Northwestern

2019 FINANCIAL REPORT

Report of the Senior Vice President for Business and Finance

Dear Northwestern University Board of Trustees,

Fiscal year 2019 marked the culmination of a historic investment period that fueled Northwestern's rise within the ranks of the world's premier research institutions. Our collective efforts to balance strategic objectives with financial capacity led to a $68.7 million surplus for the year. Our financial position remains strong, with over $15 billion in assets. The success of the **We Will** campaign, which met its original $3.75 billion target and is now on track to surpass $5 billion, attests to a broad confidence in our ability to build an innovative and inclusive institution with an enduring global impact.

This unprecedented period of growth has cemented the University's top-10 national ranking. In the past year, Northwestern opened the Louis A. Simpson and Kimberly K. Querrey Biomedical Research Center, the largest building dedicated to biomedical research at any medical school in the country, and the newly renovated Welsh-Ryan Arena, a venue offering a state-of-the-art athlete and spectator experience. These projects were the capstone of an ambitious investment in growing the research enterprise, recruiting and retaining key faculty, and elevating the student experience. Deployment of unrestricted reserves absorbed the operating impact of our strategic plan.

Fiscal year 2020 will see the University return to more traditional levels of capital spending as we pursue initiatives to support our faculty and students and invest in our physical and technological infrastructure. We remain committed to positive operating performance and the wise investment of assets in order to serve future generations as ably as we have served the current one.

Our successes are built on the steadfast commitment of Northwestern's faculty, staff, students, alumni, trustees, and friends. I am deeply grateful to serve alongside you as stewards of this great University.

Craig Johnson
Senior Vice President for Business and Finance

EXCELLENCE

TODAY NORTHWESTERN CAN CLAIM A HISTORICALLY HIGH LEVEL OF ACADEMIC QUALITY.

#13 → #9
2015 2019

U.S. News and World Report national university ranking

FACULTY RETENTION

2/3

of faculty who received outside offers in the past 10 years chose to stay at Northwestern

6:1

Student-to-faculty ratio

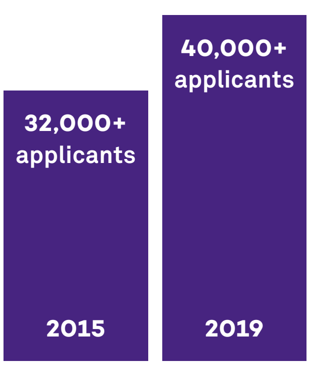
CLASS OF 2023

2,010

first-year students

8.5%

Acceptance rate



AFFORDABILITY

NORTHWESTERN HAS INCREASED ITS COMMITMENT TO FINANCIAL AID AND ATTRACTING A DIVERSE STUDENT BODY.

“When I received my financial aid package from Northwestern, I was blown away. Now I can focus on my studies without worrying about student loans.”
–Hannah Whitehouse ’20

Undergraduate scholarships awarded

Beginning in fall 2016, all incoming students receive **LOAN-FREE** financial aid.

15% → **20%**
2015 2019

Percent of incoming class eligible for Pell Grants

SPACES

NEW CONSTRUCTION AND THE RENOVATION OF EXISTING SPACES ON NORTHWESTERN’S CAMPUSES SUPPORT UNIVERSITY PRIORITIES FOR GENERATIONS TO COME.

RESEARCH

OUR RESEARCH COMMUNITY ADVANCES KNOWLEDGE ACROSS FIELDS, FROM PIONEERING ASTROPHYSICS DISCOVERIES TO STUDIES LEADING TO BETTER OUTCOMES FOR CHILDREN.

$351 million
National Institutes of Health funding, a

91%
increase over the past 10 years

90
school-based centers

50+
University research centers

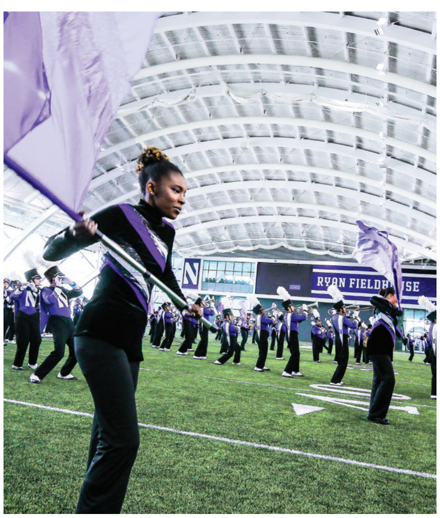
Northwestern Opens Largest Biomedical Academic Research Building in US

The Louis A. Simpson and Kimberly K. Querrey Biomedical Research Center, the largest new building solely dedicated to biomedical research at an American medical school, officially opened in 2019.

The center provides Northwestern—the fastest-growing research enterprise among all US medical schools—with much-needed biomedical research space to continue its projected growth.

RESEARCH FUNDING

$620 million (2015) → **$800 million** (2019)



The new home of Northwestern Athletics and Recreation, the Walter Athletics Center serves as the day-to-day hub for more than 500 student athletes across all 19 varsity programs.

The renovated Welsh-Ryan Arena reopened after a 19-month transformation. The finished product provides a world-class competitive setting for Northwestern athletic teams.

ATHLETICS

THE OPENING AND RENOVATION OF TWO MAJOR SPACES CAP A MULTIYEAR PROCESS TO PROVIDE WORLD-CLASS ATHLETIC FACILITIES AND BETTER INTEGRATE STUDENT ATHLETES INTO THE CAMPUS COMMUNITY.

98%
NCAA graduation success rate, among the top 4 of NCAA Division I schools

2018
Big Ten West football champions

Investment Report

For the fiscal year ended August 31, 2019, the University's endowment posted a gain of 2.5 percent. The gain was achieved in a volatile environment for markets, with the MSCI ACWI Index falling 0.3 percent in the period. The fiscal year began with a sharp sell-off in 2018's fourth quarter, which was followed by a strong recovery through the fiscal year end. This highlights the importance of the endowment's diversification across asset classes. Strong returns in private equity, venture capital, and fixed income drove the positive results in the period, while equities, real assets, and absolute return were drags on relative performance.

The market value of the Long-Term Balanced Pool was $10.8 billion at fiscal year end, a decline from $11 billion at August 31, 2018. Investment gains of $295 million and other inflows were more than offset by spending and administrative support of $589 million. On August 31, 2019, the University's investment assets—including the Long-Term Balanced Pool, cash, and separately invested University holdings—totaled $11.1 billion.

Long-Term Balanced Pool Spending Guideline

To sustain the Long-Term Balanced Pool's long-term earnings ability and provide adequate resources to the University, the Board of Trustees in fiscal year 2006 ratified a revised spending guideline that blends two elements:

- **Market element** adjusts annual endowment spending to the long-term sustainable target spending of 4.35 percent of the average actual market value of the endowment for the 12 months ended October 31 of the prior fiscal year. This component of the spending rate receives a 30 percent weighting in the spending rate calculation.
- **Spending element** increases the previous year's spending rate by actual inflation plus budget growth (1.5 percent). This element of the spending rate receives a weight of 70 percent.

The spending rate for fiscal year 2019 was 4.6 percent, which includes a $50 million payout to support strategic investment in addition to regular spending. The amount per unit for fiscal year 2020, calculated using the guideline above, is $10.88.

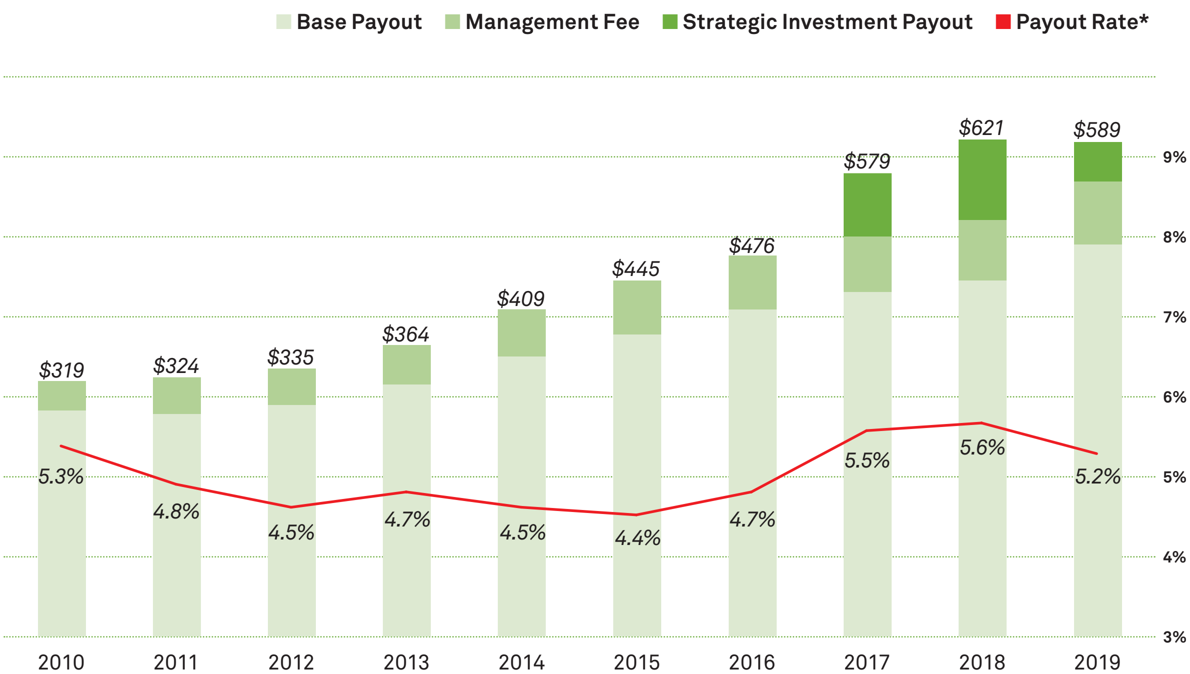
Payout Determined by Spending Guideline, Fiscal Years 2015–19

	2015	*2016*	*2017*	*2018*	*2019*
Spending per unit	$9.23	$9.71	$10.01	$10.15	$10.44
Net asset value per unit	$237.19	$230.26	$241.97	$252.03	$244.97
Annual spending rate*	3.78%	4.07%	4.85%	4.92%	4.55%
Total *(in millions)*	$378.74	$409.44	$505.52	$541.38	$508.75
Growth in total spending	8.21%	8.11%	23.47%	7.90%	-6.03%

** Annual spending rate is calculated as spending per unit divided by the two-year average net asset value per unit after distribution of the annual contribution to the budget. Strategic investment payouts for fiscal years 2019, 2018, and 2017 are included.*

Annual spending, which is calculated according to the endowment spending guideline, has grown significantly over the past several years, as charted below.

