

Celebrating 50 Years





This year, we honor the foundation that made us who we are today. We pay tribute to the innovations and innovators who have transformed education, our society and our world. We empower our students, alumni, faculty and staff, whose ingenuity will impact our daily lives in ways we cannot yet imagine.

This year, we celebrate the founder in all of us.

CONTENTS

4	Facts and Figures
5	Report of Independent Auditors and Consolidated Financial Statements
6	Report of Independent Auditors
7	Consolidated Statements of Financial Position
8	Consolidated Statements of Activities
10	Consolidated Statements of Cash Flows
11	Notes to Consolidated Financial Statements
47	2017-2018 Board of Trustees



FACTS AND FIGURES

Type of University

Private, global research, granting over 4,600 bachelor's, master's and doctorate degrees each year.

Colleges and Schools

College of Engineering

College of Fine Arts

Dietrich College of Humanities and Social Sciences

Heinz College of Information Systems and Public Policy

Mellon College of Science

School of Computer Science

Tepper School of Business

Number of Students¹

6,804 undergraduates, 5,637 master's and 1,945 doctoral students, and 142 non-degree students

Number of Employees¹

6,077 total employees

708 tenure-stream faculty

691 non-tenure-stream faculty

4,678 staff

Number of Active Alumni²

105,255+ alumni

Carnegie Mellon Faculty and Alumni Award Highlights²

- 20 Nobel Laureates
- 56 Members, National Academy of Engineering
- 17 Members, National Academy of Sciences
- 116 Emmy Award Winners
- 44 Tony Award Winners
- 10 Academy Award Winners
- 5 Members, National Academy of Medicine
- 12 Turing Awards

Athletics³

Team name is "The Tartans"; NCAA Division III classification; founding member of the University Athletic Association; 19 varsity sports; over 25 club sports; and over 45 intramural activities.

History

Founded in 1900 by industrialist and philanthropist Andrew Carnegie as a technical school for working-class Pittsburgh; became Carnegie Institute of Technology in 1912; merged with the Mellon Institute in 1967 to become Carnegie Mellon University.

Physical Size¹

148-acre Pittsburgh campus; 118 campus-owned buildings; two branch campuses.

Location

Pittsburgh, Pennsylvania: Five miles east of downtown Pittsburgh, bordered by 500-acre Schenley Park and three culturally active residential neighborhoods.

Additional branch campuses:

Doha, Qatar, and Silicon Valley, California

For more information about Carnegie Mellon, please contact:

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¹*University Factbook 2017-2018, Volume 32*

²*CMU Fact Sheet, March 2018*

³*Carnegie Mellon Office of Admission*



Report of
Independent
Auditors

and
Consolidated
Financial
Statements





**REPORT OF INDEPENDENT AUDITORS
TO THE BOARD OF TRUSTEES OF
CARNEGIE MELLON UNIVERSITY AND ITS SUBSIDIARIES**

We have audited the accompanying consolidated financial statements of Carnegie Mellon University and its subsidiaries (the "university"), which comprise the consolidated statements of financial position as of June 30, 2018 and June 30, 2017, and the related consolidated statements of activities and of cash flows for the years then ended.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the university's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the university's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Carnegie Mellon University and its subsidiaries at June 30, 2018 and June 30, 2017, and the changes in their net assets and their cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

PricewaterhouseCoopers LLP

October 8, 2018

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

June 30, 2018 and 2017 (dollars in thousands)

	2018	2017
Assets		
Cash and cash equivalents (Note 2)	\$481,288	\$251,520
Accrued interest and dividends	1,521	1,771
Accounts receivable, net (Note 3)	61,222	61,621
Pledges receivable, net (Note 4)	104,893	104,914
Student loans receivable, net (Note 3)	17,464	17,218
Investments (Note 5 and Note 7)	2,385,406	2,400,619
Assets held in trust by others (Note 7)	11,066	10,710
Prepaid expenses and other assets (Note 2)	46,983	49,261
Land, buildings and equipment, net (Note 9)	965,934	884,636
Total assets	\$4,075,777	\$3,782,270
Liabilities		
Accounts payable and other liabilities (Note 2)	\$202,082	\$202,805
Deferred revenue	104,779	106,409
Federal student loan funds	14,828	14,785
Present value of split interest agreements payable	17,028	13,512
Debt obligations (Note 10)	546,290	550,478
Total liabilities	\$885,007	\$887,989
Net assets		
Unrestricted	\$1,464,533	\$1,275,211
Temporarily restricted (Note 11)	844,803	807,491
Permanently restricted (Note 11)	881,434	811,579
Total net assets	\$3,190,770	\$2,894,281
Total liabilities and net assets	\$4,075,777	\$3,782,270

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

CONSOLIDATED STATEMENTS OF ACTIVITIES

Year ended June 30, 2018 (*dollars in thousands*)

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Revenue and other support				
Tuition and other educational fees revenue, net of financial aid	\$542,351	\$ -	\$ -	\$542,351
Sponsored projects revenue (Note 8)	394,473	-	-	394,473
Investment income (Note 5)	55,026	11,006	280	66,312
Contributions revenue (Note 4)	22,019	65,184	67,105	154,308
Auxiliary services revenue	65,325	-	-	65,325
Other sources (Note 2)	90,086	509	-	90,595
Net assets released from restrictions	72,973	(72,973)	-	-
Total revenue and other support	\$1,242,253	\$3,726	\$67,385	\$1,313,364
Expenses				
Salaries	\$653,143	\$ -	\$ -	\$653,143
Benefits	144,883	-	-	144,883
Supplies and services	169,470	-	-	169,470
Occupancy and related expenses	79,901	-	-	79,901
Other operating expenses	61,837	-	-	61,837
Depreciation and amortization	67,360	-	-	67,360
Interest expense	13,370	-	-	13,370
Total expenses	\$1,189,964	\$ -	\$ -	\$1,189,964
Increase in net assets before nonoperating activities	\$52,289	\$3,726	\$67,385	\$123,400
Nonoperating activities				
Net realized/unrealized gains on investments (Note 5)	\$47,816	\$125,551	\$1,152	\$174,519
Other (Note 2)	941	(3,496)	(3,682)	(6,237)
Post-retirement plan changes other than net periodic benefit costs (Note 15)	4,807	-	-	4,807
Net assets released from restriction for capital	84,469	(84,469)	-	-
Change in donor restriction (Note 2)	-	(4,000)	4,000	-
Reclassification (Note 2)	(1,000)	-	1,000	-
Total nonoperating activities	\$137,033	\$33,586	\$2,470	\$173,089
Increase in net assets	\$189,322	\$37,312	\$69,855	\$296,489
Net assets				
Beginning of year	\$1,275,211	\$807,491	\$811,579	\$2,894,281
End of year	\$1,464,533	\$844,803	\$881,434	\$3,190,770

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

CONSOLIDATED STATEMENTS OF ACTIVITIES

Year ended June 30, 2017 (*dollars in thousands*)

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Revenue and other support				
Tuition and other educational fees revenue, net of financial aid	\$510,438	\$ -	\$ -	\$510,438
Sponsored projects revenue (<i>Note 8</i>)	376,901	-	-	376,901
Investment income (<i>Note 5</i>)	40,641	8,608	342	49,591
Contributions revenue (<i>Note 4</i>)	24,685	38,741	81,308	144,734
Auxiliary services revenue	62,040	-	-	62,040
Other sources (<i>Note 2</i>)	85,907	176	(296)	85,787
Net assets released from restrictions	74,700	(74,700)	-	-
Total revenue and other support	\$1,175,312	\$(27,175)	\$81,354	\$1,229,491
Expenses				
Salaries	\$619,433	\$ -	\$ -	\$619,433
Benefits	134,068	-	-	134,068
Supplies and services	160,710	-	-	160,710
Occupancy and related expenses	75,223	-	-	75,223
Other operating expenses	59,886	-	-	59,886
Depreciation and amortization	65,240	-	-	65,240
Interest expense	13,694	-	-	13,694
Total expenses	\$1,128,254	\$ -	\$ -	\$1,128,254
Increase (decrease) in net assets before nonoperating activities	\$47,058	\$(27,175)	\$81,354	\$101,237
Nonoperating activities				
Net realized/unrealized gains on investments (<i>Note 5</i>)	\$35,595	\$143,703	\$1,789	\$181,087
Other (<i>Note 2</i>)	276,762	(2,279)	-	274,483
Post-retirement plan changes other than net periodic benefit costs (<i>Note 15</i>)	(662)	-	-	(662)
Net assets released from restriction for capital Reclassification (<i>Note 2</i>)	23	(23)	-	-
	(18,883)	3,000	15,883	-
Total nonoperating activities	\$292,835	\$144,401	\$17,672	\$454,908
Increase in net assets	\$339,893	\$117,226	\$99,026	\$556,145
Net assets				
Beginning of year	\$935,318	\$690,265	\$712,553	\$2,338,136
End of year	\$1,275,211	\$807,491	\$811,579	\$2,894,281

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

**CONSOLIDATED
STATEMENTS OF
CASH FLOWS**

Year Ended June 30, 2018
and 2017
(dollars in thousands)

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

	2018	2017
Cash flows from operating activities		
Increase in net assets	\$296,489	\$556,145
Adjustments to reconcile change in net assets to net cash provided by operating activities:		
Realized and unrealized (gains) losses on investments	(208,354)	(208,788)
Depreciation and amortization	67,360	65,240
Amortization of bond premium	(2,986)	(2,288)
Gifts in kind	(415)	(384)
Loss on asset dispositions	727	152
Cash received from contributions for land, buildings, and equipment and endowment	(81,119)	(93,173)
Provision for bad debt and other allowances	10,909	3,007
Contributions held in trust by others	(356)	(456)
(Increase) decrease in assets:		
Accrued interest and dividends	250	(852)
Accounts receivable, net	(3,366)	3,610
Pledges receivable, net	(7,123)	13,858
Prepaid expenses and other assets	(4,110)	3,528
Increase (decrease) in liabilities:		
Accounts payable and other liabilities	(1,189)	(4,737)
Deferred revenue	(1,630)	(751,046)
Present value of split interest agreements	3,516	(342)
Net cash provided by (used for) operating activities	\$68,603	\$(416,526)
Cash flows from investing activities		
Proceeds from sale and maturity of investments	\$1,439,359	\$1,324,447
Purchases of investments	(1,215,792)	(1,602,614)
Purchases of land, buildings and equipment	(148,195)	(122,571)
Federal loan programs	43	41
Disbursements of loans to students	(3,442)	(3,865)
Repayments of loans from students	3,196	3,210
Net cash provided by (used for) investing activities	\$75,169	\$(401,352)
Cash flows from financing activities		
Proceeds from issuance of indebtedness	25,394	\$70,000
Repayments of debt obligations	(26,117)	(913)
Payment of debt issuance costs	(477)	-
Cash received from contributions for land, buildings, and equipment and endowment	87,196	87,061
Net cash provided by financing activities	\$85,996	\$156,148
Net increase (decrease) in cash and cash equivalents	\$229,768	\$(661,730)
Cash and cash equivalents at beginning of year	251,520	913,250
Cash and cash equivalents at end of year	\$481,288	\$251,520
Noncash transactions:		
Non-cash gift in kind	415	384
Changes in accounts payable for land, buildings and equipment	262	8,986
Noncash stock contributions	54	6,131
Debt refunding and re-issuance	52,430	-

