises to give are included in the consolidated financial statements as contributions receivable and revenue of the appropriate net asset category. Contributions arising from unconditional promises to give are recorded at fair value determined based on the present value of estimated future cash flows. Contributions receivable also include charitable remainder trusts where the University is not the trustee of the assets of the trust, but will receive a distribution upon its termination. The net present value of contributions receivable is calculated using a discount rate range of 1.76% to 4.40%. Unconditional promises are expected to be realized in the following periods (in thousands):

		2019	2018
In one year or less	$	16,087	16,074
Between one year and five years		23,177	13,841
More than five years		6,462	3,968
		45,726	33,883
Less:			
Unamortized discount		(1,839)	(639)
Allowance for uncollectible accounts		(2,313)	(2,205)
	$	41,574	31,039

Contributions receivable from federal and state government agencies are included in grants receivable (note 6). Outstanding amounts related to conditional federal grants as of June 30, 2019 were approximately $39.7 million. Outstanding pledges that were conditional amounted to $11.4 million and $11.3 million as of June 30, 2019 and 2018, respectively.

(10) Net Assets

Net assets without donor restrictions include the following at June 30, 2019 and 2018 (in thousands):

		2019	2018
Undesignated	$	242,150	216,202
Board designated endowment funds		422,558	414,923
Annuity and life income funds		3,301	3,215
Plant funds and capital project reserves		300,874	302,894
Independent operations		57,942	57,812
	$	1,026,825	995,046

Net assets with donor restrictions include the following at June 30, 2019 and 2018 (in thousands):

		2019	2018
Contributions receivable	$	41,574	31,039
Loan funds		2,670	2,520
Annuity and life income funds		31,579	29,046
Endowment funds- corpus		553,202	531,644
Accumulated gains on endowment funds		379,029	355,072
Other – related to time and purpose restrictions		27,907	11,534
	$	1,035,961	960,855

Based upon spending restrictions in effect as of June 30, 2019, endowment funds and accumulated gains on donor restricted endowment funds are restricted for the following future spending purposes.

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	With donor restrictions	
	Endowment funds	Accumulated gains on endowment funds
Scholarships and fellowships	45 %	36 %
Professorships and chairs	12	12
Without donor purpose restrictions	19	37
Other	24	15

(11) Bonds, Loans, and Notes Payable

Bonds, loans, and notes payable are reported net of any unamortized premiums, discounts, or issuance costs. Net unamortized premiums were $2.9 million and $3.1 million at June 30, 2019 and 2018, respectively. Net unamortized bond issuance costs were $1.6 million and $1.7 million at June 30, 2019 and 2018, respectively. The following table presents bonds, loans, and notes payable at June 30, 2019 and 2018 (in thousands):

		2019	2018
Taxable Commercial Paper Series A, up to $75 million, weighted average interest rate of 2.35% and 2.02% on June 30, 2019 and 2018, respectively; average duration of 63 days for the years ended June 30, 2019 and 2018	$	20,000	20,000

	2019	2018
Northampton County General Purpose Authority (NCGPA):		
Series 2000B bonds; tax-exempt variable rate revenue bonds, $25,000 due serially from December 1, 2003 to December 1, 2030, variable rates of 1.55% and 1.40% on June 30, 2019 and 2018, respectively; bonds are supported with a standby bond purchase agreement, which expires on September 16, 2020	$ 14,752	15,632
Series 2001 bonds; tax-exempt variable rate revenue bonds, $21,780 due serially from October 15, 2006 to October 15, 2019, variable rate of 1.55% and 1.40% on June 30, 2019 and 2018, respectively; bonds are supported with a standby bond purchase agreement, which expires on October 15, 2019	1,944	5,037
Series 2004 bonds; tax-exempt index rate revenue bonds, $50,000 due serially from May 15, 2025 to May 15, 2034, rates of 2.45% and 2.10% on June 30, 2019 and 2018, respectively	49,795	49,776
Series 2006A bonds; tax-exempt variable rate revenue bonds, $16,820 due serially from November 15, 2007 to November 15, 2021, variable rates of 1.50% and 1.36% on June 30, 2019 and 2018, respectively	5,497	7,196
Series 2007 bonds; tax-exempt revenue bonds, $24,615 variable rate CPI bonds due serially from November 15, 2019 to November 15, 2025, variable rates of 3.03% and 3.53% on June 30, 2019 and 2018 respectively	24,557	24,541
Series 2016A bonds; 4.00% to 5.00% tax-exempt fixed rate revenue bonds, $26,715 due serially from November 15, 2026 to November 15, 2036	29,475	29,649
Series 2016B bonds; tax-exempt variable rate revenue bonds, $74,950 due serially from November 15, 2017 to November 15, 2039, variable rate of 2.48% and 2.16% on June 30, 2019 and 2018, respectively	73,531	74,111
Series 2016 taxable bonds; $150,000 due serially from November 15, 2044 to November 15, 2046, fixed rate 3.48%	149,180	149,149
	$ 368,731	375,091