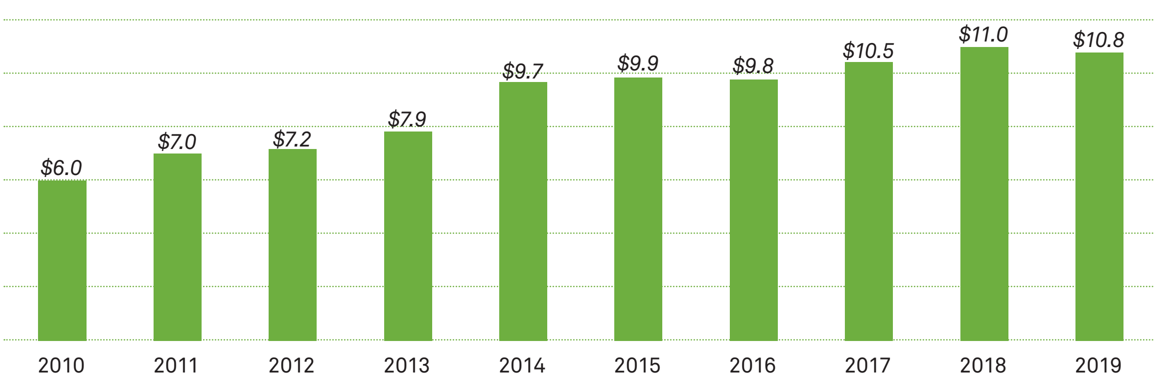
Growth in Annual Payout, Fiscal Years 2010–19 *(in millions)*



** Total payout as a percentage of endowment includes payout, management fee, and strategic investment payout as a percentage of prior two-year average endowment net asset value per unit.*

The long-term compounding of investment gains, generous gifts from donors, and other inflows have enabled the Long-Term Balanced Pool to deliver rising levels of financial support to Northwestern—while also growing in value to provide for future generations of scholars.

Long-Term Balanced Pool: Market Value at Fiscal Year End, 2010–19 *(in billions)*



Asset Allocation for the Long-Term Balanced Pool

The Investments Committee of the University annually reviews the asset allocation policy for the Long-Term Balanced Pool. At the beginning of fiscal year 2019, the committee ratified the Investment Office's recommendation to reaffirm existing targets and ranges. Subjective considerations such as liquidity and inflation/deflation protection were also part of the analysis.

The following table displays the current asset allocation policy for the University. Reflecting the Investment Office's bias against market timing or tactical asset allocation as a primary driver of value added, actual allocations varied from targeted levels by modest amounts, except in the private investments category; the 4.4 percent overweight to private investments was primarily due to both strong performance and the fact that many of the University's venture capital managers are holding portfolio companies for longer periods before seeking liquidity. The Investment Office will review the asset allocation mix in fiscal year 2020 and recommend changes to existing targets and ranges to address the variance.

Policy Portfolio Targets and Ranges

	Range	*Target*	*August 31, 2019*	*Difference*
US equity	10–16%	13%	12.9%	-0.1%
International equity	14–20%	17%	16%	-1%
Fixed income	5–11%	8%	8%	0%
High-yield credit	0–10%	5%	2.4%	-2.6%
Absolute return	15–23%	19%	17.9%	-1.1%
Private investments	18–26%	22%	26.4%	4.4%
Real assets	12–20%	16%	16.1%	0.1%
Cash		0%	0.3%	0.3%

Investment Performance for the Long-Term Balanced Pool: Preserving Purchasing Power and Growing Income

The principal objective for Northwestern's Long-Term Balanced Pool is to preserve purchasing power and to provide a growing stream of income to fund University programs. The pool seeks to achieve an annual total rate of return (i.e., actual income plus appreciation) equal to inflation plus actual spending. The objective of preserving purchasing power emphasizes the need for a long-term perspective in formulating both spending and investment policies.

Historically, the University's investments have grown at a rate exceeding the objective, as shown in the table below. For the 12 months ended August 31, 2019, the portfolio increased 2.5 percent, underperforming the objective by 4.6 percent. For the 10- and 15-year periods, the portfolio outperformed the objective by 2.2 percent and 1.5 percent, respectively. For the 3-year period, despite spending plus the management fee growing to 5.5 percent on an annualized basis, the portfolio still outperformed the objective by 0.5 percent.

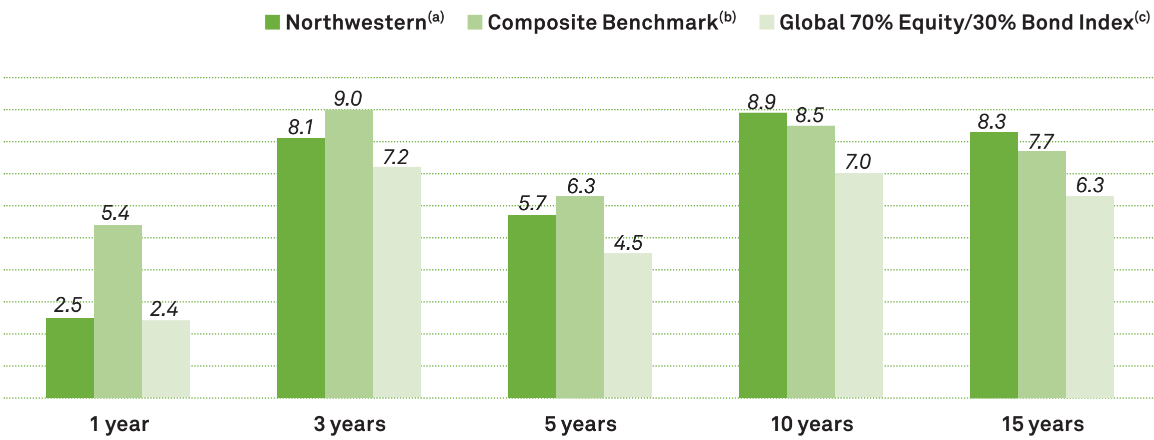
Annualized Returns: Exceeding the Objective (as of August 31, 2019)

	1-year	3-year	5-year	10-year	15-year
*Annual total return**	2.5%	8.1%	5.7%	8.9%	8.3%
– Spending	4.6%	4.8%	4.4%	4.3%	4.1%
– University management fee and support	0.7%	0.7%	0.7%	0.7%	0.7%
– Inflation	1.8%	2.1%	1.5%	1.7%	2.0%
= Above or below objective	**-4.6%**	**0.5%**	**-0.9%**	**2.2%**	**1.5%**

** Total returns are net of fees and are calculated on annual changes in net asset value. They may differ from payout distributions.*

The Long-Term Balanced Pool's investment performance relative to selected benchmarks for the fiscal year and over multi-year periods is shown in the chart below. The endowment's long-term results reflect the portfolio's ability to perform across a range of market conditions. Its success is based on diversification and the University's partnership with skilled money managers to meet investment objectives over long time horizons.

Long-Term Balanced Pool: Annualized Net Performance Relative to Selected Benchmarks *(in percentages)*



[a] *Northwestern's returns are net of investment manager fees.*
[b] *An internal benchmark consisting of market indices weighted by the target policy portfolio*
[c] *A stock/bond mix representative of the MSCI All Country World Investable Index and the Barclays Capital Global Aggregate Bond Index*

The Long-Term Balanced Pool: In Conclusion

We continue to believe the Long-Term Balanced Pool is poised to grow and support the University's needs. Despite continued concerns that expected returns in the next 10 years will be lower than in the previous decade, Northwestern leadership retains its long-term focus and is confident in the portfolio's prospects.

William H. McLean
Vice President and Chief Investment Officer

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Aon Center
Suite 5500
200 E. Randolph Street
Chicago, IL 60601-6436

Independent Auditors' Report

The Board of Trustees
Northwestern University:

We have audited the accompanying consolidated financial statements of Northwestern University (the University), which comprise the consolidated statements of financial position as of August 31, 2019 and 2018, the related consolidated statements of activities and cash flows for the years then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Consolidated Financial Statements

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

Auditors' Responsibility

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

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

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Northwestern University as of August 31, 2019 and 2018, and the changes in its net assets and its cash flows for the years then ended, in accordance with U.S. generally accepted accounting principles.

Emphasis of Matters

As discussed in note 1 to the consolidated financial statements, in 2019, the University adopted Financial Accounting Standards Board Accounting Standards Update (ASU) No. 2018-08, *Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made*; ASU No. 2016-14, *Not-for-Profit Entities (Topic 958): Presentation of Financial Statements of Not-for-Profit Entities*; and ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, as amended. Our opinion is not modified with respect to these matters.

KPMG LLP

Chicago, Illinois
December 20, 2019

Consolidated Statements of Financial Position

As of August 31, 2019 and 2018

(in thousands of dollars)	*2019*	*2018*
Assets		
Cash and cash equivalents	$155,469	$185,535
Accounts receivable, *net*	199,535	273,954
Contributions receivable, *net*	293,705	311,458
Notes receivable, *net*	143,976	151,666
Investments	11,079,424	11,287,087
Land, buildings, and equipment, *net*	3,320,363	3,258,035
Other assets	11,703	12,051
Total assets	**15,204,175**	**15,479,786**
Liabilities		
Accounts payable and accrued liabilities	206,020	204,237
Deferred revenue	231,456	302,709
Deposits payable and actuarial liability of annuities payable	168,564	154,743
Government advances for student loans	19,064	19,077
Bonds, notes, and other debt payable, *net*	2,551,564	2,555,136
Total liabilities	**3,176,668**	**3,235,902**
Net assets		
Without donor restrictions	7,470,942	7,654,758
With donor restrictions	4,556,565	4,589,126
Total net assets	**12,027,507**	**12,243,884**
Total liabilities and net assets	**$15,204,175**	**$15,479,786**

See Notes to the Consolidated Financial Statements, beginning on page 14.