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. CARNEGIE MELLON

Carnegie Mellon University (“Carnegie Mellon” or “the university”) is a private, not-for-profit educational and research institution. Carnegie Mellon currently enrolls about 14,530 students and granted approximately 4,700 bachelor’s, master’s and doctoral degrees in the last academic year. Approximately 78% of undergraduate students are from the United States of America. International students comprise approximately 22% of undergraduate, 65% of master’s and 57% of Ph.D. students.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting and Reporting

The accompanying consolidated financial statements have been prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America (“GAAP”) and include the accounts of Carnegie Mellon and other majority-owned entities. The consolidated entities are Advanced Robotics for Manufacturing Institute (“ARM Institute”), Benjamin Garver Lamme Scholarship Fund, Jack G. Buncher Charitable Fund for Carnegie Mellon, iCarnegie, Inc. and Carnegie Innovations, LLC. All significant inter-entity transactions and balances have been eliminated in consolidation. Carnegie Mellon is a joint sponsor with the University of Pittsburgh in MPC Corporation (“MPC”), a beneficiary of The Dietrich Foundation, and an owner as a tenant in common of the Bellefield Boiler Plant. The activities of MPC, The Dietrich Foundation and the Bellefield Boiler Plant are not consolidated or recorded in Carnegie Mellon’s consolidated financial statements (see [Note 16](#)).

In January 2017, the U.S. Department of Defense awarded the ARM Institute, a nonprofit venture led by Carnegie Mellon, a contract to launch an advanced robotics manufacturing institute in Pittsburgh. The consolidated Statements of Activities include approximately \$6.6 million and \$1.7 million for the fiscal years ended June 30, 2018 and 2017, respectively, in revenue and related expenses from the ARM Institute.

Carnegie Mellon’s net assets and revenue, expenses, gains and losses are classified based on the existence or absence of donor-imposed restrictions. Accordingly, net assets and changes therein are classified and reported as follows:

Unrestricted Net Assets

Net assets that are not subject to donor-imposed stipulations.

Temporarily Restricted Net Assets

Net assets subject to specific donor-imposed or legal stipulations that can be fulfilled by actions of Carnegie Mellon pursuant to those stipulations or that expire by the passage of time.

Permanently Restricted Net Assets

Net assets subject to donor-imposed stipulations requiring the assets be maintained permanently. Generally, the donors of these assets permit Carnegie Mellon to use all or part of the income earned on the related investments for general or specific purposes.

Revenues are reported as increases in unrestricted net assets unless use of the related assets is limited by donor-imposed restrictions. Expenses are reported as decreases in unrestricted net assets. Gains and losses on investments and other assets or liabilities are reported as increases or decreases in unrestricted net assets unless their use is restricted by the donor or by law. Expiration or satisfaction of temporary restrictions on net assets are reported as net assets released from restrictions.

Income and net gains and losses on investments are reported as follows:

- As changes in permanently restricted net assets, if so restricted by donor;
- As changes in temporarily restricted net assets, if the terms of the gift or relevant state law impose restrictions on the use of the income or gains and losses; and
- As changes in unrestricted net assets, in all other cases.

Reclassifications

Certain prior year amounts have been reclassified to conform with the current year's presentation.

Cash Equivalents

Cash equivalents include highly liquid investments with original maturities of three months or less when purchased. Cash equivalents are recorded at cost which approximates fair value. These balances are held at the university's custodians, prime brokers, clearing agents and banking institutions for investment and working capital purposes.

Investments

Debt and equity securities held by Carnegie Mellon are carried at fair value as established by the major securities markets with gains and losses reported in the Consolidated Statements of Activities. The alternative investments are carried at estimated fair value. Carnegie Mellon reviews and evaluates the values provided by the investment managers and agrees with valuation methods and assumptions used in determining the fair value of the alternative investments. Those estimated fair values may differ significantly from the values that would have been used had a ready market for these securities existed. [Note 7](#) provides additional information about inputs used to determine fair value for investments. Investments received as a gift are reflected as contributions at their fair value at the date of the gift.

Investment securities, in general, are exposed to various risks, such as interest rate, credit and overall market volatility. Due to the level of risk associated with certain investment securities, changes could materially affect the amounts reported in the Consolidated Statements of Financial Position.

Endowment

Investment policy for endowment assets is the responsibility of the Investment Committee of the Board of Trustees. Substantially all endowment assets are managed by outside investment managers and are held by an outside custodian.

Unrestricted endowment net assets include Carnegie Mellon funds, unrestricted gifts from donors, and any accumulated income and appreciation thereon, which is intended to remain in the endowment for the long-term support of Carnegie Mellon activities, but may be expended under trustee authorization. Also included is interest and dividend income on permanently restricted endowment assets where the distribution is unrestricted.

Temporarily restricted endowment net assets include cumulative gains and losses on permanent endowment assets and cumulative interest and dividend income on permanent endowment assets where the distribution/spending is restricted by the donor. The trustees of Carnegie Mellon must annually authorize release of endowment gains according to Pennsylvania law. This classification also includes term endowments and endowment gifts whereby the donor permits distributions of the principal amount of the gift and accumulated appreciation.

Permanently restricted endowment net assets include contributions, contributed stock gains and losses, and donor-stipulated income and appreciation that must be invested in perpetuity to provide a permanent source of income.

All endowment funds participate in a Carnegie Mellon investment pool. The investment pool provides income to its respective participants. Such income is used for the specific purpose prescribed by the donor or, if the purpose was not prescribed by the donor, the income is deemed to be unrestricted and used for general purposes. New endowment funds or additions to existing funds are assigned shares in the investment pool based upon the per share market value at the end of the previous month. Income distributions from the investment pool are based upon the number of shares held by each participant and the approved spending rate (see [Note 6](#)). Income distributions from the investment pool are based upon the "total return concept." The annual income distributed from the investment pool includes interest and dividends and could include a portion of the accumulated capital gains. Any capital gains not distributed currently are reinvested in the investment pool and are available for distribution from the endowment assets in future years.

Assets Held in Trust by Others

Assets held in trust by others include the value of Carnegie Mellon's beneficial interest in perpetual trusts and irrevocable trusts held by outside trustees. The present value of the perpetual trusts' estimated future cash receipts, which are measured by the fair value of the assets contributed to the trust, are recognized as assets and contribution revenues at the dates the trusts are established. The assets are adjusted periodically for changes in market values.

Various donors have established irrevocable trusts whereby Carnegie Mellon holds a remainder interest in the trust or is entitled to distributions over the life of the trusts. The present value of the portion of the trusts estimated to be distributable to Carnegie Mellon over the life of the trusts or upon the termination of the trusts are recorded as assets and contribution revenues at the dates the trusts are established. The assets are adjusted periodically for changes in market value.

Prepaid Expenses and Other Assets

Prepaid expenses represent items such as prepaid insurance, prepaid rentals and other contractual payments made in advance of their use or consumption. Amounts are expensed and amortized over the periods to which the charges relate.

Other assets include deferred compensation plan assets, swap assets and other costs incurred that will result in benefits to future periods.

Land, Buildings and Equipment

Land, buildings and equipment are recorded at cost at the date of acquisition or, if acquired by gift, at the estimated fair value as of the date of the gift. Additions to plant assets are capitalized while scheduled maintenance and minor renovations are expensed to operations. Buildings and equipment are reflected net of accumulated depreciation which is calculated on a straight-line basis over the estimated useful lives. Carnegie Mellon capitalizes interest during periods of construction. Carnegie Mellon reviews its land, buildings, equipment and other long-lived assets for impairment whenever events or circumstances indicate that the carrying amount may not be recoverable. Useful lives are as follows:

- Buildings 35-50 years
- Renovations 20 years
- Land improvements 15 years
- Movable assets 5-20 years

Donated works of art, historical treasures and similar assets have been recognized at their estimated fair value based upon appraisals or similar valuations at the date of acquisition or donation. If purchased, the assets are recognized at cost. The assets are depreciated over 99 years.

Accounts Payable and Other Liabilities

Accounts payable and other liabilities include accounts payable, accrued payroll and benefits, swap liabilities and other accrued expenses.

Federal Student Loan Funds

This liability represents Perkins loan funds provided to students by the federal government through Carnegie Mellon. Carnegie Mellon is required to collect the loans on behalf of the federal government. The federal government did not renew the Perkins loan program after September 30, 2017, and did not allow disbursements to be made after June 30, 2018. The university has elected to retain the outstanding loans in lieu of assigning the loans to the federal government. The liability will be repaid over the years that loan repayments are received from student borrowers. The amount due from the students is reported in the Consolidated Statements of Financial Position as a component of student loans receivable, net.

Present Value of Split Interest Agreements Payable

Carnegie Mellon's split interest agreements with donors consist primarily of gift annuities, unitrusts, lead trusts, charitable remainder annuity trusts and life income agreements. Assets held under these agreements are included in investments. Generally, contribution revenues are recognized at the dates the agreements are established, after recording liabilities for the present value of the estimated future payments to be made to the beneficiaries. The liabilities are adjusted during the term of the trusts for changes in the value of the assets, accretion of the discount and other changes in the estimates of future benefits. The discount rates utilized for split interest agreements range from 1.2% to 6.2%. Distributions from the trusts are recorded in accordance with the donor's stipulations as contributions and the carrying value of the assets are adjusted for changes in the fair value of the trust assets.