The proceeds of the series 2016 taxable bonds were used to finance current and future capital projects consistent with the University's capital plan, to pay the costs of issuance, and any other purpose duly authorized by the University.

Proceeds from all tax-exempt bonds, loans, and notes were used by the University to purchase land and buildings, construct or renovate facilities, upgrade computing and information service facilities, purchase equipment, and finance certain completed facilities.

The series 2016 taxable bonds are secured by a pledge of and security interest in the University's gross revenues.

Payment of all outstanding tax-exempt bonds is secured by separate loan agreements between the University and the Northampton County General Purpose Authority (NCGPA). Each loan agreement is a general obligation of the University for which it has pledged its full faith and credit. In addition, the University has granted NCGPA a security interest in the University's gross revenues as defined in each loan agreement. In accordance with the NCGPA loan agreements, the University established rates and charges sufficient to provide, in each fiscal year, for the payment of the University's operating expenses and debt service on its long-term indebtedness. The University may incur additional indebtedness under certain conditions described in the loan agreements and the bond indentures.

At June 30, 2019, the aggregate annual maturities of bonds, loans, and notes payable for the next five years and, thereafter, are as follows (in thousands):

2020	$	6,160
2021		6,355
2022		6,595
2023		6,970
2024		7,240
Thereafter		314,045
Total long-term bonds payable		347,365
Unamortized issuance costs		(1,560)
Unamortized bond premium		2,926
Commercial paper		20,000
	$	368,731

The Series of 2000B, 2001, and 2006A bonds bear interest at a weekly rate determined by the remarketing agent. The Series 2004 bonds bear interest based upon a LIBOR Index Rate set by the calculation agent on a monthly basis. The University may elect to convert to another variable rate mode or to a fixed mode as determined by the remarketing agent.

Bondholders have a right to tender variable rate bonds at interest rate reset dates.

The University entered into separate standby bond purchase agreements with banks to provide liquidity in case of tender of the 2000B or 2001 bonds. These agreements expire prior to the maturity of the bonds and may be extended at the University's request. However, the banks have no obligation to agree to the extended purchase period.

The University serves as the liquidity facility for its 2006A bonds and the Commercial Paper program. As of June 30, 2019, the University estimates that $90.1 million of liquid assets were available on a same day basis and an additional $79.6 million was available within 7 days.

Included in other liabilities is a finance lease obligation of $40.1 million related to the construction of a student housing residence facility on the University's land. The related construction costs are capitalized and included in property, plant, and equipment, net on the consolidated statement of financial position.

As a component of the tax-exempt debt portfolio, the University entered into interest rate swap agreements that effectively convert certain variable rate revenue bond obligations to fixed rates or reduce the University's effective interest rate. Significant terms of each of the swap agreements are as follows (in thousands):

Series	Counterparty	Effective date	Current notional amount	University pays	University receives	Expiration date
2000B bonds	JPMorgan Chase Bank, N.A.	12/7/2000	$ 14,815	4.530 %	67% of USD-1-month LIBOR-BBA	12/1/2030
2001 bonds	JPMorgan Chase Bank, N.A.	9/4/2001	1,945	4.400	67% of USD-1-month LIBOR-BBA	10/15/2019
2004 bonds	Wells Fargo Bank, N.A.	12/18/2008	50,000	1.953	67% of USD-3-month LIBOR-BBA	5/15/2034
2006A bonds	JPMorgan Chase Bank, N.A.	8/24/2006	5,505	3.392	67% of USD-1-month LIBOR-BBA	11/15/2021
2007 CPI bonds	JPMorgan Chase Bank, N.A.	2/1/2007	24,615	3.980 to 4.530	Variable rate based on CPI-U	various through 11/15/2025
2016B bonds	Wells Fargo Bank, N.A.	10/6/2016	73,770	1.148	70% of USD-1-month LIBOR-BBA	11/15/2039
			$ 170,650			