Consolidated Statements of Activities

For the fiscal years ended August 31, 2019 and 2018

(in thousands of dollars)	*2019*	*2018*
Net assets without donor restrictions		
Operating revenues		
Tuition and fees *(net of aid, $472,537 in 2019 and $451,121 in 2018)*	$651,678	$620,281
Auxiliary services	92,131	83,907
Grants and contracts	696,552	648,008
Private gifts	236,308	216,935
Investment return designated for operations	446,447	482,747
Sales and services	215,629	209,690
Professional fees	41,795	38,448
Net assets released from restrictions	199,383	207,762
Total operating revenues	**2,579,923**	**2,507,778**
Operating expenses		
Salaries, wages, and benefits	1,439,159	1,420,531
Services, supplies, maintenance, and other	820,166	819,272
Depreciation	165,142	150,732
Interest on indebtedness	86,724	68,648
Total operating expenses	**2,511,191**	**2,459,183**
Excess of operating revenues over expenses	**$68,732**	**$48,595**

Consolidated Statements of Activities continued on next page.
See Notes to the Consolidated Financial Statements, beginning on page 14.

Consolidated Statements of Activities (continued)

For the fiscal years ended August 31, 2019 and 2018

(in thousands of dollars)	*2019*	*2018*
Nonoperating revenues and expenses		
Private gifts and grants for buildings and equipment	$4,430	$2,853
Investment return, reduced by operating distribution	(263,655)	258,375
Change in value of derivative instruments	(3,072)	7,419
Other revenues (expenses), *net*	9,794	(1,386)
(Deficit) excess of nonoperating revenues over expenses	**(252,503)**	**267,261**
Change in net assets without donor restrictions	**(183,771)**	**315,856**

Net assets with donor restrictions

Private gifts and grants for buildings and equipment	1,800	40
Restricted private gifts	82,535	120,283
Net loss on annuity obligation	(2,993)	(552)
Investment return	85,435	332,636
Net assets released from restrictions	(199,383)	(207,762)
Change in net assets with donor restrictions	**(32,606)**	**244,645**
Change in total net assets	**(216,377)**	**560,501**
Beginning net assets	**12,243,884**	**11,683,383**
Ending net assets	**$12,027,507**	**$12,243,884**

See Notes to the Consolidated Financial Statements, beginning on page 14.

Consolidated Statements of Cash Flows

For the fiscal years ended August 31, 2019 and 2018

(in thousands of dollars)	*2019*	*2018*
Cash flows from operating activities		
Change in net assets	($216,377)	$560,501
Adjustments to reconcile change in net assets to net cash used in operating activities		
Depreciation	165,142	150,732
Losses on disposals, retirements, and sales of buildings and equipment, *net*	11,411	41,907
Accretion of issuance costs, premiums, and discounts, *net*	(637)	(174)
Change in allowance for student loans receivable and bad debt expense	11,107	467
Realized and unrealized gains on investments, *net*	(233,130)	(1,036,599)
Gifts of contributed securities	(21,836)	(35,376)
Proceeds from sale of unrestricted contributed securities	16,421	19,053
Change in value of derivative instruments	3,072	(7,419)
Restricted contributions received for long-term investment and capital projects	(41,601)	(61,873)
Changes in assets and liabilities		
Accounts receivable	74,431	(10,347)
Contributions receivable	6,224	1,282
Other assets	348	(2,719)
Accounts payable and accrued liabilities	18,565	(47,424)
Deposits and annuities payable	13,821	(1,436)
Deferred revenue	(71,253)	24,856
Government advances for student loans	(13)	(11,482)
Net cash used in operating activities	**(264,305)**	**(416,051)**

Cash flows from investing activities		
Purchases of investments	(1,570,009)	(1,647,796)
Proceeds from sales of investments	2,021,288	2,127,728
Acquisitions of land, buildings, and equipment	(264,256)	(556,940)
Proceeds from sale of buildings or equipment	521	297
Student loans disbursed	(29,006)	(23,157)
Principal collected on student loans	23,109	23,317
Other	(3,018)	(13,430)
Net cash provided by (used in) investing activities	**178,629**	**(89,981)**

Cash flows from financing activities		
Proceeds from issuance of notes, bonds, and other debt payable	40,000	615,000
Payments for debt issuance costs	—	(2,522)
Principal payments on notes, bonds, and other debt payable	(42,935)	(97,770)
Proceeds from sale of restricted contributed securities	5,415	16,323
Restricted contributions received for long-term investment and capital projects	53,130	67,913
Net cash provided by financing activities	**55,610**	**598,944**

(Decrease) increase in cash and cash equivalents	**(30,066)**	**92,912**
Cash and cash equivalents at beginning of year	**185,535**	**92,623**
Cash and cash equivalents at end of year	**$155,469**	**$185,535**

Supplemental disclosure of cash flow information		
Change in accrued liabilities for construction in progress	($24,854)	($39,648)
Capitalized interest	7,035	20,889
Cash paid for interest	93,757	85,382

See Notes to the Consolidated Financial Statements, beginning on page 14.

Notes to the Consolidated Financial Statements

For the fiscal years ended August 31, 2019 and 2018

1. Summary of Significant Accounting Policies

University Activities

Northwestern University (Northwestern or the University) is a major private research university with more than 21,000 students enrolled in 12 academic divisions on two lakefront campuses in Evanston and Chicago and an international campus in Doha, Qatar.

Northwestern's mission is to provide the highest-quality education for its students, to develop innovative programs in research, and to sustain an academic community that embraces these enterprises.

Basis of Accounting

General

The University maintains its accounts and prepares its consolidated financial statements on the accrual basis of accounting in conformity with US generally accepted accounting principles (GAAP). The Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) is the source of authoritative GAAP. The University prepares its consolidated financial statements in accordance with the Not-for-Profit Entities Topic of the FASB ASC. These statements include all wholly owned subsidiaries. All significant interentity transactions and accounts have been eliminated in consolidation.

Net Asset Classifications

Net assets and related changes therein are classified into two categories based on the existence or absence of donor-imposed restrictions. For further discussion of the classification of donor-restricted endowment funds and disclosures about both donor-restricted and institution-designated endowment funds, see notes 4 and 9, respectively.

The category *Net Assets without Donor Restrictions* describes funds that have no donor-imposed restrictions. All revenues, expenses, gains, and losses that are not restricted by donors are included in this classification. Certain net assets without donor restrictions are institution-designated for specific uses under the internal operating budget.

The category *Net Assets with Donor Restrictions* describes funds that are subject to donor-imposed restrictions that will be met either by actions of the University, the passage of time, or which may be perpetual. These net assets include gifts for which donor-imposed restrictions have not been met in the year of receipt (these may include future capital projects), as well as trust activity and pledges receivable. Net assets with perpetual restrictions consist of donor-restricted endowment funds, contributions receivable for such funds, and certain trusts.

Revenue from donor-restricted sources is reclassified as an increase to net assets without donor restrictions when the circumstances of the restrictions have been fulfilled or the restrictions expire. Donor-restricted contributions whose restrictions are met within the same fiscal year in which they are received are reported as revenue without donor restrictions. All expenses are reported in net assets without donor restrictions. Absent explicit donor stipulations indicating otherwise, the University reports expiration of donor restrictions on long-lived assets as net assets without donor restrictions when the assets are placed in service.

Net assets as of August 31 are as follows:

(in thousands of dollars)			*2019*
Nature of specific net assets	**Without donor restrictions**	**With donor restrictions**	**Total net assets**
Teaching, research, and program support	$2,368,537	$2,771,527	$5,140,064
Student financial aid	659,387	808,523	1,467,910
Capital and operations	1,097,581	539,263	1,636,844
Endowment net assets subtotal	**4,125,505**	**4,119,313**	**8,244,818**
Pledges	—	293,705	293,705
Unexpended gifts	—	46,665	46,665
Annuity and other split-interest agreements	—	61,718	61,718
Student loan funds	89,216	35,164	124,380
Operating and plant	3,256,221	—	3,256,221
Total	**$7,470,942**	**$4,556,565**	**$12,027,507**

(in thousands of dollars)			*2018*
Nature of specific net assets	**Without donor restrictions**	**With donor restrictions**	**Total net assets**
Teaching, research, and program support	$2,426,241	$2,793,142	$5,219,383
Student financial aid	675,028	810,692	1,485,720
Capital and operations	1,128,441	553,374	1,681,815
Endowment net assets subtotal	**4,229,710**	**4,157,208**	**8,386,918**
Pledges	—	311,458	311,458
Unexpended gifts	—	23,025	23,025
Annuity and other split-interest agreements	—	59,523	59,523
Student loan funds	96,232	37,912	134,144
Operating and plant	3,328,816	—	3,328,816
Total	**$7,654,758**	**$4,589,126**	**$12,243,884**

Operating Activities

Operating activities in the consolidated statements of activities reflect all transactions increasing or decreasing net assets without donor restrictions, except for private gifts and grants for buildings and equipment; restricted private gifts; investment return net of operating distributions; gains (losses) from annuity obligations and derivative instruments; and certain other nonrecurring items.

Fair Value Measurements

The University makes fair value measurements and related disclosures thereon as required by the Fair Value Measurements and Disclosures Topic of the FASB ASC. For further discussion, see note 4.

Cash and Cash Equivalents

Cash reflects currency and deposits or other accounts with financial institutions that may be deposited or withdrawn without restriction or penalty. *Cash equivalents* represent short-term and highly liquid investments with original maturities of three months or less.

Contributions

Contributions received, including unconditional promises to give (contributions receivable), are recognized by the University as revenues at their fair values at the date of gift. Private gifts, including unconditional promises to give, are recognized as revenues in the period received. Conditional promises to give are not recognized until all barriers to entitlement of the assets are overcome and the promisor's rights of return or release have elapsed.