Operating Activities

Carnegie Mellon's measure of unrestricted operations as presented in the Consolidated Statements of Activities includes revenue from tuition and other educational fees, sponsored projects, investment return distributed according to Carnegie Mellon's spending policy, unrestricted contributions, revenues from auxiliary services and other sources, and net assets released from restriction. Operating expenses are reported by natural classification.

Tuition and Other Educational Fees Revenue, Net of Financial Aid

Revenues from tuition and other educational fees are reported in the fiscal year in which they are earned, including pro-rata adjustments for educational programs crossing over fiscal years. Tuition and other educational fees are reported net of student financial aid. Student financial aid amounted to \$157.8 million and \$144.3 million for the years ended June 30, 2018 and 2017, respectively. Student receivables are not collateralized; however, credit risk is minimized as a result of the diverse nature of the university's student base. The university establishes an allowance for doubtful accounts based on historical trends and other information.

Sponsored Projects Revenue

Sponsored projects revenue includes research and other programs sponsored by government, industrial and other sources. Direct sponsored projects revenue represents reimbursement of costs incurred in direct support of sponsored projects. Such revenue is recognized when the direct costs are incurred. In addition, sponsored projects normally provide for the recovery of indirect costs supporting the project. Indirect sponsored projects revenue is recorded at rates established in advance by Carnegie Mellon through negotiations with the United States government and other sponsors. The actual federal indirect cost rate is audited by the Defense Contracts Audit Agency (DCAA) and a final fixed rate agreement is signed by the United States government and Carnegie Mellon. The variance between the negotiated fixed and the final audited indirect cost rate results in a carryforward (over or under recovery) that is included in the calculation of negotiated fixed rates in future years. Amounts received from sponsors under agreements that require the exchange of assets, rights or other

privileges between Carnegie Mellon and the sponsor are recorded as deferred revenue until the contract terms are fulfilled. For the years ended June 30, 2018 and 2017, respectively, 54% and 55% of sponsored projects revenue is generated from two federal agencies.

Contributions Revenue

Contributions include gifts, grants and unconditional promises to give that are recognized as revenues in the period such commitments are received. Conditional promises to give are recognized when the conditions on which they depend are substantially met. Unconditional promises to give to be received in future years are discounted, as of the date of the gift, at a rate commensurate with the pledge payment schedule. A discount rate commensurate with fair value is used. An allowance is estimated for uncollectible contributions based upon historical patterns and any known uncollectible accounts or accounts in arrears.

Contributions with Restrictions Met in the Same Year

Contributions received with donor-imposed restrictions that are met in the same year as received are reported as revenues of the temporarily restricted net asset class, and a release of restriction is made to unrestricted net assets to reflect the satisfaction or expiration of such restrictions.

Capital Contributions

Donors' contributions to fund construction projects are classified as temporarily restricted net assets and are released from restriction through nonoperating activities when the facility is placed in service. \$84.5 million and \$0.1 million of capital contributions were released from restriction during fiscal years 2018 and 2017, respectively, and were reclassified from temporarily to unrestricted net assets through nonoperating activities.

Contributions received after the asset is placed in service are classified as temporarily restricted net assets and are released from restriction through operating activities in the same fiscal year. \$1.1 million and \$7.6 million of capital contributions were released from restriction during fiscal years 2018 and 2017, respectively, and were reclassified from temporarily to unrestricted net assets through operating activities.

Auxiliary Services Revenue

Carnegie Mellon's auxiliaries exist primarily to furnish goods and services to students, faculty and staff. Managed as essentially self-supporting activities, Carnegie Mellon's auxiliaries consist principally of housing services, dining services, telecommunications, parking, printing and publications, retail and other external services. Auxiliary revenues and expenses are reported as changes in unrestricted net assets.

Other Sources

Other sources revenues are comprised of funding received for Carnegie Mellon's international locations, royalty income, licensing revenue, affiliate/membership revenue and other miscellaneous revenues.

Nonoperating Activities

Nonoperating activities-other presented in the Consolidated Statements of Activities include:

- Gain in the fair value of the interest rate swap agreements of \$8.6 million and \$13.0 million for the fiscal years ended June 30, 2018 and 2017, respectively ([Note 12](#));
- Swap interest expense of \$4.3 million and \$5.3 million for the fiscal years ended June 30, 2018 and 2017, respectively ([Note 12](#));
- Loss from Carnegie Innovations, LLC subsidiaries of \$0.5 million and \$1.5 million for the fiscal years ended June 30, 2018 and 2017, respectively;
- Loss on adjustment of pledges receivable of \$7.1 million and \$2.4 million for the fiscal years ended June 30, 2018 and 2017, respectively;

- Loss due to an allowance for a note receivable from a former subsidiary of \$2.6 million for the period ended June 30, 2018; and
- Other losses of \$0.3 million for the fiscal years ended June 30, 2018 and June 30, 2017, respectively.

Reclassification of \$1.0 million to permanently restricted net assets for the fiscal year ended June 30, 2018 and \$15.9 million to permanently restricted net assets and \$3.0 million to temporarily restricted net assets from unrestricted net assets for the fiscal year ended June 30, 2017 due to donor-imposed stipulations on contributions.

Income Taxes

Carnegie Mellon is a nonprofit organization as described in Section 501(c)(3) of the Internal Revenue Code (the "Code") and is generally exempt from income taxes on related income pursuant to Section 501(a) of the Code.

The university accounts for uncertainties in income taxes in accordance with authoritative guidance, which prescribes a recognition threshold of more-likely-than-not to be sustained upon examination by the appropriate taxing authority. Measurement of the tax uncertainty occurs if the recognition threshold has been met. Management determined there were no tax uncertainties that met the recognition threshold at June 30, 2018 and 2017.

The university's federal Exempt Organization Business Income Tax Returns remain subject to examination by the Internal Revenue Service for the years subsequent to June 30, 2014.

The university's policy is to recognize interest related to unrecognized tax benefits in interest expense and penalties in operating expenses.

The Tax Cuts and Jobs Act (the "Act") was enacted on December 22, 2017. The Act impacts the university in several ways, including increases to unrelated business taxable income (UBTI) by the amount of certain fringe benefits for which a deduction is not allowed, changes to the net operating loss rules, repeal of the alternative minimum tax (AMT), and the computation of UBTI separately for each unrelated trade or business. Further, the Act reduces the U.S. federal corporate tax rate and federal corporate unrelated business income tax rate from 35% to 21%. The overall impact of the Act remains uncertain and the full impact of the Act will not be known until further regulatory guidance is provided to assist the university with calculating income tax liabilities. The university continues to evaluate the impact of tax reform on the organization.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported consolidated financial statements and related accompanying footnote disclosures. Actual results could differ from those estimates and these differences could be material. Carnegie Mellon's significant estimates include: allowance for doubtful accounts, asset retirement obligations, legal contingencies, accrued post-retirement liability and valuation of investments.

Recent Accounting Pronouncements

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers*. This standard implements a single framework for recognition of all revenue earned from customers. This framework ensures that entities appropriately reflect the consideration to which they expect to be entitled in exchange for goods and services by allocating transaction price to identified performance obligations and recognizing revenue as performance obligations are satisfied. Qualitative and quantitative disclosures are required to enable users of financial statements to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. The standard is effective for fiscal years beginning after December 15, 2017. The university is evaluating the impact this will have on the consolidated financial statements beginning in fiscal year 2019.

In April 2015, the FASB issued ASU 2015-03, *Imputation of Interest: Simplifying the Presentation of Debt Issuance Costs*. This standard requires all costs incurred to issue debt to be presented in the statement of financial position

as a direct deduction from the carrying value of the associated debt liability. The standard is effective for fiscal years beginning after December 15, 2016. The university adopted ASU 2015-03 for its fiscal year ended June 30, 2018, and applied the changes retrospectively. As a result of adopting the standard, certain prior year amounts in the Consolidated Statement of Financial Position were reclassified to conform to the presentation requirements.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. The main difference between previous GAAP and Topic 842 is the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under previous GAAP. The guidance aims to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The standard is effective for fiscal years beginning after December 15, 2018, and should be applied on a modified retrospective basis in the year it is first applied. Carnegie Mellon is evaluating the impact the early adoption of this standard would have on the consolidated financial statements beginning in fiscal year 2019.

In August 2016, the FASB issued ASU 2016-14, *Not-for-Profit Entities (Topic 958): Presentation of Financial Statements of Not-for-Profit Entities*. This guidance replaces the three existing classes of net assets for not-for-profit entities with two classes, *net assets with donor restrictions* or *net assets without donor restrictions*. The guidance also requires enhanced disclosures about governing board designations and appropriations, composition of net assets with donor restrictions and other qualitative and quantitative information regarding liquid resources and the availability of financial assets. The standard is effective for annual financial statements issued for fiscal years beginning after December 15, 2017. Early adoption is permitted, and the standard is required to be applied on a retrospective basis in the year of adoption. Carnegie Mellon is evaluating the impact the adoption of this standard will have on the consolidated financial statements beginning in fiscal year 2019.

In March 2017, the FASB issued ASU 2017-07, *Compensation Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost*. This presentation requires the service cost component of net periodic benefit cost for pensions and other postretirement be presented as a component part of employee benefit expense. The other components of net periodic benefit cost, which includes items such as interest, expected return on plan assets and amortization of other actuarially determined amounts, are required to be presented as a nonoperating change in unrestricted net assets. The standard is effective for fiscal years beginning after December 15, 2018. Carnegie Mellon is evaluating the impact the adoption of this standard will have on the consolidated financial statements beginning in fiscal year 2020.

In June 2018, the FASB issued 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 addresses current guidance about whether a transfer of assets (or the reduction settlement, or cancellation of liabilities) is a contribution or an exchange transaction for purposes of revenue recognition. The new guidance is to be applied on a modified prospective basis to all agreements that are not fully recognized as the effective date. The standard is effective for fiscal years beginning after June 15, 2018, including interim periods within the annual periods. Carnegie Mellon is evaluating the impact the adoption of this standard will have on the consolidated financial statements beginning in fiscal year 2019.

3. ACCOUNTS AND STUDENT LOANS RECEIVABLE

Accounts Receivable

Accounts receivable at June 30, 2018 and 2017, consist of the following (*dollars in thousands*):

	2018	2017
Sponsored project grants and contracts		
Federal	\$34,783	\$34,079
Other	8,192	8,055
Total sponsored projects and contracts	\$42,975	\$42,134
Student accounts	4,653	4,248
Other	18,654	21,014
Total student accounts and other	\$23,307	\$25,262
Allowance for doubtful accounts	(5,060)	(5,775)
Net accounts receivable	\$61,222	\$61,621

Other accounts receivable consists primarily of Carnegie Mellon's international programs, affiliate and membership agreements, license agreements and other miscellaneous revenue sources.