(12) Derivative Instruments

The University employs derivatives, primarily interest rate swap agreements, to manage interest rate risk associated with outstanding debt. The net fair value of the University's swap agreements is included in other assets or other liabilities in the statement of financial position, and was recorded as a $4.5 million liability and a $4.7 million asset at June 30, 2019 and 2018, respectively. The change in fair value of the interest rate swaps is reflected in nonoperating activity on the statement of activities and was $(9.3) million and $7.0 million for the years ended June 30, 2019 and 2018, respectively.

Certain of the University's interest rate swap agreements contain provisions that require the University's debt to maintain an investment grade credit rating from each of the major credit rating agencies. If the University's debt were to fall below investment grade, it would be a violation of these provisions, and the counterparties to the rate swap agreement could request next-day full collateralization on all rate swaps in net liability positions. To date, the University has not posted collateral for any rate swap agreements. If the credit-risk-related contingent features underlying these agreements were triggered on June 30, 2019, the University would be required to post an additional $7.2 million of collateral to its counterparties.

(13) Functional Allocation of Expenses

The following table includes operating expenses by type and function for the year ended June 30, 2019 and by function for the year ended June 30, 2018 (in thousands):

		Instruction	Research	Public service	Academic support	Student services	Institutional support	Auxiliary enterprises	Independent operations	Total
Salaries and wages	$	87,945	18,799	831	15,537	17,101	35,790	4,183	3,624	183,810
Employee benefits		30,450	3,758	208	5,659	5,485	12,748	1,200	1,027	60,535
Purchased services		2,501	4,957	198	2,335	2,321	10,394	13,047	1,769	37,522
Occupancy		10,506	2,273	241	2,470	2,516	4,739	11,529	635	34,909
Depreciation		9,386	5,033	185	3,376	3,052	5,353	3,612	1,611	31,608
Interest		6,658	1,450	62	1,167	1,289	2,689	321	—	13,636
Other expenses		13,075	7,675	1,290	8,754	8,601	5,542	6,689	1,792	53,418
Total	$	160,521	43,945	3,015	39,298	40,365	77,255	40,581	10,458	415,438
2018 Total	$	156,074	44,138	2,618	38,237	39,029	75,170	38,955	11,054	405,275

The consolidated financial statements report certain categories of expenses that are attributable to more than one function. Therefore, these expenses require allocation on a reasonable basis that is consistently applied. The expenses that are allocated include employee benefits, interest, and certain occupancy expenses, which are allocated on the basis of salary and wage expense.

Fund-raising costs were approximately $14.4 million and $11.1 million in 2019 and 2018, respectively, and are included in institutional support.

(14) Postretirement and Postemployment Benefits Other than Pensions

The University pays for a portion of the cost of medical insurance for retired employees and their eligible dependents. During fiscal year 2019, the University reimbursed retirees a maximum of $102.30 per month for premium expenses. The maximum monthly reimbursement amount will increase each year at the lesser of medical Consumer Price Index (CPI) or 8%. These postretirement medical benefits accrue from the later of date of hire or age 30. The University uses a July 1 measurement date for its plan. Summarized plan information is stated below (in thousands):

The following shows the reconciliation of the beginning and ending balances of the benefit obligation (in thousands):

		2019	2018
Benefit obligation at beginning of year	$	46,295	44,990
Operating:			
Service cost		1,602	1,548
Interest cost		2,034	1,849
Benefits paid		(1,193)	(1,101)
Total operating		2,443	2,296
Nonoperating:			
Actuarial gain		—	(92)
Assumption changes		3,498	(899)
Total nonoperating loss (gain)		3,498	(991)
Benefit obligation at end of year	$	52,236	46,295

The following table sets forth the status of the plan, which is unfunded, at June 30, 2019 and 2018:

		2019	2018
Accumulated postretirement benefit obligation:			
Retirees	$	17,300	17,155
Fully eligible active plan participants		16,521	15,034
Other active plan participants		18,415	14,106
Total		52,236	46,295
Plan assets at fair value		—	—
Accumulated postretirement benefit liability	$	52,236	46,295

Weighted average assumptions for the years ended June 30, 2019 and 2018 are as follows:

	2019	2018
Discount rate for net periodic postretirement benefit cost	4.45 %	4.16 %
Discount rate for accumulated postretirement benefit obligation	3.90	4.45
Maximum increase in reimbursement rate	lesser of medical CPI or 8%	lesser of medical CPI or 8%

Assumed healthcare cost trend rate at June 30, 2019 and 2018 is as follows:

	2019	2018
Healthcare cost trend rate assumed for next year	4.25 %	4.25 %
Rate to which the cost trend rate is assumed to decline (ultimate rate)	4.25	4.25
Year that ultimate rate is reached	N/A	N/A

Impact of 1% increase in assumed healthcare cost trend rate at June 30, 2019 and 2018 is as follows (in thousands):

	2019	2018
Increase in accumulated postretirement benefit obligation	$ 10,117	8,966
Increase in net periodic postretirement benefit cost	948	905

Estimated future University contributions reflecting expected future service are as follows (in thousands):

Fiscal year ending June 30:	
2020	$ 1,274
2021	1,380
2022	1,489
2023	1,607
2024	1,725
2025 through 2029	10,593

(15) Retirement Plans

The University provides pensions to substantially all salaried faculty and staff through a defined-contribution plan administered by Teacher's Insurance and Annuity Association/College Retirement Equities Fund. The plan features base contributions from the University and voluntary employee contributions with a University match. Total expense for this plan was $14.8 million and $14.6 million in 2019 and 2018, respectively.

(16) Grants and Contracts

The University receives grant and contract revenue from various government agencies and private sources for the support of research, training, and other sponsored programs. Revenues associated with the direct costs of these programs are recognized as the related costs are incurred. Indirect cost reimbursements from federal agencies are based on predetermined rates negotiated with the University's cognizant agency, the Office of Naval Research, and are in effect through fiscal year 2020. These rates are also used for other sponsored programs except where separately negotiated. Indirect cost reimbursements from all sources totaled $9.1 million and $8.6 million in 2019 and 2018, respectively.

(17) Commitments and Contingencies

Open commitments with general contractors, engineering firms, and other vendors related to the construction, renovation, and repair of certain facilities amounted to approximately $22.1 million and $52.6 million as of June 30, 2019 and 2018, respectively.

The University leases certain equipment and real property. These leases are classified as operating leases and have lease terms ranging from one to ten years. Total lease expenses were approximately $2.9 million and $1.6 million in 2019 and 2018, respectively.

(18) Income Taxes

The University has been recognized by the Internal Revenue Service (IRS) as exempt from federal income tax under Section 501(c)(3) of the U.S. Internal Revenue Code, except for taxes on income from activities unrelated to its exempt purpose. There was no provision for income taxes due on unrelated business income in the accompanying consolidated financial statements. Accounting principles generally accepted in the United States of America require management to evaluate tax positions taken by the University and recognize a tax liability (or asset) if the University has taken an uncertain tax position that more likely than not would not be sustained upon examination by the IRS. Management has analyzed the tax positions taken by the University, and has concluded that as of June 30, 2019 there are no uncertain positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure in the consolidated financial statements. The University is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress.

(19) Subsequent Events

The University has evaluated subsequent events through October 18, 2019, the date the consolidated financial statements were issued, and concluded that there are no items requiring disclosure.