Investments

Investments in financial instruments are recorded at fair value. The University values its investments using a hierarchy of 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, whereas unobservable inputs reflect the entity's own assumptions about how market participants would value an asset or a liability based on the best information available. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs.

The following describes the fair value hierarchy and the primary valuation methodologies used by the University for assets and liabilities measured at fair value on a recurring basis:

Level 1: Quoted prices in active markets for identical assets or liabilities. Market-price data are generally obtained from relevant exchanges or dealer markets.

Level 2: Inputs other than Level 1 that are observable either directly or indirectly, such as quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially all of the same terms of the assets or liabilities. Inputs may be obtained from various sources, including market participants, dealers, and brokers.

Level 3: Unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities.

An investment's categorization within the valuation hierarchy is based on the lowest level of input significant to the fair value measurement. In the event that changes in the inputs used in the fair value measurement of an asset or liability result in a transfer of the fair value measurement to a different categorization, such transfers between fair value categories are determined and recognized at the end of the reporting period. The categorization of an investment is based upon its pricing transparency and liquidity and does not necessarily correspond to the University's perceived risk of that investment. As a practical expedient as permitted under GAAP, the reported net asset value (NAV) of investments with external managers is used to estimate their fair value. Such investments for which NAV is used as a practical expedient are not categorized in and are shown separately from the valuation hierarchy. For further discussion, see note 4.

Equity securities with readily determinable fair values are valued at the last sale price (if quotations are readily available) or at the closing bid price in the principal market in which such securities are normally traded (if no sale price is available). The fair values for these securities are classified as Level 1 because the securities have observable market inputs. Most fixed income securities and debt securities are valued based on dealer-supplied valuations; since these securities have significant other observable inputs, they are classified as Level 2.

The estimated fair values of equity securities without readily determinable fair values and of other generally less liquid investments are based on valuation information received on the relevant entities and may include last sale information or independent appraisals of value. In addition, standard valuation techniques, including discounted cash flow models or valuation multiples based on comparable investments, may be used. Because the fair values for these assets are based predominantly on unobservable inputs, they are classified as Level 3.

Investments in certain real assets and other investments are recorded at acquisition or construction cost or, if received as a contribution, at fair value as of donation date. The University periodically assesses these assets for impairment by comparing their expected future cash flows with their carrying value. An impairment loss is recognized for the difference between estimated fair value and carrying value. In management's opinion, no impairment of investments held at cost existed as of August 31, 2019 and 2018. For further discussion of such investments, see note 4.

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

Investment income is recorded on the accrual basis, and purchases and sales of investment securities are reflected on a trade-date basis.

Derivative Financial Instruments

The University uses various financial instruments to obtain equity market exposure (e.g., equity price risk) of an underlying investment strategy; if applicable, these have a reference index (e.g., S&P 500) that is the same as, or highly correlated with, the reference index of the investment strategy. Such instruments are not designated as hedges for accounting purposes and are recorded at fair value.

The University enters into swap agreements to hedge future interest-rate movements. It may also add various interest-rate options to hedge the overall portfolio and use an interest-rate swap agreement to hedge variable interest-rate exposure. Interest-rate swaps are valued using observable inputs, such as quotations received from the counterparty, dealers, or brokers, whenever they are available and considered reliable. If and when models are used, the value of the interest-rate swap depends on 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, and prepayment rates as well as correlations of such inputs. Due to significant other observable inputs, the interest-rate swaps are classified as Level 2. For further discussion, see note 4.

Accounts and Notes Receivable

Accounts receivable are recorded at net realizable value. Those generally expected to be collected within one year are carried without an allowance. Accounts receivable deemed to be uncollectible are written off at that time.

Notes receivable are recorded at net realizable value and are predominantly student loans with varying maturities. Notes receivable deemed to be uncollectible are written off.

Contributions Receivable

Contributions receivable that represent unconditional promises to give are recognized at fair value as contributions with donor restrictions in the period such promises are made by donors. Contributions are discounted at a risk-adjusted rate commensurate with the duration of the donor's payment plan. Amortization of the discounts is recorded as additional contribution revenue. Allowance is made for uncollectible contributions based on management's expectations regarding collection of outstanding promises to give and past collection experience. There were no significant conditional promises to give as of August 31, 2019 and 2018.

Land, Buildings, and Equipment

Land, buildings, and equipment are recorded at cost or, if received as gifts, at fair value at the date of gift. Significant renewals and replacements are capitalized. The cost of repairs and maintenance is expensed as incurred. Purchases of library books and works of art are also expensed.

Depreciation is calculated using the straight-line method over the useful lives of the equipment, which are estimated to be 3 to 20 years; of the buildings, building improvements, and land improvements, which are estimated to be 10 to 40 years; and of the leasehold improvements, which are estimated to be the shorter of the useful life or the lease term.

The University reviews long-lived assets for impairment by comparing the future cash flows expected from the asset to the carrying value of the asset. If the carrying value of an asset exceeds the sum of estimated undiscounted future cash flows, an impairment loss is recognized for the difference between estimated fair value and carrying value.

Charitable Remainder Trusts

Charitable remainder trusts are classified as net assets with donor restrictions and recognized at fair value.

Annuities Payable

Annuities payable consist of annuity payments currently due and the actuarial amount of annuities payable. The actuarial amount of annuities payable is the present value of the aggregate liability for annuity payments over the expected lives of the beneficiaries.

Self-Insurance Reserves

The University maintains a self-insurance program for general liability, professional liability, automobile liability, property damage, educators' liability, cyber liability, and certain employee and student insurance coverages. This program is supplemented with commercial excess insurance above the University's self-insurance retention. The reserves for self-insurance, postemployment benefits, and postretirement medical and life insurance benefits are based on actuarial studies and management estimates. See notes 10 and 12 for additional discussion.

Revenue Recognition

Revenues from tuition and fees are reflected net of reductions from institutional student aid and are recognized as the services are provided over the academic year, including pro-rata adjustments for educational programs crossing over fiscal years. Institutional student aid includes amounts funded by endowment earnings, gifts, and other sources and reduces the published price of tuition for students receiving such aid. Fiscal year 2020 noncancelable fall-quarter tuition and fees, billed and received in fiscal year 2019, are reported as deferred revenue in fiscal year 2019. Fiscal year 2019 fall-quarter tuition and fees, billed but not earned in fiscal year 2018, are reported as deferred revenue in fiscal year 2018. (For further discussion of deferred revenues, see note 6.) Of the $651.7 million and $620.3 million in revenue recognized for the years ended August 31, 2019 and 2018, respectively, $600.9 million and $577.2 million, respectively, was from academic credit programs, and $50.8 million and $43.1 million, respectively, was from nonacademic credit programs.

Revenues from auxiliary services, such as residence and food services, represent fees for goods and services furnished to University students, faculty, and staff; these revenues are recognized in the fiscal year in which the goods and services are provided. Of the $92.1 million and $83.9 million in revenue recognized for the years ended August 31, 2019 and 2018, respectively, $82.6 million and $78.6 million, respectively, was from room and board, while the remaining revenue was from other miscellaneous residence and food services.

Grants and contracts revenue is received from federal and other sponsors. It may represent either an exchange transaction for an equivalent benefit in return or a nonexchange transaction in which the resources provided are for the benefit of the University, the funding organization's mission, or the public at large. Revenues from exchange transactions are recognized as performance obligations are satisfied, which in most cases are as related costs are incurred. Revenues from nonexchange transactions are recognized as revenue when qualifying expenditures are incurred and applicable conditions and restrictions under the agreements are met. Conditional awards from federal sponsors outstanding as of August 31, 2019, were $552.4 million.

Sales and services revenues represent fees for services and goods provided to external parties in the course of educational activities, revenues from the provision of physical plant services and goods to external institutions contiguous to the University campuses, and trademark and royalty revenues arising from licensing of innovative technologies, copyrights, and other intellectual property. These revenues are recognized in the fiscal year in which goods and services are provided.

Professional fees arise from faculty and department services provided to external institutions such as hospitals. Revenues are recognized in the fiscal year in which the services are provided.

Income Taxes

The Internal Revenue Service has determined that the University is exempt from income taxes under Section 501(c)(3) of the US Internal Revenue Code, except with regard to unrelated business taxable income (UBTI), which is taxed at corporate income tax rates. The University files federal and various state and local tax returns. The statute of limitations on the University's federal tax returns remains open for fiscal years 2016 through 2019.

The University makes an assessment of individual tax positions and follows a process for recognition and measurement of uncertain tax positions. Tax positions are evaluated on whether they meet the "more likely than not" standard for sustainability on examination by tax authorities.

The Tax Cuts and Jobs Act (the Act) was enacted on December 22, 2017. The Act's impact on the University includes new excise taxes on executive compensation and net investment income, as well as new rules for calculating UBTI. The overall impact of the Act remains uncertain, and its full impact will not be known until further regulatory guidance is provided. For the year ended August 31, 2019, the University is subject to the federal excise tax of 1.4 percent on net investment income, which includes interest, dividends, and net realized gains on investments.

Uses of Estimates in the Preparation of the Consolidated Financial Statements

The preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities; the disclosure of contingent assets and liabilities at the date of the consolidated financial statements; and the reported amounts of revenues and expenses during the relevant period. Actual results could differ from those estimates.

Newly Adopted Accounting Pronouncements

In June 2018, the FASB issued Accounting Standards Update (ASU) 2018-08, *Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made.* The new ASU is intended to assist entities in (1) evaluating whether transactions should be accounted for as contributions (nonexchange transactions) within the scope of Topic 958, *Not-for-Profit Entities*, or as exchange transactions subject to other guidance and (2) determining whether a contribution is conditional. The ASU clarifies that a contribution is conditional if the agreement includes both (a) a barrier or barriers that must be overcome for the recipient to be entitled to the assets transferred and (b) a right of return for the transferred assets or a right of release of the promisor's obligation to transfer assets. The ASU became effective for the University for the year ended August 31, 2019. The University's adoption of the ASU on a modified prospective basis did not have a material effect on its consolidated financial statements.