Student Loans Receivable

Net student loans receivable of approximately \$17.5 million and \$17.2 million, as of June 30, 2018 and 2017, respectively, primarily represent student loans made under the Perkins federal loan program. These loans are reported net of an allowance for doubtful accounts of approximately \$0.5 million as of June 30, 2018 and 2017.

4. PLEDGES RECEIVABLE AND CONTRIBUTIONS

Pledges receivable as of June 30, 2018 and 2017 are due as follows (*dollars in thousands*):

	Temporarily Restricted	Permanently Restricted	Total
2018			
In one year or less	\$29,003	\$11,467	\$40,470
Between one year and five years	21,292	33,630	54,922
More than five years	12,382	12,710	25,092
Pledges receivable, gross	\$62,677	\$57,807	\$120,484
Unamortized discount	(3,162)	(8,058)	(11,220)
Allowance for unfulfilled pledges	(2,381)	(1,990)	(4,371)
Pledges receivable, net of discount and allowance	\$57,134	\$47,759	\$104,893

	Temporarily Restricted	Permanently Restricted	Total
2017			
In one year or less	\$24,325	\$4,510	\$28,835
Between one year and five years	33,353	35,554	68,907
More than five years	11,314	7,672	18,986
Pledges receivable, gross	\$68,992	\$47,736	\$116,728
Unamortized discount	(3,615)	(3,828)	(7,443)
Allowance for unfulfilled pledges	(2,615)	(1,756)	(4,371)
Pledges receivable, net of discount and allowance	\$62,762	\$42,152	\$104,914

Contributions revenue includes gifts, grants and unconditional promises to give and is recorded in the appropriate net asset category based upon donor stipulations. Contributions for the fiscal years ended June 30, 2018 and 2017 are as follows (*dollars in thousands*):

	2018	2017
Unrestricted	\$22,019	\$24,685
Temporarily restricted	65,184	38,741
Permanently restricted	67,105	81,308
Total	\$154,308	\$144,734

Conditional promises to give, which depend on the occurrence of a specified future and uncertain event, such as matching gifts from other donors, are recognized as contributions revenue when the conditions are substantially met. Total conditional pledges for Carnegie Mellon were approximately \$25.5 million and \$42.6 million as of June 30, 2018 and 2017, respectively, primarily related to raising matching funds and meeting enrollment and construction milestones related to the David A. Tepper Quadrangle, as well as a foundation grant with contingencies specified in the grant agreement. These amounts were not recognized as contributions revenue during the respective fiscal year as the conditions had not been met.

5. INVESTMENTS

Investments by major category at June 30, 2018 and 2017 are as follows (*dollars in thousands*):

	2018	2017
Cash equivalents	\$66,318	\$83,582
Short-term securities with maturities less than one year	47,516	101,725
Fixed income securities	252,438	233,618
Short-term fixed income securities	39,638	189,939
Equity securities	904,830	893,419
Alternative investment partnerships	1,074,666	898,336
Total investments	\$2,385,406	\$2,400,619

Investments are held for the following purposes (*dollars in thousands*):

	2018	2017
Endowment	\$1,872,191	\$1,718,582
Reserves for working capital and plant - short-term	117,894	322,320
Reserves for working capital and plant - long-term	333,286	304,567
Other	62,035	55,150
Total investments	\$2,385,406	\$2,400,619

Nearly all fixed income securities are United States Treasury and Agency obligations, investment grade corporate debt, short-term commercial papers, and asset backed securities. Equity securities at June 30, 2018 are composed of approximately 51.8% domestic equities and 48.2% international and emerging market equities. Equity securities at June 30, 2017 were composed of approximately 46.3% domestic equities and 53.7% international and emerging market equities. Alternative investment partnerships are largely investments in buyout, venture capital, real estate, natural resources and hedge funds.

The allocation to each major category in the previous table represents the actual allocation of the short-term and long-term reserves, and other miscellaneous investments on a combined basis. Actual allocations on a combined basis should not be interpreted as an investment allocation policy for a particular investment pool. In addition, the asset category allocations do not reflect the effective allocation exposures resulting from investment strategies that include derivatives.

The following schedule summarizes the investment return for the fiscal years ended June 30, 2018 and 2017 (*dollars in thousands*):

	2018	2017
Dividends and interest (net of \$6.5 million and \$5.9 million of investment fees)	\$32,476	\$21,890
Net realized gains on sale of investments	100,245	91,128
Net unrealized gains on investments	108,109	117,660
Total return on investments	\$240,830	\$230,678

Operating investment income as reported in the Consolidated Statements of Activities includes dividends and interest earned on unrestricted funds as well as unrestricted accumulated gains utilized for current operations in the amounts of \$33.8 million and \$27.7 million for the years ended June 30, 2018 and 2017, respectively. The accumulated gains are reclassified from net realized gains to dividends and interest income. This reclassification is not reflected in the table above.

Certain of Carnegie Mellon's outside investment managers are authorized and do, in fact, purchase and sell derivative instruments in order to create, increase, decrease or hedge exposures to market position, including to manage risk due to interest rate and foreign currency fluctuations.

Carnegie Mellon's long-term investments comprise U.S. domestic and international portfolios. Carnegie Mellon does not hedge international portfolios with respect to foreign currencies. Investment managers of these

international portfolios have the discretion to, and certain do in fact, manage foreign currencies through foreign exchange contracts to protect the portfolios from potential foreign currency losses and to benefit from potential gains. Carnegie Mellon's investment managers understand that they are assuming active management risks to the extent that they assume foreign currency exposures that differ from the foreign currency exposures in their relevant market benchmarks (as documented in the formal investment guidelines for each manager).

Gains or losses from derivative instruments are reported as realized and unrealized gains or losses in the Consolidated Statements of Activities. The fair value of all derivative instruments is included in the fair value of the investments.

Under the terms of certain limited partnership agreements, Carnegie Mellon is obligated to periodically advance additional funding for venture capital, buyout, real estate and natural resources fund investments. At June 30, 2018 and 2017, Carnegie Mellon had unfunded commitments of approximately \$501.8 million and \$433.5 million, respectively, for which capital calls had not been exercised. Such commitments generally have fixed expiration dates or other termination clauses. Carnegie Mellon maintains sufficient liquidity in its investment portfolio to cover such calls.

Alternative investment partnerships are less liquid than Carnegie Mellon's other investments. The following tables summarize these investments (excluding commingled funds of \$343.4 million and \$340.4 million at June 30, 2018 and 2017, respectively) by strategy type at June 30, 2018 and 2017 (dollars in thousands):

Alternative Investment Partnerships	Number of Funds	2018 Fair Value
Hedge funds	19	\$255,139
Natural resources	23	135,807
Private equity (buyout) funds	54	146,357
Real estate	23	88,133
Venture capital	135	424,123
Other	14	25,107
Total	268	\$1,074,666
Total investments		\$2,385,406

Alternative Investment Partnership	Number of Funds	2017 Fair Value
Hedge funds	19	\$213,883
Natural resources	24	122,144
Private equity (buyout) funds	50	123,481
Real estate	19	70,162
Venture capital	125	343,753
Other	15	24,913
Total	252	\$898,336
Total investments		\$2,400,619

6. ENDOWMENTS

The following tables provide a summary of the changes in value of the endowment net assets excluding pledges for the years ended June 30 (*dollars in thousands*):

2018	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Endowment net assets, beginning of year	\$427,230	\$538,735	\$753,714	\$1,719,679
Gifts and other additions				
Contributions (excluding pledges) and changes in donor restrictions	28	2	60,681	60,711
Other	-	-	1,000	1,000 ¹
Terminated life income trusts, income and gains reinvested	-	-	618	618
Total gifts and other additions	\$28	\$2	\$62,299	\$62,329
Investment income				
Interest and dividends	\$8,957	\$9,978	\$70	\$19,005
Net realized gains on sale of securities	18,196	54,819	227	73,242
Net unrealized gains	23,434	70,180	-	93,614
Total investment income	\$50,587	\$134,977	\$297	\$185,861
Income distributed				
Cash and accrued interest and dividends	\$(8,957)	\$(9,978)	\$(70)	\$(19,005)
Accumulated realized investment gains	(29,236)	(32,569)	(227)	(62,032)
Total income distributed	\$(38,193)	\$(42,547)	\$(297)	\$(81,037)
Endowment net assets, end of year	\$439,652	\$631,167	\$816,013	\$1,886,832²

⁽¹⁾Includes reclassification due to \$1.0 million donor-imposed stipulation ([Note 2](#)).

⁽²⁾Includes \$14.6 million of endowment gifts and other transfers pending investment and other accruals.

2017	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Endowment net assets, beginning of year	\$220,207	\$426,091	\$659,465	\$1,305,763
Gifts and other additions				
Contributions (excluding pledges) and changes in donor restrictions	61	2	76,735	76,798
Other	200,000	-	15,883	215,883 ³
Terminated life income trusts, income and gains reinvested	-	-	1,631	1,631
Total gifts and other additions	\$200,061	\$2	\$94,249	\$294,312
Investment income				
Interest and dividends	\$5,916	\$7,760	\$107	\$13,783
Net realized gains on sale of securities	12,680	62,087	420	75,187
Net unrealized losses	17,401	80,882	-	98,283
Total investment income	\$35,997	\$150,729	\$527	\$187,253
Income distributed				
Cash and accrued interest and dividends	\$(5,916)	\$(7,760)	\$(107)	\$(13,783)
Accumulated realized investment gains	(23,119)	(30,327)	(420)	(53,866)
Total income distributed	\$(29,035)	\$(38,087)	\$(527)	\$(67,649)
Endowment net assets, end of year	\$427,230	\$538,735	\$753,714	\$1,719,679⁴

⁽³⁾Includes \$200.0 million from the Marvell settlement net proceeds ([Note 19](#)) designated by the board and \$15.9 million in reclassifications due to donor-imposed stipulations ([Note 2](#)).

⁽⁴⁾Includes \$1.1 million of endowment gifts and other transfers pending investment and other accruals.