LEHIGH UNIVERSITY

Schedule of Expenditures of Federal Awards

Year ended June 30, 2019

Program: Federal sponsor/project title	CFDA #	Pass-through entity Identifying number	Pass-through Entity	Passed through to subrecipients	Total expenditures
Student Financial Assistance Cluster					
U.S. Department of Education:					
Federal Supplemental Education Opportunity Grant	84.007			$ —	462,742
Federal Perkins Loan Program	84.038			—	2,105,699
Federal Work Study Program	84.033			—	574,635
Federal Pell Grant Program	84.063			—	4,090,684
Federal Direct Loan Program	84.268			—	19,706,332
Total Student Financial Assistance Cluster				—	26,940,092
Research and Development Cluster:					
Department of Commerce:					
Ocean Exploration	11.011			2,914	26,912
Golf Coast Ecosystem Restoration Science, Observation, Monitoring, and Technology	11.451			80,462	325,931
Center for Sponsored Coastal Ocean Research_Coastal Ocean Program	11.478			3,270	514,800
DOD – U.S. Air Force:					
Air Force Defense Research Sciences Program	12.800			74,737	485,693
Air Force Defense Research Sciences Program	12.800	FA8650-15-C-1855	National Center for Defense Manufacturing and Machining	—	45,818
Air Force Defense Research Sciences Program	12.800	FA9550-18-1-0363	University of Nevada, Reno	—	57,571
Air Force Defense Research Sciences Program	12.800	FA9550-17-1-0367	Virginia Polytechnic Institute and State University	—	88,258
Subtotal				74,737	677,340
DOD-U.S. Army-Research Laboratory:					
Basic Scientific Research	12.431			80,269	441,528
DOD – U.S. Navy:					
Basic and Applied Scientific Research	12.300			112,657	1,365,261
Basic and Applied Scientific Research	12.300	N00014-18-1-2407	University of Utah	—	43,309
Basic and Applied Scientific Research	12.300	N00014-16-1-2515	University of Virginia	—	236,897
Subtotal				112,657	1,645,467
Basic, Applied, and Advanced Research in Science and Engineering	12.630	W911NF-12-2-0022	Johns Hopkins University	—	102,928
DOD-Defense Advanced Research Projects Agency:					
Research and Technology Development	12.910	N660011824026	Northwestern University	—	149,039
Research and Technology Development	12.910	HR0011-12-C-0035	The Boeing Company	—	23,104
Subtotal				—	172,143
U.S. Dept of Energy:					
Office of Science Financial Assistance Program	81.049			—	1,413,126
Office of Science Financial Assistance Program	81.049	DE-SC0017232	Advanced Cooling Technologies, Inc.	—	164,459
Office of Science Financial Assistance Program	81.049	DE-SC0019664	Advanced Cooling Technologies, Inc.	—	4,677
Office of Science Financial Assistance Program	81.049	DE-SC0001057	Carnegie Institute of Washington	—	25,701
Office of Science Financial Assistance Program	81.049	DE-SC0018592	Energy Research Company	—	34,714
Office of Science Financial Assistance Program	81.049	DE-SC0012577	Georgia Institute of Technology	—	180,682
Office of Science Financial Assistance Program	81.049	DE-AC52-07NA27344	Lawrence Livermore National Laboratory	—	32,883
Subtotal				—	1,856,242
Renewable Energy Research and Development	81.087			—	25,337
Fossil Energy Research and Development	81.089			80,235	178,752
Fossil Energy Research and Development	81.089	DE-FE0031673	Trustees of the University of Pennsylvania	—	89,077
Subtotal				80,235	267,829

(Continued)

LEHIGH UNIVERSITY

Schedule of Expenditures of Federal Awards

Year ended June 30, 2019

Program: Federal sponsor/project title	CFDA #	Pass-through entity Identifying number	Pass-through Entity	Passed through to subrecipients	Total expenditures
Stewardship Science Grant Program	81.112			$ —	225,203
Energy Efficiency and Renewable Energy Information Dissemination, Outreach, Training and Technical Analysis/Assistance	81.117			—	358,518
Electricity Delivery and Energy Reliability, Research Development and Analysis (B)	81.122	DE-OE0000779	University of Arkansas	—	757,172
National Nuclear Security Administration (NNSA) Minority Serving Institutions (MSI) Program	81.123	DE-AC52-07NA27344	Lawrence Livermore National Laboratory	—	47,623
Advanced Research Projects Agency – Energy	81.135	DE-AR0000582	Advanced Cooling Technologies, Inc.	1,530	16,343
Advanced Research Projects Agency – Energy	81.135			—	36,479
Subtotal				1,530	52,822
U.S. Department of Education:					
Graduate Assistance in Areas of National Need	84.200			—	223,902
Education Research, Development and Dissemination	84.305	R305A140356	Ohio University	—	259,848
Education Research, Development and Dissemination	84.305	R305A160080	University of Minnesota	—	45,504
Subtotal				—	305,352
Research in Special Education	84.324			398,358	900,925
National Institutes of Health:					
Oral Diseases and Disorders Research	93.121			—	229,301
Research Related to Deafness and Communication Disorders	93.173			—	182,643
Mental Health Research Grants	93.242	5R01MH094435-05	University of North Carolina at Greensboro	—	(81)
Alcohol Research Programs	93.273			66,793	166,283
Drug Abuse and Addiction Research Programs	93.279	5R01DA043567-02	Dignity Health – St. Joseph's Hospital and Medical Center	—	125,170
Drug Abuse and Addiction Research Programs	93.279	5R25DA028567-09	Regents of the University of California	—	12,258
Subtotal				—	137,428
Discovery and Applied Resh for Tech Innovations to Improve Human Health	93.286			13,306	279,903
Minority Health and Health Disparities Research	93.307			277,754	402,159
Minority Health and Health Disparities Research	93.307	5R01MD011573-03	Medical College of Wisconsin	—	35,669
Minority Health and Health Disparities Research	93.307	1R01MD008940	University of Arizona	—	40,483
Subtotal				277,754	478,311
Cancer Biology Research	93.396			2,069	14,530
Cardiovascular Diseases Research	93.837			—	139,692
Blood Diseases and Resources Research	93.839			14,636	170,515
Blood Diseases and Resources Research	93.839	5R01HL082808-13	Emory University	—	73,643
Subtotal				14,636	244,158
Arthritis Musculoskeletal and Skin Diseases Research	93.846	5U54AR055073-13	Rutgers University	—	383,934
Arthritis Musculoskeletal and Skin Diseases Research	93.846	2U54AR055073-12	University of Medicine & Dentistry of New Jersey	—	5,141
Subtotal				—	389,075
Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853			—	389,990
Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853	1R21NS096948-02	Massachusetts General Hospital	—	57,861
Subtotal				—	447,851
Allergy and Infectious Diseases Research	93.855			—	94,360