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.* The ASU requires the service cost component of net periodic benefit cost for pension and other postretirement benefits to be presented as a part of employee benefit expense. The other components of net periodic benefit cost, such as interest, gains or losses, and amortization of other actuarially determined amounts, are required to be presented as a nonoperating change in net assets without donor restrictions. The ASU became effective for the University for the year ended August 31, 2019. The University's retrospective adoption of the ASU did not have a material effect on its consolidated financial statements.

In August 2016, the FASB issued ASU 2016-14, *Not-for-Profit Entities (Topic 958): Presentation of Financial Statements of Not-for-Profit Entities.* During 2019, the University retrospectively adopted, as of September 1, 2017, the provisions of the ASU, which reduce the number of net asset categories from three to two: net assets without donor restrictions, previously reported as unrestricted net assets; and net assets with donor restrictions, previously reported as temporarily restricted net assets and permanently restricted net assets. The ASU also requires that underwater endowment funds, previously reported as reductions to unrestricted net assets, be reported instead as reductions to net assets with donor restrictions. Accordingly, the University has reclassified deficits from underwater funds of $45 thousand and $57 thousand, respectively, as of the beginning of fiscal year 2019 and 2018 as reductions to net assets with donor restrictions.

In January 2016, the FASB issued ASU 2016-01, *Recognition and Measurement of Financial Assets and Financial Liabilities*, affecting accounting for equity investments and financial liabilities under the fair value option and certain presentation and disclosure requirements for financial instruments. The standard is effective in fiscal year 2020. The University early adopted this ASU on a prospective basis in fiscal year 2019. The adoption of this standard did not have a material effect on the University's consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers*, as amended, a new revenue recognition topic in the codification that provides a principle-based framework to replace earlier industry-specific and rule-based revenue recognition standards. The University adopted this standard on a modified retrospective basis in fiscal year 2019. The adoption of this standard did not materially change the timing or amount of revenue recognized by the University. However, the standard does require that tuition and fees be presented in the consolidated statements of activities net of institutional student aid. Previously, such revenues were presented at published rates, followed by a reduction for institutional student aid. Accordingly, the University's 2018 consolidated statements of activities have been revised to conform to the 2019 presentation.

Recent Accounting Pronouncements

In August 2018, the FASB issued 2018-13, *Changes to the Disclosure Requirements for Fair Value Measurement*. These guidelines remove, modify, and add certain disclosure requirements related to transfers between levels of the value hierarchy and information about inputs used to develop fair value measurements. This standard is effective for the University in fiscal year 2021.

In November 2016, the FASB issued clarifying guidance on ASU 2016-18, *Restricted Cash (Topic 230): Statement of Cash Flows*. The amendments in the update require that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The amendments in the update do not provide a definition of restricted cash or restricted cash equivalents. The ASU is effective for the University in fiscal year 2020.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses*, which amends the Board's guidance on impairment of financial instruments. This standard is effective for the University in fiscal year 2021.

In February 2016, the FASB issued ASU 2016-02, *Leases,* new guidance to increase the transparency and comparability of lease reporting by recognizing lease assets and liabilities on the consolidated statements of financial position and disclosing key information about leasing activities. The standard is effective for the University in fiscal year 2020.

The University is currently evaluating the impact of the aforementioned standards.

Reclassifications

Certain prior-year amounts have been reclassified to conform to the current-year presentation.

2. Accounts Receivable and Notes Receivable

Accounts receivable as of August 31 are summarized on the consolidated statements of financial position as follows:

(in thousands of dollars)	*2019*	*2018*
Research and other sponsored programs support	$98,545	$84,711
Student receivables	15,811	120,393
Other receivables	85,835	69,510
Accounts receivable subtotal	**200,191**	**274,614**
Less allowances for student uncollectible amounts	(656)	(660)
Total accounts receivable, *net*	**$199,535**	**$273,954**

Notes receivable as of August 31 are summarized on the consolidated statements of financial position as follows:

(in thousands of dollars)	*2019*	*2018*
Notes receivable	$145,373	$155,939
Less allowances for student uncollectible amounts	(1,397)	(4,273)
Total notes receivable, *net*	**$143,976**	**$151,666**

3. Contributions Receivable

Contributions receivable as of August 31 consisted of the following:

(in thousands of dollars)	*2019*	*2018*
Unconditional promises expected to be collected in		
Less than one year	$57,392	$53,615
One to five years	173,712	185,228
More than five years	98,503	114,416
Contributions receivable subtotal	**329,607**	**353,259**
Less unamortized discounts	(35,148)	(41,345)
Less allowances for uncollectible amounts	(754)	(456)
Total contributions receivable, *net*	**$293,705**	**$311,458**

Contributions receivable are discounted at rates ranging from 1.4 to 6.5 percent.

4. Investments

The University's investments are overseen by the Investments Committee of the Board of Trustees. Guided by the policies established by the Investments Committee, the University's Investment Office or external equity investment managers, external and internal fixed income and cash managers, and various limited partnership managers direct the investment of endowment and trust assets, certain working capital, expendable funds with donor restrictions temporarily invested, and commercial real estate.

Substantially all of these assets are merged into internally managed investment pools on a market value basis. Each holder of units in the investment pools subscribes to or disposes of units on the basis of the market value per unit at the beginning of each month.

Fair Value Disclosures

The following tables show the estimated fair value of investments and derivatives, grouped by the valuation hierarchy as defined in note 1, as of August 31:

(in thousands of dollars)					*2019*
	Quoted prices in active markets (Level 1)	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**NAV as Practical Expedient (NAV)**	**Total fair value**
Cash and cash equivalents	$79,213	—	—	—	$79,213
US equity	442,952	$71	—	$1,009,592	1,452,615
International equity	318,103	—	$64	1,428,147	1,746,314
Fixed income	91,753	518,758	—	276,963	887,474
High-yield credit	—	—	—	266,648	266,648
Absolute return	—	—	—	1,939,874	1,939,874
Private investments	34,597	321	10,403	2,842,382	2,887,703
Real assets	189,907	11,582	51,087	1,496,073	1,748,649
Other investments	30,835	590	25,411	—	56,836
Interest-rate derivatives	736	(370)	—	—	366
Subtotal investment assets at fair value	**1,188,096**	**530,952**	**86,965**	**9,259,679**	**11,065,692**[a]
Interest-rate swaps	—	(16,482)	—	—	(16,482)
Total	**$1,188,096**	**$514,470**	**$86,965**	**$9,259,679**	**$11,049,210**

[a] *Investments held at cost totaling $26,493 thousand should be added to the subtotal investment assets at fair value, and beneficial interest in charitable remainder trusts totaling $12,761 thousand should be subtracted from the subtotal investment assets at fair value to reconcile to total investment assets of $11,079,424 thousand as of August 31, 2019.*

(in thousands of dollars)					*2018*
	Quoted prices in active markets (Level 1)	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**NAV as Practical Expedient (NAV)**	**Total fair value**
Cash and cash equivalents	$84,520	—	—	—	$84,520
US equity	628,791	$93	—	$1,026,835	1,655,719
International equity	275,595	—	$66	1,635,779	1,911,440
Fixed income	88,522	548,631	—	266,423	903,576
High-yield credit	—	—	—	301,826	301,826
Absolute return	—	—	—	2,123,246	2,123,246
Private investments	24,086	321	17,633	2,409,604	2,451,644
Real assets	252,877	9,786	91,052	1,429,307	1,783,022
Other investments	30,628	—	25,799	—	56,427
Interest-rate derivatives	2,500	(1,742)	—	—	758
Subtotal investment assets at fair value	**1,387,518**	**557,089**	**134,550**	**9,193,020**	**11,272,178**[a]
Interest-rate swaps	—	(13,410)	—	—	(13,410)
Total	**$1,387,518**	**$543,678**	**$134,550**	**$9,193,020**	**$11,258,768**

[a] *Investments held at cost totaling $27,657 thousand should be added to the subtotal investment assets at fair value, and beneficial interest in charitable remainder trusts totaling $12,748 thousand should be subtracted from the subtotal investment assets at fair value to reconcile to total investment assets of $11,287,087 thousand as of August 31, 2018.*

Investments included as NAV as Practical Expedient consist primarily of the University's ownership in investments (principally limited partnership interests in long-only equity and credit, hedge, private equity, real estate, and other similar funds). As a practical expedient, when quoted market prices are not available, the estimated fair values of these investments are generally based on reported partners' capital or NAV provided by the associated external investment managers. In cases where the practical expedient threshold is not met, such as an investment not being in compliance with GAAP, or where a statement of partners' capital is not provided, the investment is reported as Level 3. Since a range of possible values exists for these partnership investments, the estimated values may be materially different from the values that would have been used had a ready market for these partnerships existed. The University exercises diligence in assessing the policies, procedures, and controls of external investment managers; management's assessment includes a valuation review process of the most recent available audited and unaudited financial statements and discussions with the majority of external investment managers about the aggregate carrying value of the respective investments at August 31, 2019. The assessment may result in adjustment to the external managers' valuations of the securities' fair value if those valuations are not in accordance with GAAP.

The following tables summarize changes in the investments and derivatives classified by the University in Level 3 of the fair value hierarchy for the fiscal years ended August 31, 2019 and 2018:

(in thousands of dollars)	*2018*					*2019*
	Fair value	**Purchases**	**Sales and settlements**	**Realized and unrealized gains (losses)**	**Transfers into and out of Level 3**	**Fair value**
International equity	$66	—	—	($2)	—	$64
Private investments	17,633	$830	($211)	(1,468)	($6,381)	10,403
Real assets	91,052	62	(9,165)	(6,562)	(24,300)	51,087
Other investments	25,799	—	—	(388)	—	25,411
Total investments	**$134,550**	**$892**	**($9,376)**	**($8,420)**	**($30,681)**	**$86,965**

(in thousands of dollars)	*2017*					*2018*
	Fair value	**Purchases**	**Sales and settlements**	**Realized and unrealized gains (losses)**	**Transfers into and out of Level 3**	**Fair value**
International equity	$19	$55	—	($8)	—	$66
Private investments	17,310	5,271	($7)	(4,941)	—	17,633
Real assets	112,719	—	(8,367)	5,199	($18,499)	91,052
Other investments	24,966	—	—	833	—	25,799
Total investments	**$155,014**	**$5,326**	**($8,374)**	**$1,083**	**($18,499)**	**$134,550**

There were no significant transfers or reclassifications between Levels 1 and 2 during fiscal years 2019 and 2018. In fiscal year 2019, there were two transfers out of Level 3 into Level 1. One occurred as a subordinated equity security converted to publicly traded common shares, while the other was reclassified since the underlying securities have readily available market prices. There was one transfer out of Level 3 in fiscal year 2018.