The following tables outline the endowment net asset composition by type of fund for fiscal years 2018 and 2017 (*dollars in thousands*):

2018	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Donor-restricted endowment funds	\$ -	\$631,167	\$816,013	\$1,447,180
Board-designated funds	439,652	-	-	439,652
Total funds	\$439,652	\$631,167	\$816,013	\$1,886,832

2017	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Donor-restricted endowment funds	\$ -	\$538,735	\$753,714	\$1,292,449
Board-designated funds	427,230	-	-	427,230
Total funds	\$427,230	\$538,735	\$753,714	\$1,719,679

Unless the donor specifies that only a certain amount of the endowment may be spent, Pennsylvania Act 141 allows organizations to choose a total return spending policy strategy, whereby the board of trustees may annually elect to spend between 2.0% and 7.0% of the fair market value of the endowment. Carnegie Mellon maintains a total return spending policy. Endowment income distributions can consist of dividend and interest income and a withdrawal of accumulated capital gains, when necessary. The main objective of the total return spending policy is to separate spending policy from investment policy. This approach permits asset allocation decisions to be made independently of the need for current income. Carnegie Mellon targets a diversified asset allocation to achieve its long-term objectives with prudent risk constraints. The endowment spending rate is determined annually pursuant to a smoothing formula whereby an approved spending rate percentage is applied to the trailing thirty-six month average of endowment market values at December 31. For fiscal years 2018 and 2017, the approved spending rate was set at 5.0%. As a result of the spending rate formula, the effective spending rate (defined as the endowment draw totals for the fiscal years ended 2018 and 2017 divided by the June 30 endowment market values for those fiscal years) was 4.3% and 4.0%, respectively.

7. FAIR VALUE

Accounting Standards Codification Topic 820, *Fair Value Measurement*, establishes a hierarchy to prioritize valuation inputs based on the extent to which the inputs are observable in the marketplace. Observable inputs reflect market data obtained from sources independent of the reporting entity and unobservable inputs reflect the entities own assumptions about how market participants would value an asset or liability based on the best information available.

The following is a description of the university's valuation methodologies for assets and liabilities measured at fair value:

Level 1

Based upon quoted prices in active markets that the university has the ability to access for identical assets and liabilities. Market price data is generally obtained from exchange or dealer markets. The university does not adjust the quoted price for such assets and liabilities, which include active listed equities, mutual funds, government supported obligations and cash equivalents.

Level 2

Based on quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active or assets subject to transfer restrictions. Inputs are obtained from various sources including market participants, dealers and brokers.

Level 3

Based on valuation techniques that use significant inputs that are unobservable as they trade infrequently or not at all.

The following tables present the financial instruments carried at fair value for fiscal years 2018 and 2017 by caption in the Consolidated Statements of Financial Position by the valuation hierarchy previously defined (dollars in thousands).

2018	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Fair Value
Assets				
Deferred compensation plan assets	\$10,851	\$5,364	\$2,370	\$18,585
Investments				
Cash equivalents ^a	\$44,203	\$22,115	\$ -	\$66,318
Other short term investments with maturity of less than 1 year ^b	-	47,516	-	47,516
Equity Investments				
U.S. - equity funds and common stocks ^a	394,081	-	5,878	399,959
Mutual funds - international developed	5,201	-	-	5,201
Mutual funds - international emerging	156,246	-	-	156,246
Short term fixed income investments	-	39,638	-	39,638
Fixed income funds and securities ^a	252,316	122	-	252,438
	\$852,047	\$109,391	\$5,878	\$967,316
Investments measured under the NAV practical expedient ^c				\$1,418,090
Total investments				\$2,385,406
Beneficial interests held by third party	\$ -	\$ -	\$2,760	\$2,760
Perpetual trusts held by third party	-	-	8,306	8,306
Total assets held in trust by others	-	-	11,066	11,066
Interest rate swap receivable	-	-	-	-
Total assets at fair value	\$862,898	\$114,755	\$19,314	\$2,415,057
Liabilities				
Interest rate swaps payable	-	22,558	-	22,558
Total liabilities at fair value	\$ -	\$22,558	\$ -	\$22,558

There were no significant transfers between Level 1 and Level 2 for the fiscal year ended 2018.

(a) Presentation as a single class is appropriate based on the nature and risks of these investments.

(b) Other short term investments with maturity of less than 1 year include highly liquid commercial paper. This commercial paper has original maturities between 90 and 270 days when purchased, but maturities as of June 30, 2018 are typically within 90 days and the investments are readily convertible to cash.

(c) In accordance with ASC Subtopic 820-10, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the Consolidated Statements of Financial Position. This includes commingled funds of \$343.4 million, and hedge and private equity funds of \$1,074.7 million as of June 30, 2018.

2017

	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Fair Value
Assets				
Deferred compensation plan assets	\$8,648	\$5,441	\$2,124	\$16,213
Investments				
Cash equivalents ^a	\$61,752	\$21,830	\$ -	\$83,582
Other short term investments with maturity of less than 1 year ^b	-	101,725	-	101,725
Equity Investments				
U.S. - equity funds and common stocks ^a	348,184	-	5,290	353,474
Mutual funds - international developed	2,413	-	-	2,413
Mutual funds - international emerging	197,097	-	-	197,097
Short term fixed income	-	189,939	-	189,939
Fixed income funds and securities ^a	233,456	162	-	233,618
	\$842,902	\$313,656	\$5,290	\$1,161,848
Investments measured under the NAV practical expedient ^c				\$1,238,771
Total investments				\$2,400,619
Beneficial interests held by third party	\$ -	\$ -	\$2,661	\$2,661
Perpetual trusts held by third party	-	-	8,049	8,049
Total assets held in trust by others	\$ -	\$ -	\$10,710	\$10,710
Interest rate swap receivable	-	730	-	730
Total assets at fair value	\$851,550	\$319,827	\$18,124	\$2,428,272
Liabilities				
Interest rate swaps payable	-	31,876	-	31,876
Total liabilities at fair value	\$ -	\$31,876	\$ -	\$31,876

There were no significant transfers between Level 1 and Level 2 for the fiscal year ended 2017.

(a) Presentation as a single class is appropriate based on the nature and risks of these investments.

(b) Other short term investments with maturity of less than 1 year include highly liquid commercial paper. This commercial paper has original maturities between 90 and 270 days when purchased, but maturities as of June 30, 2017 are typically within 90 days and the investments are readily convertible to cash.

(c) In accordance with ASC Subtopic 820-10, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the Consolidated Statements of Financial Position. This includes commingled funds of \$340.4 million, and hedge and private equity funds of \$898.3 million as of June 30, 2017.

As a practical expedient, the university is permitted under the authoritative guidance on fair value measurements to estimate fair value of an investment at the measurement date using the reported NAV without further adjustment unless the entity expects to sell the investment at a value other than NAV or if the NAV is not calculated in accordance with GAAP. Investments measured under the net asset value practical expedient primarily consist of the university's ownership in alternative investments (principally limited partnership interests in private equity, real estate, natural resources, and hedge funds) and certain investments in commingled funds.

The fair values of the securities held by limited partnerships that do not have readily determinable fair values are determined by the general partner and are based on appraisals, or other estimates that require varying degrees of judgment. If no public market exists for the investment securities, the fair value is determined by the general partner taking into consideration, among other things, the cost of the securities, prices of recent significant placements of securities of the same issuer, completed or pending third party transactions in comparable issues, recapitalizations and other transactions across the capital structure and subsequent developments concerning the companies to which the securities relate. The university has well established controls surrounding investment valuation and has performed due diligence regarding these investments to ensure NAV is an appropriate measure of fair value as of June 30. Management's internal controls surrounding the review of third party provided NAV include frequent communication with fund managers, review of audited financial statements and fund valuation policies, and continuous monitoring of existing investments.

Deferred compensation plan assets are valued using market quotations or prices obtained from independent pricing services (Level 1), market quotations or prices obtained from independent pricing sources who may employ various pricing methods (Level 2) and at contract value (Level 3).

The university elected to apply the fair value option in accordance with paragraph 825-10-25-1, to choose, at specified election dates, to measure eligible items at fair value (the fair value options). As such, the Level 3 investments in common stock with ownership percentage over 20% are reported at fair value based on appraisal value.

Beneficial remainder and lead trusts held by third parties are valued at the present value of the future distributions expected to be received upon termination of the trust or over the term of the trust agreement and approximate fair value. Perpetual trusts are valued based upon the university's percentage interest in the fair value of the underlying trust assets.

Interest rate swaps are valued using observable inputs, such as quotations received from the counterparty, dealers or brokers, whenever available and considered reliable. In instances where models are used, the value of the interest rate swap depends upon the contractual terms of, and specific risks inherent in, the instrument as well as the availability and reliability of observable inputs. Such inputs include market prices for reference securities, yield curves, credit curves, measures of volatility, prepayment rates, assumptions for nonperformance risk and correlations of such inputs. The interest rate swap arrangements have inputs which can generally be corroborated by market data and are therefore classified within Level 2.

The valuation methods described above may produce fair value calculations that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the university believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date which could be material.

The following table clarifies the nature and risk of the university's investments and liquidity for financial instruments measured under the NAV practical expedient as of June 30, 2018 (*dollars in thousands*):

	Fair Value	Unfunded Commitments	Redemption Frequency ^a	Redemption Notice Period ^a
Commingled funds	\$343,424	\$ -	Semi-monthly and Monthly	2-30 days
Hedge funds			Semi-annual and Annually	30-90 days
Absolute return strategies	82,089	-		
Directional return strategies	173,050	-		
Natural resources	135,807	46,567		
Private equity and venture capital	570,480	349,698		
Real estate	88,133	92,821		
Other	25,107	12,666		
Total investments	\$1,418,090	\$501,752		

The following table clarifies the nature and risk of the university's investments and liquidity for financial instruments measured under the NAV practical expedient as of June 30, 2017 (*dollars in thousands*):

	Fair Value	Unfunded Commitments	Redemption Frequency ^a	Redemption Notice Period ^a
Commingled funds	\$340,435	\$ -	Semi-monthly and Monthly	2-30 days
Hedge funds			Semi-annual and Annually	30-90 days
Absolute return strategies	83,212	-		
Directional return strategies	130,671	-		
Natural resources	122,144	40,530		
Private equity and venture capital	467,234	277,650		
Real estate	70,162	90,662		
Other	24,913	24,652		
Total investments	\$1,238,771	\$433,494		

(a) Commingled funds and hedge fund investments held by the university may be subject to restrictions related to the initial investment that limit the university's ability to redeem capital from such investments during a specified period of time subsequent to the university's investment of capital in such funds, typically known as a lock-up period. Capital available for redemption after the lock-up period has expired may also be subject to limits which restrict the available redemption period to semi-monthly, monthly, quarterly, semi-annually or annually, and require 2 - 90 days prior written notice, potentially limiting the university's ability to respond quickly to changes in market conditions. All commingled funds have passed the lock-up period as of June 30, 2018.