(Continued)

Program: Federal sponsor/project title	CFDA #	Pass-through entity Identifying number	Pass-through Entity	Passed through to subrecipients	Total expenditures
Biomedical Research and Research Training	93.859			$ 68,634	1,780,010
Biomedical Research and Research Training	93.859	1R01GM120537-01A1	Arizona State University	—	36,973
Biomedical Research and Research Training	93.859	5R01GM118530-03	Brown University	—	29,840
Biomedical Research and Research Training	93.859	U54GM087519	University of Chicago	—	33,390
Biomedical Research and Research Training	93.859	5R01GM103695-11	University of Michigan	—	160,831
Subtotal				68,634	2,041,044
Child Health and Human Development Extramural Research	93.865			58,383	333,448
Medical Library Assistance	93.879			—	17,984
U.S. Department of Interior:					
Earthquake Hazards Program Assistance	15.807			—	70,935
U.S. Department of Transportation:					
Highway Research and Development Program (B)	20.200			—	(36,625)
Recreational Trails Program	20.219			—	25,655
University Transportation Centers Program	20.701	69A3551847103	The Pennsylvania State University	—	24,983
Transportation Planning, Research and Education (B)	20.931	69A3551747118	Colorado School of Mines	—	194,255
National Aeronautics and Space Administration:					
Science	43.001			—	22,739
Science	43.001	80NSSC18M094	Penn State University	—	32,490
Science	43.001	80NSSC18K0544	Regents of the University of California	11,350	27,866
Subtotal				11,350	83,095
Education	43.008	NNX16AM18G	Nurture Nature Center, Inc.	—	25,948
Education	43.008	NNX15AK06H	Penn State University	—	7,444
Subtotal				—	33,392
National Science Foundation:					
Engineering Grants	47.041			1,636	5,340,459
Engineering Grants	47.041	IIP-1456358	Brighton Technologies Group, Inc.	—	(25,831)
Engineering Grants	47.041	IIP-1831220	Dynalene, Inc.	—	13,416
Engineering Grants	47.041	EFMA-1433459	Purdue University	—	105,488
Engineering Grants	47.041	CMMI-16628616	University of Arizona	—	183,044
Engineering Grants	47.041	CBET-1821389	University of Virginia	—	204,489
Subtotal				1,636	5,821,065
Mathematical and Physical Sciences	47.049			—	1,455,839
Geosciences	47.050			1,854	578,656
Geosciences	47.050	OCE-1450528	Columbia University	—	41,344
Geosciences	47.050	EAR-1624280	University of California, San Diego	—	64,425
Subtotal				1,854	684,425
Computer and Information Science and Engineering	47.070			—	1,406,183
Computer and Information Science and Engineering	47.070	IIS-1421498	Cornell University	—	3,855
Computer and Information Science and Engineering	47.070	ACI-1639529	Northern Arizona University	—	25,445
Subtotal				—	1,435,483
Biological Sciences	47.074			5,265	1,152,666
Biological Sciences	47.074	EF#1137306	Massachusetts Institute of Technology	—	15,984
Subtotal				5,265	1,168,650
Social Behavioral and Economic Sciences	47.075			—	129,517
Social Behavioral and Economic Sciences	47.075	SMA-1416651	Yale University	—	2,368
Subtotal				—	131,885