As of August 31, 2019 and 2018, investments held at cost included real estate totaling $19.4 million. Investments held at cost also included property co-ownerships, mortgages, and other investments totaling $7.1 million and $8.3 million as of August 31, 2019 and 2018, respectively.

The table below presents funding obligations and redemption terms of investments by asset class. The University is required under certain partnership agreements to advance additional funding up to specified levels over a period of several years. These uncalled commitments have fixed expiration dates and other termination clauses. At August 31, 2019, the University was committed to making future capital contributions in the amount of $2.1 billion, primarily in the next five years, as detailed in the table. Certain agreements also contain notice periods, lock-ups, and gates that limit the University's ability to initiate redemptions.

(in thousands of dollars)

	Fair value	Remaining life	Uncalled commitments	Redemption terms	Redemption restrictions
US equity	$1,452,615	No limit	—	Daily to annually, with 1- to 90-day notice periods	Lock-up provisions ranging from none to 3 years
International equity	1,746,314	No limit	$45,697	Daily to annually, with 1- to 180-day notice periods	Lock-up provisions ranging from none to 3 years
Fixed income	887,474	No limit	—	Daily to quarterly, with 1- to 90-day notice periods	No lock-up provisions
High-yield credit	266,648	No limit to 12 years	105,054	Certain partnerships ineligible for redemption; other funds semiannually to annually, with 90-day notice periods	Certain partnerships not redeemable; other partnerships include side pockets subject to general partner discretion
Absolute return	1,939,874	No limit	57,706	Daily to greater than annually, with 1- to 120-day notice periods; private partnership ineligible for redemption	Lock-up provisions ranging from none to 3 years; side pockets on many funds; one partnership not redeemable
Private investments	2,887,703	No limit to 12 years	956,116	Partnerships ineligible for redemption; equity securities daily, with 1-day notice period	Private partnerships not redeemable; equity securities have no lock-up provisions
Real assets	1,748,649	No limit to 14 years	920,286	Partnerships ineligible for redemption; commodity and equity funds weekly to quarterly, with 1- to 3-day notice periods	Drawdown partnerships not redeemable; no restriction on commodity and equity funds

Cash and cash equivalents for investment purposes include bank accounts holding cash and money market funds consisting of short-term US Treasury securities. Cash and cash equivalents are highly liquid and are carried at amortized cost, which approximates fair value.

The University's marketable securities categories include investments in US equities, international equity, and fixed income strategies via separately managed accounts, partnerships, and commingled funds. US equity strategies include large-, mid-, and small-cap public equities. One investment in this category currently may not be redeemed over the next year.

International equities include developed market (ex–US public equities) and emerging market strategies. Three investments in this category currently may not be redeemed over the next year, while one other may only be partially redeemed over the next year.

Fixed income strategies include US government securities, agency securities, inflation-linked bonds (TIPS), corporate bonds, global bonds, and short-term cash investments.

The high-yield credit portfolio includes investments in distressed debt and other credit instruments with fixed income characteristics but more specific risk tied to the securities and their underlying cash flows.

The absolute return portfolio is weighted toward long-short equity managers, uncorrelated strategies, and diversifying event-driven or hedged tactical credit strategies. One investment in this portfolio currently may not be redeemed over the next year due to lock-up provisions. As of August 31, 2019, the remaining investments have either full or partial liquidity over the next year, with the exception of those having side pockets. As of August 31, 2019 and 2018, the University posted $137.9 million and $143.7 million, respectively, of public equity as a source of collateral for an alternative investment strategy.

The private investments portfolio includes investments in global buyout and venture capital funds. The real assets portfolio includes the University's investments in energy, timber, real estate, and public investments in some commodity and equity funds.

Lives of the specific funds could vary significantly, depending on the investment decisions of the external fund managers, changes in the University's portfolio, and other circumstances. Furthermore, the University's obligation to fund these commitments may be waived by the fund managers for a variety of reasons, including changes in the market environment and/or investment strategy.

Investment Return

Investment return designated for operations is defined as the investment payout, according to the spending guideline for the Long-Term Balanced Pool and the actual investment income for all other investments. In 2019 and 2018, respectively, additional amounts of $50 million and $100 million were authorized in excess of the spending rule to support strategic investment and are included in the investment return designated for operations line of the consolidated statements of activities. Gross investment income from specific investments held at cost totaled $15.4 million and $15.9 million for the fiscal years ended August 31, 2019 and 2018, respectively. Investment expenses related to specific investments held at cost totaled $4.8 million and $6 million for the fiscal years ended August 31, 2019 and 2018, respectively. All other investment returns are categorized as nonoperating.

Certain direct expenses paid by the University for investment management and custody services have been netted against investment earnings.

Derivative Financial Instruments

The University has entered into hedging transactions via various interest-rate swaps and swaptions and has maintained those positions since fiscal year 2010. These instruments are presented net in the fixed income asset class of investments within Level 2.

Credit exposure represents the University's potential loss if counterparties fail to perform under the terms of the contracts, or collateral, if any, does not fully support amounts obligated. This exposure is measured by the fair value of the cash collateral held at the counterparties at the reporting date. The University manages its exposure to credit risk by using highly rated counterparties, establishing risk-control limits, and obtaining collateral where appropriate, and on a net basis had obligations to counterparties as of August 31, 2019 and 2018. As a result, the University has limited credit risk. The University has entered into margin collateral agreements with major investment banks that impose a $1 million threshold on both parties. As of August 31, 2019 and 2018, the University posted collateral of $0.7 million and $2.5 million, respectively, to one counterparty. To date, the University has not incurred any losses on derivative financial instruments due to counterparty nonperformance.

The University regularly reviews the use of derivative financial instruments by each of the managers of alternative investment funds in which it participates. While these outside managers generally use such instruments for hedging purposes, derivative financial instruments are employed for trading purposes by numerous independent asset managers of the University.

The following tables summarize the derivative financial instruments held by the University as of August 31:

(in thousands of dollars)

2019	Notional amount	Assets	Liabilities	Fiscal year net gain (loss)	Interest rates	Maturity date
Investment-related derivatives						
Interest-rate swaptions	$200,000	$736	($368)	($106)	5%	12/2/2019
Total investment-related	**200,000**	**736**	**(368)**	**(106)**	5%	12/2/2019
Credit-related derivatives						
Interest-rate swaps	125,000	—	(16,482)	(3,072)	4.12–4.38%	8/31/2023
Total credit-related	**125,000**	—	**(16,482)**	**(3,072)**	4.12–4.38%	8/31/2023
Total derivative financial instruments	**$325,000**	**$736**	**($16,850)**	**($3,178)**		

(in thousands of dollars)

2018	Notional amount	Assets	Liabilities	Fiscal year net gain (loss)	Interest rates	Maturity date
Investment-related derivatives						
Interest-rate swaptions	$200,000	$2,500	($1,742)	—	5%	12/2/2019
Total investment-related	**200,000**	**2,500**	**(1,742)**	**—**	5%	12/2/2019
Credit-related derivatives						
Interest-rate swaps	125,002	—	(13,410)	$7,419	4.12–4.38%	8/31/2023
Total credit-related	**125,002**	—	**(13,410)**	**7,419**	4.12–4.38%	8/31/2023
Total derivative financial instruments	**$325,002**	**$2,500**	**($15,152)**	**$7,419**		

5. Land, Buildings, and Equipment

Land, buildings, and equipment as of August 31 consisted of the following:

(in thousands of dollars)	*2019*	*2018*
Land	$31,036	$31,036
Construction-in-progress	117,474	563,507
Buildings and leasehold improvements	4,455,482	3,828,036
Equipment	663,544	651,033
Accumulated depreciation	(1,947,173)	(1,815,577)
Total land, buildings, and equipment, *net*	**$3,320,363**	**$3,258,035**

Included in construction-in-progress costs are building and leasehold improvement capitalizations. Building costs are funded by bonds, gifts (received or pledged), grants, and funds without donor restrictions.

Under the University's interest capitalization policy, actual interest costs incurred during the period of construction of an asset for University use are capitalized until that asset is substantially completed and ready for use. The capitalized cost is reflected in the asset's total cost and depreciated over the asset's useful life. Assets qualifying for interest capitalization may include buildings and major equipment.

In fiscal year 2019, the Simpson Querrey Biomedical Research Center was completed and placed into service. The sale of four floors to Ann & Robert H. Lurie Children's Hospital of Chicago was consummated upon completion of the building.

Lease Obligations

The University is obligated as lessee under numerous operating leases to pay base rent through the lease expiration dates. Operating leases consist primarily of leases for the use of real property and have terms expiring through fiscal year 2031. Real estate lease expenses totaled $15.9 million and $14.1 million for the fiscal years ended August 31, 2019 and 2018, respectively. Sublease rental income totaled $3 million and $2.9 million for the fiscal years ended August 31, 2019 and 2018, respectively. At August 31, 2018, there were no subleases that are noncancelable for one year or more. The future minimum lease payments under noncancelable operating leases through August 31 of each period are shown at right.

(in thousands of dollars)	
2020	$15,871
2021	14,272
2022	13,321
2023	12,304
2024	12,698
2025 and thereafter	55,058
Total	**$123,524**

Rentals under Leases

The University is entitled as lessor under numerous operating leases to receive rental payments. Operating leases consist primarily of leases for the use of real property and have terms expiring through fiscal year 2041. The future minimum rental payments under noncancelable operating leases through August 31 of each period are shown at right.