Natural resources, private equity and real estate alternative investments cannot be redeemed upon request. Instead, the nature of these investments is that distributions are received through the liquidation of the underlying assets of the fund. It is estimated that the underlying assets of these funds would be liquidated over approximately four to eight years.

The following table includes a roll forward of the Consolidated Statements of Financial Position amounts for financial instruments classified by the university within Level 3 of the fair value hierarchy (*dollars in thousands*):

	Deferred Compensation	Common Stock	Trusts Held by Others	Total
Fair value, July 1, 2017	\$2,124	\$5,290	\$10,710	\$18,124
Unrealized gains	68	588	356	1,012
Purchases	148	-	-	148
Transfers in (out)	30	-	-	30
Fair value, June 30, 2018	\$2,370	\$5,878	\$11,066	\$19,314

	Deferred Compensation	Common Stock	Trusts Held by Others	Total
Fair value, July 1, 2016	\$1,559	\$4,980	\$10,254	\$16,793
Unrealized gains	51	310	456	817
Purchases	157	-	-	157
Transfers in (out)	357	-	-	357
Fair value, June 30, 2017	\$2,124	\$5,290	\$10,710	\$18,124

All net realized and unrealized gains (losses) in the tables above are reflected in nonoperating activities in the accompanying Consolidated Statements of Activities. Net unrealized gains (losses) relate to those financial instruments held by the university at June 30.

8. SPONSORED PROJECTS REVENUE

The major components of sponsored projects revenue for the years ended June 30, 2018 and 2017 are as follows (*dollars in thousands*):

	2018	2017
Federal		
Direct	\$279,280	\$273,170
Indirect	56,040	49,929
Total federal	\$335,320	\$323,099
State, industrial and other		
Direct	\$49,037	\$45,036
Indirect	10,116	8,766
Total state, industrial and other	\$59,153	\$53,802
Total sponsored projects revenue	\$394,473	\$376,901

Included in federal, direct sponsorship projects revenue for the fiscal years ended June 30, 2018 and 2017 are revenues from the ARM Institute ([Note 2](#)) totaling \$3.9 million and \$1.7 million, respectively. Included in State, industrial and other sponsored projects revenue for the fiscal years ended June 30, 2018 and 2017 are amounts from private sources (foundation grants) which amounted to \$12.5 million and \$11.7 million, respectively.

9. LAND, BUILDINGS AND EQUIPMENT

Land, buildings and equipment at June 30, 2018 consist of the following (*dollars in thousands*):

	2018	2017
Buildings	\$1,357,371	\$1,162,389
Movable equipment	283,131	272,008
Utilities and building-related assets	87,852	80,041
Land improvements	13,841	12,886
Leasehold improvements	19,885	20,018
Subtotal	\$1,762,080	\$1,547,322
Accumulated depreciation	(893,776)	(836,920)
Subtotal	\$868,304	\$710,402
Land	49,691	49,161
Construction and equipment in progress	47,939	125,073
Land, buildings and equipment, net	\$965,934	\$884,636

Carnegie Mellon acquired \$5.5 million and \$7.7 million in equipment through grants for the years ended June 30, 2018 and 2017, respectively.

Also included in movable equipment is unamortized computer software cost of \$16.5 million and \$18.2 million for the years ended June 30, 2018 and 2017, respectively. Software amortization expense of \$3.5 million and \$4.4 million was charged to expense for the years ended June 30, 2018 and 2017, respectively.

10. DEBT OBLIGATIONS

Debt obligations consist of the following as of June 30, 2018 and 2017 (*dollars in thousands*):

	Interest %	2018	2017
Allegheny County Higher Education Building Authority Revenue Bonds Fixed Rate			
Series 2012 A, Premium, net of debt issuance costs	2.5-5.0%	\$32,805 3,169	\$32,805 3,728
Series 2013, Premium, net of debt issuance costs	4.0-5.0%	52,250 4,291	52,250 4,946
Series 2017, Premium, net of debt issuance costs	5.0%	62,165 13,971	- -
Variable Rate			
Series 2008 A, Debt issuance costs	Variable	120,820 (324)	120,820 (340)
Series 2012 B, Debt issuance costs	Variable	50,000 (109)	50,000 (15)
Pennsylvania Higher Education Facilities Authority, Fixed University Revenue Bonds, Series 2009 Premium, net of debt issuance costs	3.5-5.0%	120,000 1,407	172,430 1,892
Collaborative Innovation Center Tax Increment Financing	7.5-8.5%	1,695	1,980
Collaborative Innovation Center Mortgage Obligation	6.78%	14,150	14,982
Taxable Commercial Paper	Various	-	25,000
Taxable Senior Notes	3.6%	70,000	70,000
Total debt obligations		\$546,290	\$550,478

Series 2008 Bonds

On April 10, 2008, Carnegie Mellon issued, through the Allegheny County Higher Education Building Authority (ACHEBA), Variable Rate University Revenue Bonds, Series A 2008 Bonds, with a face value of \$120.8 million (the "2008 Bonds"). The proceeds of the 2008 Bonds were used to finance the cost of refunding the 2006 Bonds and the 2007 Bonds. The 2008 Bonds are subject to a mandatory sinking fund redemption as follows: \$5.1 million in fiscal year 2027, \$30.0 million in fiscal years 2035 through 2037, and \$25.7 million in fiscal year 2038. The 2008 Bonds currently pay interest at a variable market rate determined daily by the Bonds' remarketing agent. Average interest rates on the 2008 Bonds were 1.06% and 0.61% during fiscal years 2018 and 2017, respectively.

Carnegie Mellon has entered into a Standby Bond Purchase Agreement (SBPA) with a financial institution that will purchase the 2008 Bonds if they cannot be remarketed. This SBPA was renewed in December 2017 for a three-year term ending January 12, 2021. If the Bank does not renew the agreement, it must provide notification at least 60 days prior to the expiration date. See the Aggregate Maturities section of [Note 10](#) for additional discussion of the SBPA.

Series 2009 Bonds

On August 5, 2009, Carnegie Mellon issued through the Pennsylvania Higher Educational Facilities Authority (PHEFA), Fixed Rate Revenue Bonds, Series 2009 Bonds, with a face value of \$172.4 million (the "2009 Bonds"). The proceeds of the 2009 Bonds, including an original issue premium of \$10.8 million, were used to finance the cost of refunding the 1995 Bonds, to fund certain capital acquisitions and projects, and to pay certain costs of issuance of the Bonds.

In fiscal year 2018, \$52.4 million of the 2009 Bonds matured and were refinanced with the issuance of the Series 2017, ACHEBA, Revenue Bonds. The remaining maturities on the 2009 Bonds are \$60.0 million each in fiscal years 2020 and 2022. The 2009 Bonds maturing on or after August 1, 2019, are subject to optional redemption prior to their scheduled maturity on or after February 1, 2019. The 2009 Bonds bear fixed rates of interest, and the effective interest rate on the 2009 Bonds, including the effect of the original issue premium, was 4.07% and 4.14% during fiscal years 2018 and 2017, respectively.

Series 2012 Bonds

On March 1, 2012, Carnegie Mellon issued through the ACHEBA, Revenue Refunding Bonds, Series A 2012 Bonds, with a face value of \$58.1 million, and Series B 2012 Bonds, with a face value of \$50.0 million (the "2012 Bonds"). The proceeds of the 2012 Bonds, including an original issue premium of \$10.2 million, were used to finance the cost of refunding the 1998 Bonds and the 2002 Bonds, and to pay certain costs of issuance of the 2012 Bonds.

In fiscal year 2015, \$25.3 million of the Series A 2012 Bonds matured and were refinanced with the university's commercial paper program. In March 2024, \$32.8 million of the Series A 2012 Bonds mature and are subject to optional redemption prior to their scheduled maturity on or after March 2022. The Series A 2012 Bonds bear fixed rates of interest and the effective rates, including the effect of the original issue premium, was 3.10% during fiscal years 2018 and 2017.

In fiscal year 2018, the Series B 2012 Bonds were amended by restating and extending the maturity date of the \$50.0 million Bond to February 2033. The Series B 2012 Bonds bear variable rates of interest based on one month LIBOR. Average interest rates on the Bonds were 1.78% and 1.16% during fiscal years 2018 and 2017, respectively.

Series 2013 Bonds

On March 1, 2013, Carnegie Mellon issued through the ACHEBA, Revenue Bonds, Series 2013 Bonds, with a face value of \$52.3 million (the "2013 Bonds"). The proceeds of the 2013 Bonds, including an original issue premium of \$8.3 million, were used to finance a portion of the costs of construction of Scott Hall and to pay certain costs of issuance of the 2013 Bonds. The 2013 Bonds mature at \$10.0 million in fiscal year 2021, \$22.3 million in fiscal year 2028 and \$20.0 million in fiscal year 2043. The 2013 Bonds maturing on or after March 1, 2028 are subject to optional redemption prior to maturity on or after March 1, 2023. The 2013 Bonds bear fixed rates of interest and the effective interest rate including the effect of the original issue premium was 3.33% during fiscal years 2018 and 2017.

Series 2017 Bonds

On August 1, 2017, Carnegie Mellon issued through the ACHEBA, Revenue Bonds, Series 2017 Bonds, with a face value of \$62.2 million (the "2017 Bonds"). The proceeds of the 2017 Bonds, including an original issue premium of \$15.7 million, were used to finance a portion of the costs of refunding of a portion of the PHEFA Revenue Bonds, Series 2009, and refunding of the taxable commercial paper notes. The 2017 Bonds mature at \$19.7 million in fiscal year 2028, \$20.7 million in fiscal year 2029 and \$21.8 million in fiscal year 2030. The 2017 Bonds maturing on or after August 1, 2028 are subject to optional redemption prior to maturity on or after August 1, 2027. The 2017 Bonds bear fixed rates of interest and the effective interest rate including the effect of the original issue premium was 2.59% during fiscal year 2018.