(Continued)

LEHIGH UNIVERSITY

Schedule of Expenditures of Federal Awards

Year ended June 30, 2019

Program: Federal sponsor/project title	CFDA #	Pass-through entity Identifying number	Pass-through Entity	Passed through to subrecipients	Total expenditures
Education and Human Resources	47.076			$ 31,761	504,468
Education and Human Resources	47.076	DRL-1420532	Michigan State University	—	16,829
Education and Human Resources	47.076	DGE-1835307	Worcester Polytechnic Institute	—	28,501
Subtotal				31,761	549,798
Office of International Science and Engineering	47.079	OISE-1743701	Kansas State University	—	27,915
Office of Integrative Activities	47.083	OISE-1545903	Boise State University	—	22,782
Total Research And Development Cluster				1,387,873	25,817,436
Other:					
Department of Agriculture:					
Agriculture and Food Research Initiative (AFRI)	10.310			48,843	67,656
Child and Adult Care Food Program	10.558	300-48-383-0	PA-Department of Education	—	7,606
National Endowment for the Humanities:					
Promotion of the Humanities Challenge Grants	45.130			—	415,340
DOD-Defense Logistics Agency:					
Procurement Technical Assistance	12.002	SP4701-19-P-0048	Advanced Cooling Technologies, Inc.	—	3,945
Procurement Technical Assistance	12.002	SP4800-18-2-1831	Kutztown University of Pennsylvania	—	26,390
Procurement Technical Assistance	12.002	SP4800-16-2-1736	University of Pennsylvania	—	5,423
Subtotal				—	35,758
Department of State:					
Academic Exchange Programs – Undergraduate Programs	19.009	S-ECAGD-18-CA-0022	IREX	—	46,215
Small Business Administration:					
Small Business Development Centers	59.037	SBAHQ-18-B-0074	Kutztown University of Pennsylvania	—	229,394
Small Business Development Centers	59.037	SBAHQ-19B-0027	Kutztown University of Pennsylvania	—	10,090
Subtotal				—	239,484
Department of Education:					
Special Education – Personnel Development to Improve Services and Results for Children with Disabilities	84.325			—	125,842
Supporting Effective Instruction State Grant (formerly Improving Teacher Quality State Grants)	84.367	S367A180051	PA-Department of Education	—	46,175
Department of Health and Human Services:					
Head Start	93.600			—	26,436
Total other				48,843	1,010,512
Total expenditures of federal awards				$ 1,436,716	53,768,040

See accompanying independent auditors' report.

(1) Basis of Presentation

The accompanying schedule of expenditures of federal awards (Schedule) includes the federal award activity of Lehigh University (the University) under programs of the federal government for the year ended June 30, 2019 in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Because the Schedule presents only a selected portion of the operations of the University, it is not intended to, and does not, present the financial position, changes in net assets, or cash flows of the University. The schedule of expenditures of federal awards does not present the activity for the University's subsidiary Manufacturers Resource Center that expended $678,416 in federal awards and submits a separate audit report in accordance with the Uniform Guidance if certain thresholds are met.

(2) Summary of Significant Accounting Policies

Expenditures reported on the Schedule are reported on the accrual basis of accounting. Such expenditures are recognized following, as applicable, either the cost principles in Office of Management and Budget Circular A-21, *Cost Principles for Educational Institutions*, or the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement.

(3) Indirect Cost Rate

The University has not elected to use the 10-percent de minimis indirect cost rate allowed under the Uniform Guidance.

(4) Federal Perkins Loan Program

Perkins loans are administered directly by the University, and balances and transactions relating to Perkins loans are included in the University's consolidated financial statements. Perkins loan expenditures reported on the Schedule include the balance of outstanding loans at June 30, 2018, and the administrative cost allowance claimed during the year ended June 30, 2019 of $87,620. The outstanding balance of Federal Perkins Loans at June 30, 2019 was $1,434,269.

There were no federal or institutional capital contributions to the Perkins revolving loan fund for the year ended June 30, 2019.