(in thousands of dollars)	
2020	$2,016
2021	1,905
2022	1,910
2023	1,956
2024	1,863
2025 and thereafter	9,412
Total	**$19,062**

6. Deferred Revenue

Deferred revenue as of August 31 is summarized on the consolidated statements of financial position as follows:

(in thousands of dollars)	*2019*	*2018*
Tuition and housing	$121,359	$222,990
Sponsored contracts (exchange)	68,899	49,055
Conditional contributions and grants	22,360	9,110
Other deferred revenue	18,838	21,554
Total deferred revenue	**$231,456**	**$302,709**

7. Deposits Payable and Actuarial Liability of Annuities Payable

Deposits payable and actuarial liability of annuities payable as of August 31 are summarized on the consolidated statements of financial position as follows:

(in thousands of dollars)	*2019*	*2018*
Agency deposits payable	$133,591	$123,468
Actuarial liability of annuities payable	20,689	19,939
Student loan deposits payable	4,823	5,537
Other deposits payable	9,461	5,799
Total deposits payable and actuarial liability of annuities payable	**$168,564**	**$154,743**

8. Bonds, Notes, and Other Debt Payable

Bonds, notes, and other debt payable as of August 31 are as follows:

(in thousands of dollars)	**Interest-rate mode**	**Fiscal year maturity**	**Interest rate**	*2019*	*2018*
Illinois Finance Authority (IFA)–Series 2004	Variable	2034	1.34% [a]	$135,800	$135,800
IFA–Series 2008	Variable	2046	1.30% [a]	125,000	125,000
Taxable–Series 2012	Fixed	2039–2047	4.20%	200,000	200,000
Taxable–Series 2013	Fixed	2015–2044	4.60% [b]	563,240	568,175
Taxable–Series 2015	Fixed	2038–2048	3.78% [b]	500,000	500,000
IFA–Series 2015	Fixed	2022–2028	4.24% [b]	128,545	128,545
Taxable–Series 2017	Fixed	2047–2057	3.72% [a]	500,000	500,000
Commercial paper ($300,000 available)	Variable	2019	2.16% [b]	300,000	260,000
Promissory note	Fixed	2021	1.72% [c]	16,000	24,000
Lines of credit ($750,000 available)	Variable	2019	2.55% [b]	85,000	115,000
Bonds, notes, and other debt payable subtotal				**2,553,585**	**2,556,520**
Unamortized issuance costs, premiums, and discounts, *net*				(2,021)	(1,384)
Total bonds, notes, and other debt payable, *net*				**$2,551,564**	**$2,555,136**

[a] *Interest rate reset weekly*
[b] *Weighted average interest rate at August 31, 2019*
[c] *Imputed rate on non-interest-bearing note*

Total obligations including bonds, notes, and other debt payable at August 31, 2019, are scheduled to mature through August 31 of each period as noted at right. The schedule has been prepared based on the contractual maturities of the debt outstanding at August 31, 2019. Accordingly, if remarketings of variable rate debt offerings fail in future periods, debt repayments may become more accelerated than presented here. The potential failed remarketings coincide with the interest rate reset dates and amounts noted above.

(in thousands of dollars)

2020	$398,085
2021	13,450
2022	4,790
2023	6,660
2024	7,710
2025 and thereafter	2,122,890
Total	**$2,553,585**

Bonds Payable

During the year ended August 31, 2019, the University did not enter into the sale of any additional long-term municipal bonds or increase its long-term debt position. During the year ended August 31, 2018, the Taxable–Series 2017 Fixed Rate Bonds were issued to acquire, construct, and equip certain educational facilities of the University and to pay certain costs relating to the issuance of the bonds, subject to conditions set forth in a trust indenture between the University and Wells Fargo Bank, NA.

9. Endowments

Donor-restricted endowment funds are subject to Illinois's enacted version of the Uniform Prudent Management of Institutional Funds Act (UPMIFA). The University interprets UPMIFA as requiring that the fair value of the original donor-restricted endowment gift be preserved as of the gift date unless there are explicit donor stipulations to the contrary. Therefore, the University classifies the following as part of net assets with donor restrictions: the original value of gifts donated to the permanent endowment, the original value of subsequent gifts, and accumulations to the permanent endowment made in accordance with the applicable donor gift instrument at the time the accumulation was added to the fund. The remaining portion of the donor-restricted endowment fund is classified as net assets with donor restrictions until those amounts are appropriated for University expenditure in a manner consistent with UPMIFA's standard of prudence. In accordance with UPMIFA, the University considers the following factors in determining whether to appropriate or accumulate donor-restricted endowment funds:

- The duration and preservation of the endowment fund
- The purposes of the institution and of the endowment fund
- General economic conditions
- Possible effects of inflation or deflation
- Expected total return from income and appreciation of investments
- Other resources of the institution
- The institutional investment policy

The University's endowment consists of about 2,800 individual donor-restricted endowment funds and about 1,000 funds it designates to function as endowments. The net assets associated with endowment funds, including funds designated by the University to function as endowments, are classified and reported based on whether there are donor-imposed restrictions. Institution-designated endowment funds include quasi-endowments established by specific Board of Trustees approval as well as endowments created by management under general guidelines and policies approved by the Board of Trustees.

The following tables present the endowment net asset composition by type of fund at fair value as of August 31:

(in thousands of dollars)		With donor restrictions			*2019*
	Without donor restrictions	**Funds held in perpetuity**	**Accumulated gains (losses)**	**Total**	**Total funds**
Institution-designated endowment funds	$4,125,505				$4,125,505
With donor restrictions					
Underwater funds		$91,626	($2,891)	$88,735	88,735
All other funds		1,587,979	2,442,599	4,030,578	4,030,578
Endowment assets at end of year	**$4,125,505**	**$1,679,605**	**$2,439,708**	**$4,119,313**	**$8,244,818**

(in thousands of dollars)		With donor restrictions			*2018*
	Without donor restrictions	**Funds held in perpetuity**	**Accumulated gains (losses)**	**Total**	**Total funds**
Institution-designated endowment funds	$4,229,710				$4,229,710
With donor restrictions					
Underwater funds		$4,706	($45)	$4,661	4,661
All other funds		1,594,474	2,558,073	4,152,547	4,152,547
Endowment assets at end of year	**$4,229,710**	**$1,599,180**	**$2,558,028**	**$4,157,208**	**$8,386,918**

Investment and Spending Policies

The University's endowment is primarily invested in the Long-Term Balanced Pool. The Investments Committee of the Board of Trustees annually reviews the asset allocation policy for the pool.

The principal objective for the Long-Term Balanced Pool is to preserve purchasing power and to provide a growing stream of income to fund University programs. On average, the pool seeks to achieve an annual total rate of return (i.e., actual income plus appreciation) equal to inflation plus actual spending. This objective of preserving purchasing power emphasizes the need for a long-term perspective in formulating both spending and investment policies.

The Board of Trustees has adopted a guideline for the annual spending rate from the University's Long-Term Balanced Pool. The calculation blends market and spending elements for the total annual spending rate.

The market element is an amount equal to 4.35 percent of the market value of a unit in the pool, averaged for the 12 months ended October 31 of the prior fiscal year. It is weighted at 30 percent in determining the total. The spending element is an amount equal to the current fiscal year's spending amount increased by 1.5 percent plus the actual rate of inflation. It is weighted at 70 percent in determining the total.

If investment income received is not sufficient to support the total-return objective, the balance is provided from realized and unrealized gains. If the income received is in excess of the objective, the balance is reinvested in the Long-Term Balanced Pool on behalf of the unit holders.

The University's policy is to reinvest the current income of all other investment pools.

Changes in Endowment Net Assets

The following tables represent changes in endowment net assets for the fiscal years ended August 31:

(in thousands of dollars)			*2019*
	Without donor restrictions	**With donor restrictions**	**Total**
Endowment net assets, beginning of year	$4,229,710	$4,157,208	$8,386,918
Net investment loss	(1,726)	(2,467)	(4,193)
Net appreciation, realized and unrealized	61,129	87,396	148,525
Total investment return	**59,403**	**84,929**	**144,332**
Contributions	—	46,705	46,705
Appropriation of endowment assets for expenditure	(173,127)	(173,387)	(346,514)
Other changes			
Transfers to create institutional funds	34,589	—	34,589
Transfers of institutional funds per donor requirement	—	4,046	4,046
Spending of institution-designated endowment fund	(21,801)	—	(21,801)
Other reclassifications	(3,269)	(188)	(3,457)
Endowment net assets, end of year	**$4,125,505**	**$4,119,313**	**$8,244,818**

(in thousands of dollars)			*2018*
	Without donor restrictions	**With donor restrictions**	**Total**
Endowment net assets, beginning of year	$4,041,786	$3,905,788	$7,947,574
Net investment loss	(3,143)	(3,119)	(6,262)
Net appreciation, realized and unrealized	337,549	334,864	672,413
Total investment return	**334,406**	**331,745**	**666,151**
Contributions	—	82,645	82,645
Appropriation of endowment assets for expenditure	(167,459)	(165,526)	(332,985)
Other changes			
Transfers to create institutional funds	49,811	—	49,811
Transfers of institutional funds per donor requirement	—	9,874	9,874
Spending of institution-designated endowment fund	(36,152)	—	(36,152)
Other reclassifications	7,318	(7,318)	—
Endowment net assets, end of year	**$4,229,710**	**$4,157,208**	**$8,386,918**

Underwater Endowment Funds

The University monitors endowment funds to identify those for which historical cost was more than fair value. As of August 31, 2019 and 2018, the historical cost of such accounts was approximately $91.6 million and $4.7 million, and the market value totaled $88.7 million and $4.7 million, respectively. Associated unrealized losses of $2.9 million and $45 thousand as of August 31, 2019 and 2018, respectively, are recorded in the net assets with donor restrictions classification; subsequent gains increase net assets with donor restrictions.

10. Retirement Plans

The University maintains two contributory retirement plans for its eligible faculty and staff. The plans offer employees two investment company options, Teachers Insurance and Annuity Association (TIAA) and College Retirement Equities Fund (CREF), and certain mutual funds offered by Fidelity Investments. Participating employee and University contributions are immediately vested. The University contributed $82.5 million and $81.5 million to the two plans in 2019 and 2018, respectively.