Collaborative Innovation Center

On September 30, 2014, Carnegie Mellon acquired the Collaborative Innovation Center (CIC) from the Regional Industrial Asset District (RIDC) when Carnegie Mellon and RIDC agreed to terminate the long-term ground lease for the land on which the CIC building was built. The CIC building was originally built and owned by the Regional Industrial Development Corporation (RIDC) on land owned and leased by Carnegie Mellon to RIDC pursuant to a long-term ground lease. Prior to the termination of the ground lease, the CIC was recorded as a capital lease by Carnegie Mellon.

As part of the agreement to terminate the ground lease, Carnegie Mellon assumed a \$16.8 million mortgage note. The mortgage note requires monthly principal and interest payments, bears interest at a fixed rate of 6.78% and matures on March 1, 2025. The mortgage note is secured by the CIC building (carrying value of \$24.8 million), the land where CIC is located, and rents derived from the operation of CIC.

Carnegie Mellon also assumed the sole responsibility to make semi-annual payments of any shortfall between the amount of real estate and parking taxes collected and pledged under a Tax Increment Financing (TIF) agreement, and the debt service and annual cost of the TIF. Carnegie Mellon is obligated to timely fund that shortfall until the TIF is satisfied in full on October 5, 2022. The balance of the outstanding TIF note was \$1.7 million and \$2.0 million at June 30, 2018 and 2017, respectively. The TIF note bears interest at a rate of 7.5% through April 30, 2016 and 8.5% from May 1, 2016 through maturity.

Taxable Commercial Paper

In February 2015, Carnegie Mellon instituted a taxable commercial paper program which allows the university to issue in aggregate up to \$70.0 million in commercial paper notes. Proceeds from the issuance of commercial paper notes may be used to refund outstanding debt, to finance capital projects and to otherwise support operations.

On February 24, 2015, the university issued \$30.0 million of commercial paper notes, primarily to refund \$25.3 million of the Series A 2012 Bonds that matured on March 1, 2015, and to cover costs of issuances. The commercial paper notes outstanding at June 30, 2017 of \$25.0 million were retired on July 19, 2017 in conjunction with the issuance of the Series 2017 Bonds.

Taxable Senior Notes

In February 2017, Carnegie Mellon issued two senior notes in the aggregate amount of \$70.0 million to a life insurance company. These notes bear interest at 3.6% payable semi-annually with principal due on February 1, 2047. Proceeds from the issuance of these notes may be used to refund outstanding debt, to finance capital projects, and to otherwise support operations.

Interest Expense

Cash paid for interest on financing obligations for the fiscal years ended June 30, 2018 and 2017 totaled \$18.5 million and \$14.8 million, respectively. The university utilizes interest rate swaps to synthetically adjust its exposure to variable rates. Including the swap expense, cash paid for interest for the fiscal years ended June 30, 2018 and 2017 was \$22.8 million and \$20.1 million, respectively. For the fiscal year ended June 30, 2018, interest expense of \$2.4 million was capitalized related to construction in progress.

Aggregate Maturities

Aggregate maturities of bonds and other debt instruments for each of the next five years ending June 30, excluding commercial paper, are as follows (*dollars in thousands*):

2019	1,068
2020	61,207
2021	11,303
2022	61,404
2023	1,359
Thereafter	387,544
Total	\$523,885

The university has outstanding variable rate demand bonds in the amount of \$120.8 million, which are subject to daily optional tender by the bondholders. These bonds are reflected in the table above based on original scheduled maturities. In the event that a bondholder tenders these variable rate demand bonds, the purchase price will be repaid from the remarketing of the bonds to a new investor. However, in the event that none of the bonds could be remarketed, the Standby Bond Purchase Agreement (SBPA) provider would purchase the bonds. The bonds would then become amortizing five-year bank bonds, payable back to the liquidity provider per the terms of the agreement. See the Series 2008 Bonds section of [Note 10](#) for additional discussion of the SBPA terms.

Line of Credit

The university has a \$50.0 million unsecured line of credit agreement that expires October 19, 2018. The university did not draw on the line of credit during the years ended June 30, 2018 and 2017. No advances were outstanding at June 30, 2018. Advances accrue interest at 1 month LIBOR plus 0.50% (2.59% at June 30, 2017).

11. TEMPORARILY AND PERMANENTLY RESTRICTED NET ASSETS

Temporarily restricted net assets are available for the following purposes as of June 30 (*dollars in thousands*):

	2018	2017
Endowment earnings	\$631,167	\$538,735
Capital and other donor designations	145,570	195,759
Pledges and assets held in trust by others	57,529	63,140
Split interest agreements	4,124	3,501
Term endowments	4,860	5,005
Loan funds	1,553	1,351
Total	\$844,803	\$807,491

Permanently restricted net assets as of June 30 are comprised of (dollars in thousands):

	2018	2017
Endowment	\$816,013	\$753,714
Pledges and assets held in trust by others	58,430	52,484
Split interest agreements and other donor designations	6,991	5,381
Total	\$881,434	\$811,579

12. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

Carnegie Mellon has entered into the following interest rate swap agreements to adjust the exposure to variable interest rates (dollars in thousands):

SWAP Agreement	Effective Date	Notional Amount	Interest Rate paid	Interest Received	Term (in years)	Termination Date	Counterparty Cancellation Option
Oct 2004	Oct 2004	\$ 50,000	3.0 %	67% of 1M LIBOR	15	Oct 2019	Oct 2014*
Apr 2006	Dec 2006	\$ 100,000	3.4 %	67% of 1M LIBOR	22	Dec 2028	Dec 2016
May 2007	Jun 2007	\$ 5,125	3.8 %	67% of 1M LIBOR	20	Mar 2027	N/A
May 2007	Mar 2012	\$ 40,325	3.8 %	67% of 1M LIBOR	20	Mar 2032	N/A
Mar 2012	Mar 2012	\$ 38,000	SIFMA	1.92%	12	Mar 2024	N/A

* Counterparty cancellation option is monthly after October 1, 2014.

The following fair values of the swap agreements were recorded as accounts payable and other liabilities and other assets in the Consolidated Statements of Financial Position for the years ended June 30, 2018 and 2017 (dollars in thousands):

	Derivatives Reported as Assets/(Liabilities)	
Date of Swap Agreement	2018	2017
Oct 2004	\$(831)	\$(2,178)
Apr 2006	(13,417)	(18,933)
May 2007	(739)	(1,025)
May 2007	(7,313)	(9,740)
Mar 2012	(258)	730
Total	\$(22,558)	\$(31,146)

The fair value of these agreements is estimated to be an amount that Carnegie Mellon would receive (receivable) or pay (liability) to voluntarily terminate the agreement. Based upon the university's credit

rating, the university is required to post collateral equal to the amount by which the liability value exceeds \$30.0 million for each of its counterparties. No collateral was required as of June 30, 2018 and June 30, 2017.

The following interest expense and mark to market gains/(losses) were recorded as other sources under nonoperating activities in the Consolidated Statements of Activities for the years ended June 30, 2018 and 2017 (*dollars in thousands*):

Date of Swap Agreement	Interest (Expense)		Fair Value (Loss) Gain		Total (Loss) Gain	
Interest rate swaps:	2018	2017	2018	2017	2018	2017
Oct 2004	\$(998)	\$(1,280)	\$1,347	\$1,948	\$349	\$668
Apr 2006	(2,397)	(2,965)	5,515	8,798	3,118	5,834
May 2007	(141)	(170)	286	430	145	260
May 2007	(1,110)	(1,337)	2,427	3,914	1,317	2,577
Mar 2012	299	474	(988)	(2,061)	(689)	(1,587)
Total	\$(4,347)	\$(5,278)	\$8,587	\$13,029	\$4,240	\$7,752

Carnegie Mellon utilizes energy forward contracts, which are physically settled, to hedge against the future changes in the cost of electricity and natural gas. These contracts limit Carnegie Mellon's exposure to higher rates; however, they could also limit the benefit of decreases in rates. These contracts qualify for normal purchases and sales exemptions and are not required to be recognized on the balance sheet at fair value because Carnegie Mellon takes physical delivery of the electricity and natural gas and the gains and losses are already recognized in the cost.

13. EXPENSES BY FUNCTIONAL CATEGORY

Operating expenses by functional category for the years ended June 30, 2018 and 2017 are as follows (*dollars in thousands*):

	2018	2017
Instruction and departmental research	\$410,536	\$393,727
Sponsored projects	355,043	340,740
Administration and institutional support	154,485	140,660
Academic support	155,615	146,797
Student service	62,084	56,110
Auxiliary services and activities	52,201	50,220
Total	\$1,189,964	\$1,128,254

Total fundraising expense of \$27.8 million and \$23.5 million (\$24.4 million and \$20.6 million in administration and institutional support) is included above for the years ended June 30, 2018 and 2017, respectively.

14. COMMITMENTS AND CONTINGENCIES

Carnegie Mellon is a defendant in a number of legal actions seeking damages and other relief. While the final outcome of each action cannot be determined at this time, management records a reserve in operating activities for those cases in which the loss is both probable and estimable. For the other legal actions that are not reserved, legal counsel and management are of the opinion that the liability, if any, will not have a material effect on Carnegie Mellon's consolidated financial statements.

Carnegie Mellon receives significant financial assistance from the federal government, including the sponsorship of federal research projects. Research grants and contracts normally provide for the recovery of direct and indirect costs. Entitlement to the recovery of the applicable direct and related indirect costs is generally conditional upon compliance with the terms and conditions of the grant agreements and applicable federal regulations, including the expenditure of the resources for eligible purposes. Substantially all grants and Carnegie Mellon's indirect cost rate are subject to financial and compliance reviews and audits by the grantors. In management's opinion, the likelihood of an adverse material outcome upon its financial position from those reviews and audits is remote.

Lease expense primarily related to facilities was \$21.5 million and \$21.2 million (excluding international donated space of \$10.3 million and \$9.1 million) for the years ending June 30, 2018 and 2017, respectively. Future minimum operating lease payments at June 30, 2018 are as follows (*dollars in thousands*):

2019	\$19,071
2020	19,290
2021	7,037
2022	3,641
2023	2,747
Thereafter	11,534
Total	\$63,320

At June 30, 2018 and 2017 Carnegie Mellon had contractual obligations of approximately \$32.1 million and \$91.2 million, respectively, in connection with major construction projects.

15. RETIREMENT PLANS AND OTHER POST-EMPLOYMENT BENEFITS

Carnegie Mellon sponsors two defined contribution retirement plans for eligible faculty and staff, health care plans for retirees, and participates in a multi-employer pension fund for union staff. Retirement plan expense for the years ended June 30, 2018 and 2017 totaled \$38.3 million and \$36.4 million, respectively. Carnegie Mellon contributed \$0.8 million per year to the Central Pension Fund of the International Union of Operating Engineers, a multi-employer plan in fiscal years 2018 and 2017. See below for a discussion of the assets held in trust to fund post-retirement health care and other post-employment benefits.