(5) Direct Loans

Direct Loans are made by the Secretary of Education, and therefore, balances and transactions relating to Direct Loans are not included in the University's consolidated financial statements. The University is responsible for the performance of certain administrative duties under the Direct Loan program, including origination and disbursement of loans.

KPMG LLP
1601 Market Street
Philadelphia, PA 19103-2499

Independent Auditors' Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With *Government Auditing Standards*

The Board of Trustees
Lehigh University:

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the consolidated financial statements of Lehigh University and its subsidiaries (the University), which comprise the consolidated statement of financial position as of June 30, 2019, and the related consolidated statements of activities, and cash flows for the year then ended, and the related notes to the consolidated financial statements, and have issued our report thereon dated October 18, 2019. This report contained an emphasis of matter paragraph relating to the University's adoption of new accounting guidance, Accounting Standards Update No. 2016-14, *Not-for-Profit Entities (Topic 958) Presentation of Financial Statements of Not-for-Profit Entities*.

Internal Control Over Financial Reporting

In planning and performing our audit of the consolidated financial statements, we considered the University's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the consolidated financial statements, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we do not express an opinion on the effectiveness of the University's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the University's consolidated financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the University's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the University's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

KPMG LLP

Philadelphia, Pennsylvania
October 18, 2019

KPMG LLP
1601 Market Street
Philadelphia, PA 19103-2499

Independent Auditors' Report on Compliance for Each Major Federal Program; Report on Internal Control Over Compliance; and Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

The Board of Trustees
Lehigh University:

Report on Compliance for Each Major Federal Program

We have audited Lehigh University's (the University's) compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on the University's major federal program for the year ended June 30, 2019. The University's major federal program is identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

The University's consolidated financial statements include the operations of Manufacturers Resource Center (the subsidiary), which expended $678,416 in federal awards which are not included in the schedule of expenditures of federal awards for the year ended June 30, 2019. Our audit, described below, did not include the operations of this subsidiary because it separately engaged us to perform audits in accordance with the Uniform Guidance.

Management's Responsibility

Management is responsible for compliance with federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal programs.

Auditors' Responsibility

Our responsibility is to express an opinion on compliance for the University's major federal program based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the University's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for the major federal program. However, our audit does not provide a legal determination of the University's compliance.

Opinion on Each Major Federal Program

In our opinion, Lehigh University complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on its major federal programs for the year ended June 30, 2019.

Report on Internal Control Over Compliance

Management of the University is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the University's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the University's internal control over compliance.

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A material weakness in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A significant deficiency in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

We have audited the consolidated financial statements of Lehigh University as of and for the year ended June 30, 2019, and have issued our report thereon dated October 18, 2019, which contained an unmodified opinion on those consolidated financial statements. This report contained emphasis of matter paragraph relating to the University's adoption of new accounting guidance, Accounting Standards Update No. 2016-14, *Not-for-Profit Entities (Topic 958) Presentation of Financial Statements of Not-for-Profit Entities*. Our audit was conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated in all material respects in relation to the consolidated financial statements as a whole.

KPMG LLP

Philadelphia, Pennsylvania
January 31, 2020

LEHIGH UNIVERSITY

Schedule of Findings and Questioned Costs

Year ended June 30, 2019

(1) Summary of Auditors' Results

a. Type of report issued on whether the consolidated financial statements were prepared in accordance with generally accepted accounting principles: **Unmodified**

b. Internal control deficiencies over financial reporting disclosed by the audit of the consolidated financial statements:

- Material weaknesses: **No**
- Significant deficiencies: **None Reported**

c. Noncompliance material to the financial statements: **No**

d. Internal control deficiencies over major programs disclosed by the audit:

- Material weaknesses: **No**
- Significant deficiencies: **None reported**

e. Type of report issued on compliance for major programs: **Unmodified**

f. Audit findings that are required to be reported in accordance with 2 CFR 200.516(a): **No**

g. Major program:

- Research and Development Cluster – various CFDA numbers

h. Dollar threshold used to distinguish between Type A and Type B programs: **$1,459,199**

i. Auditee qualified as a low risk auditee: **Yes**

(2) Findings Relating to the Financial Statements Reported in Accordance with *Government Auditing Standards*

No matters were reported.

(3) Findings and Questioned Costs Relating to Federal Awards

No matters were reported.