Carnegie Mellon provides certain health care benefits for eligible retired employees. The liability for post-retirement benefit obligations is recorded in the Consolidated Statements of Financial Position in accounts payable and other liabilities. Cumulative amounts recognized within post-retirement benefit obligations and not yet recognized as components of net periodic benefit cost consist of the following at June 30 (*dollars in thousands*):

	2018	2017
Net actuarial gain	\$(11,107)	\$(6,300)
Total	\$(11,107)	\$(6,300)

The components of net periodic benefit costs and other changes in benefit obligations recognized in the Consolidated Statements of Activities for the years ended June 30, 2018 and 2017 are as follows (*dollars in thousands*):

	2018	2017
Components of net periodic benefit cost		
Service cost	\$1,409	\$1,318
Interest cost	1,026	889
Amortization of prior service credit	-	(110)
Amortization of net gain	(273)	(328)
Net periodic benefit cost	\$2,162	\$1,769
Other changes in benefit obligation recognized in the statement of activities		
Assumption changes and actuarial loss/(gain)	\$(5,080)	\$224
Amortization of prior service credit	-	110
Amortization of net gain	273	328
Total loss/(gain) recognized in nonoperating activities	\$(4,807)	\$662
Total loss/(gain) recognized in net periodic benefit cost and nonoperating activities	\$(2,645)	\$2,431

During fiscal year 2019, amortization of \$0.6 million actuarial gain is expected to be recognized as components of net periodic benefit cost. The discount rate used in determining the net periodic benefit cost was 3.9% and 3.7% for the years ended June 30, 2018 and 2017, respectively.

The reconciliation of the accumulated benefit obligation and funded status at June 30 is as follows
(dollars in thousands):

	2018	2017
Benefit obligation, beginning of year	\$25,076	\$22,895
Service cost	1,409	1,318
Interest cost	1,026	889
Assumption changes and actuarial loss/(gain)	(5,080)	224
Benefit payments	(241)	(250)
Benefit obligation, end of year	\$22,190	\$25,076
Fair value of plans' assets	-	-
Funded status	\$22,190	\$25,076

The assumed discount rate used for calculating the benefit obligation for the fiscal years ended June 30, 2018 and 2017 was 4.2% and 3.9%, respectively. An annual rate of increase in the per capita cost of covered health care benefits for the fiscal years ended June 30, 2018 and 2017 of 7.0%, was assumed. For the fiscal years ended June 30, 2018 and 2017, the rate was assumed to decrease gradually to 5.0% by 2026, and remain at 5.0% thereafter.

The health care cost trend rate assumption has a significant effect on the amounts reported. Increasing the assumed health care cost trend rate by 1.0% in each year would increase the benefit obligation as of June 30, 2018 and 2017 by \$4.1 million and \$4.8 million, respectively, and increase the aggregate service cost and interest cost components for 2018 and 2017 by \$0.6 million and \$0.5 million, respectively. Decreasing the assumed health care cost trend rate by 1.0% in each year would decrease the benefit obligation as of June 30, 2018 and 2017 by \$3.3 million and \$3.7 million, respectively, and decrease the aggregate service cost and interest cost components for 2018 and 2017 by \$0.4 million.

Expected benefits to be paid in future fiscal years are as follows (dollars in thousands):

June 30	Retiree Contributions	Employer Payments	Total Expected Benefit Payments
2019	\$533	\$319	\$852
2020	806	480	1,286
2021	1,082	630	1,712
2022	1,362	768	2,130
2023	1,663	912	2,575
2024-2028	12,660	5,764	18,424

In conjunction with an agreement made with the federal government, Carnegie Mellon has established a separate trust, which is available to general creditors only in the event of insolvency. Assets in the trust to fund post-retirement health care and other post-employment benefits are \$21.9 million and \$21.7 million

for June 30, 2018 and 2017 respectively. These assets are reflected as investments in the accompanying Consolidated Statements of Financial Position.

16. RELATED PARTY TRANSACTIONS

Sponsored projects revenue for fiscal years 2018 and 2017 includes \$3.3 million and \$3.2 million, respectively, received from MPC, a nonprofit related entity of Carnegie Mellon and the University of Pittsburgh. The revenue primarily represents federal funding from various contracts received by MPC, for which MPC has subcontracted to Carnegie Mellon for support of a supercomputer and related activities.

Carnegie Mellon is an owner as a tenant in common of the Bellefield Boiler Plant ("Bellefield") for the purpose of sharing of the steam produced by the plant. Bellefield operates such that all of the operating costs of the plant are passed to the owners in the form of steam prices. Carnegie Mellon is obligated for a percent of liabilities based upon use of steam produced by Bellefield. As of June 30, 2018 and 2017, Carnegie Mellon's percentage obligation was 15.2%. Included in other assets at June 30, 2018 and 2017 are \$0.5 million and \$0.4 million of advances, respectively, resulting primarily from operating surpluses. Included in occupancy and related expenses is \$3.6 million and \$3.4 million for steam costs paid to Bellefield for the years ended June 30, 2018 and 2017, respectively.

Carnegie Mellon is one of 15 designated institutions of higher learning and other charitable organizations named as beneficiaries of The Dietrich Foundation (the "Foundation") created by William S. Dietrich II pursuant to an Amended and Restated Declaration of Trust dated August 23, 2011. The Foundation came into existence as a Pennsylvania charitable trust on October 6, 2011, and was granted exemption from federal income tax under section 501(c)(3) of the Internal Revenue Code, specifically as a Type I charitable supporting organization under section 509(a)(3). The Foundation's primary mission is to provide ongoing and increasing financial support to a number of educational institutions, largely in the greater Pittsburgh area, including Carnegie Mellon. The Foundation is governed by a Board of nine (9) trustees. Five (5) of the trustees are Educational Institutions Trustees, of which two (2) are appointed by Carnegie Mellon.

The Foundation is expected to make annual distributions that will be allocated among the pre-specified supported organizations, which are divided into two primary groups: (a) six (6) educational institutions which collectively shall receive 90% of the annual distribution amount, and (b) nine (9) other charitable organizations or component funds of such charitable organizations which collectively shall receive 10% of the annual distribution amount. Carnegie Mellon is included in the 90% group. As of June 30, 2018, Carnegie Mellon's distribution share remained at 53.5%.

The distributions to Carnegie Mellon have been recorded as permanently restricted contribution revenue as received and held in permanently restricted endowment funds designated as Dietrich Foundation Endowment Funds. The endowed funds will be managed in accordance with Carnegie Mellon's generally applicable investment and disbursement policies in effect for its other permanently restricted endowments. Distributions made from the endowed funds will be used for the purposes authorized by the Foundation's trustees. Distributions of \$12.8 million and \$12.3 million were received in fiscal years 2018 and 2017, respectively.

17. CONDITIONAL ASSET RETIREMENT OBLIGATIONS

Conditional asset retirement obligations of \$5.2 million and \$5.0 million are included within accounts payable and other liabilities in the Consolidated Statements of Financial Position as of June 30, 2018 and 2017, respectively. These obligations primarily relate to asbestos abatement and other environmental remediation costs and are discounted to the present value of future cash flows as of the date of expected abatement.

The following table reconciles the asset retirement obligations as of June 30, 2018 and 2017
(dollars in thousands):

	2018	2017
Asset retirement obligations as of July 1	\$5,013	\$5,182
Accretion expense	203	202
Liabilities assumed	-	-
Liabilities settled or disposed	(20)	(371)
Asset retirement obligations as of June 30	\$5,196	\$5,013

The discount rates used range from 3.3% to 5.1%. The expected aggregate undiscounted amount is \$7.0 million. The majority of the obligation will be paid out over the next 2 to 15 years.

18. GUARANTEES

In the ordinary course of business, Carnegie Mellon engages in transactions with third parties involving the provision of goods and/or services. The contracts for these transactions may require Carnegie Mellon to indemnify the third party or others under certain circumstances. The terms of indemnity vary from contract to contract. The amount of the liability associated with such indemnification obligations, if any, is not expected to be material.

Carnegie Mellon has contractually agreed to indemnify its trustees and officers, and in some cases its employees and agents, against certain liabilities incurred as a result of their service on behalf of or at the request of Carnegie Mellon and also advances, on behalf of those indemnified, the costs incurred by them in defending certain claims. Carnegie Mellon carries insurance that limits its exposure for this indemnification obligation. The amount of the liability associated with any known pending or threatened claims covered by this indemnification obligation, if any, is not expected to be material.

Carnegie Mellon has contractually agreed to indemnify specified parties in connection with bond offerings in which it has been involved. The indemnification obligation covers losses, claims, damages, liabilities and other expenses incurred by the underwriters as a result of any untrue statements or material omissions made by Carnegie Mellon in connection with the bond offerings. The amount of the liability associated with any known pending or threatened claims covered by this indemnification obligation, if any, is not expected to be material.

19. MARVELL LITIGATION SETTLEMENT

On March 6, 2009, Carnegie Mellon instituted an action against Marvell Technology Group Ltd. ("MTGL") and Marvell Semiconductor, Inc. ("MSI") (collectively, "Marvell") alleging infringement of two patents owned by the university. On February 16, 2016, Carnegie Mellon and Marvell reached a settlement in the 2009 patent infringement lawsuit, entering into a Settlement Agreement and Patent License and a Release Agreement (collectively, the "Settlement Agreements") that include a mutual release of claims, covenant not to sue and a patent license. Under the Settlement Agreements, MTGL agreed to make a \$750.0 million payment to the university, which, after legal fees and related expenses, was required to be shared with the inventors in accordance with Carnegie Mellon's Intellectual Property Policy.

The final settlement proceeds were subject to clawback and certain related legal fees, expenses and payment to the inventors were contingent should there have been a Marvell bankruptcy prior to final dismissal of the

action. The net amount retained by the university (after legal fees and related expenses and distribution to the inventors in accordance with Carnegie Mellon's Intellectual Property Policy) of approximately \$270.9 million was recognized as a non-operating gain after dismissal of the action during the fiscal year ended June 30, 2017.

20. SUBSEQUENT EVENTS

The university has performed an evaluation of subsequent events through October 8, 2018, the date on which the consolidated financial statements were issued.

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2017-2018



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