The University currently sponsors a healthcare plan permitting retirees to continue participation on a "pay-all" basis; it has no liability for participants past age 65. The retiree contribution is based on the average per-capita cost of coverage for the plan's entire group of active employees and retirees rather than the per-capita cost for retirees only. Retirees are also eligible to participate in certain tuition reimbursement plans and may receive a payment for sick days accumulated at retirement. Certain postemployment benefit plans are also sponsored.

The University recognizes an asset or a liability in the consolidated statements of financial position for the plans' overfunded or underfunded status. The asset or liability is the difference between the fair value of plan assets and the related benefit obligation, defined as the projected benefit obligation for postemployment benefit programs and the accumulated postretirement benefit obligation (APBO) for postretirement benefit programs, such as a retiree healthcare plan. In the consolidated statements of activities, the University recognizes actuarial gains or losses and prior service costs or credits that arise during the period but are not components of net periodic benefit cost. The University measures plan assets and obligations as of the date of its fiscal year end and makes specified disclosures for the upcoming fiscal year.

The accrued cost for postemployment benefits was $8.5 million and $9.8 million at August 31, 2019 and 2018, respectively, and is included in accounts payable and accrued liabilities on the consolidated statements of financial position.

The University funds the plan on a pay-as-you-go basis. The following table sets forth the postretirement plan's obligations, benefits paid, contributions, net periodic postretirement benefit cost, and assets for the fiscal years ended August 31:

(in thousands of dollars)	*2019*	*2018*
Benefit obligation	$13,663	$15,924
Benefits paid	1,742	1,473
Employer contributions	1,059	816
Contributions from participants	683	656
Net periodic postretirement benefit cost	1,307	1,299
Fair value of plan assets	—	—

Service costs included in net periodic postretirement benefit cost above totaled $806 thousand and $891 thousand as of August 31, 2019 and 2018, respectively.

The changes in other than periodic benefit cost included in net assets without donor restrictions on the consolidated statements of activities totaled net gains of $3.7 million and $1.2 million as of August 31, 2019 and 2018, respectively, for an increase of $2.5 million due to net gains during the fiscal year.

The APBO was $13.7 million and $15.9 million at August 31, 2019 and 2018, respectively, and is included in accounts payable and accrued liabilities on the consolidated statements of financial position.

The following tables present key actuarial assumptions used in determining APBO as of August 31, 2019 and 2018. For both fiscal years 2019 and 2018, the ultimate healthcare cost trend rate was 5 percent, and the year when the trend rate will reach the ultimate trend rate was 2025.

Additional assumptions used to determine benefit obligations for the fiscal years ended August 31 were as follows:

	2019	*2018*
Weighted average settlement (discount) rate	2.6%	3.8%
Weighted average rate of increase in future compensation levels	2.5%	2.5%
Healthcare cost trend rate	6.5%	6.75%

Next, the assumptions used to determine net periodic benefit cost for the fiscal years ended August 31:

	2019	*2018*
Discount rate	3.8%	3.3%
Weighted average rate of increase in future compensation levels	2.5%	3.0%
Healthcare cost trend rate	6.75%	7.0%

A one-percentage-point change in assumed healthcare cost trend rates would have had these effects in fiscal year 2019:

(in thousands of dollars)	*1% point decrease*	*1% point increase*
(Decrease) increase in total of service and interest cost	($86)	($99)
(Decrease) increase in postretirement benefit obligation	(621)	699

Estimated future benefit payments reflecting anticipated service, as appropriate, are expected to be paid as shown below:

(in thousands of dollars)	
2020	$822
2021	653
2022	751
2023	775
2024	792
2025–2028	4,443
Total	**$8,236**

The University offers a deferred compensation plan under Internal Revenue Code 457(b) to a select group of management and highly compensated employees. There is no University contribution related to this deferred compensation plan. The University has recorded both an asset and a liability related to the deferred compensation plan that totaled $94.8 million and $89.3 million as of August 31, 2019 and 2018, respectively; these are included in investments and deposits payable and actuarial liability of annuities payable on the consolidated statements of financial position.

11. Related Parties

Members of the University's Board of Trustees, senior management, and faculty may on occasion be associated either directly or indirectly with entities doing business with the University. The University bylaws and conflict of interest policies establish guidelines for disclosure and regulation of such activities as circumstances warrant. When such associations exist, measures are taken, in the best interests of the University, to mitigate any actual or perceived conflict. Transactions with related parties may include investment management, common membership in investment partnerships or other investment vehicles, and the purchase of goods or services.

Northwestern Medical Group (NMG) is a not-for-profit, multispecialty physician organization committed to providing clinical care to patients and to supporting the research and academic endeavors of Northwestern's Feinberg School of Medicine (Feinberg). NMG is governed by a board of directors, and its physicians are full-time faculty members or researchers at Feinberg. It is a subsidiary of Northwestern Memorial Healthcare Corporation

(NMHC), the not-for-profit parent corporation of Northwestern Memorial Hospital (NMH), which is the primary teaching hospital of Feinberg. As such, NMHC and NMG are related parties of the University. Under terms of agreements effective in fiscal year 2014 between the University, NMG, and NMHC, the University receives recurring contributions from NMHC to support the Feinberg research and education programs, basic and applied biomedical research facilities and programs, and research and educational support services.

As of August 31, 2019 and 2018, accounts receivable arising from support and operational activities with NMHC totaled $15.7 million and $19.3 million, respectively, and are included in accounts receivable on the consolidated statements of financial position. For the fiscal years ended August 31, 2019 and 2018, contributions totaling $116 million and $109.3 million, respectively, have been made from NMHC to the University and are included in private gifts on the consolidated statements of activities. For the fiscal years ended August 31, 2019 and 2018, revenues arising from operational activities with NMHC totaled $32.4 million and $24.4 million, respectively, and are included in professional fees and sales and services on the consolidated statements of activities.

12. Self-Insurance Reserves and Other Contingencies

Reserves for losses under the University's self-insurance program, aggregating $11.5 million and $8.3 million at August 31, 2019 and 2018, respectively, include reserves for probable known losses and for losses incurred but not yet reported. The reserves are presented on a discounted basis. The discount rate was 7.5 percent in fiscal years 2019 and 2018. Self-insurance reserves are based on estimates of historical loss experience, and while management believes that the reserves are adequate, the ultimate liabilities may be more or less than the amounts provided. These reserves are included in accounts payable and accrued liabilities on the consolidated statements of financial position.

Under an agreement in effect through fiscal year 2013 between the University and NMG, a proportionate share of primary medical professional liability costs that arise out of events prior to November 1, 2004, was borne by NMG. As a part of the clinical integration agreement between NMG, NMHC, and the University, signed September 1, 2013, any remaining liabilities related to the period prior to November 1, 2004, are the obligations of the University and included in the reserves, beginning in fiscal year 2014, for losses noted above.

In August 2009, the University, as originating lender, began participation in a student loan securitization program. It sold student loans to a school trust totaling $65 million in 2009, $19.8 million in 2010, and $22.5 million in 2012; the University issued University-guaranteed notes, which were purchased by a funding trust that procures financing to support the lending program. The programs are managed to break even and generate no servicing assets or liabilities. Guaranteed notes under these programs totaled $8.3 million and $13.2 million as of August 31, 2019 and 2018, respectively. These loans, net of reserves, are included in notes receivable and deposits payable on the consolidated statements of financial position.

In October 2013, the University purchased a $61 million portfolio of private education loans from a lending agency; these loans were purchased by the lending agency from the University prior to 2009 and were serviced by the University. As of August 31, 2019 and 2018, respectively, these loans totaled $11.7 million and $18.9 million, and are included in notes receivable, net of reserves, on the consolidated statements of financial position. The University continues to service the repurchased loans.

From time to time, various claims and suits generally incidental to the conduct of normal business are pending or may arise against the University. It is the opinion of management of the University, after taking into account insurance coverage, that any losses from the resolution of pending litigation should not have a material effect on the University's financial position or results of operations.

All funds expended in connection with government grants and contracts are subject to audit by government agencies. While any ultimate liability from audits of government grants and contracts by government agencies cannot be determined at present, management believes that it should not have a material effect on the University's consolidated financial position or results of operations.

13. Grants and Contracts

Grants and contracts for the fiscal years ended August 31 are summarized on the consolidated statements of activities as follows:

(in thousands of dollars)	*2019*	*2018*
Federal grants	$518,244	$484,398
Private grants and contracts	174,477	159,565
State grants	3,831	4,045
Total grants and contracts	**$696,552**	**$648,008**

Indirect cost recovery on federal grants and contracts is based on an institutional rate negotiated with its cognizant federal agency, the United States Department of Health and Human Services.

14. Liquidity and Availability

Financial assets and resources available within one year of August 31, 2019, for general expenditure are as follows:

(in thousands of dollars)	*2019*
Financial assets	
Cash and cash equivalents	$155,469
Accounts receivable, *net*	199,535
Notes receivable	23,109
Contributions receivable	57,392
Investment return for operations	471,000
Financial assets available within one year	**906,505**
Liquidity resources	
Commercial paper	—
Bank lines of credit	665,000
Total financial assets and liquidity resources available within one year for general expenditure	**$1,571,505**

The University manages liquidity by structuring its financial assets to be available as its operating expenses, liabilities, and other obligations come due. Working capital funds, which are generated through the temporary differences between operating receipts and disbursements, are held in a variety of money market instruments or, if not needed within 90 days, are invested in the Long-Term Balanced Pool. The income from investing them is used for general operating purposes.

In addition, the University may place commercial paper under a $300 million Taxable Commercial Paper Note. There were outstanding borrowings of $300 million under this agreement as of August 31, 2019.

The University also may draw $750 million in standby lines of credit to supplement working capital requirements. There were outstanding borrowings of $85 million under this agreement as of August 31, 2019.

Lastly, the University holds institution-designated endowments of $4,126 million as of August 31, 2019. Although the University does not intend to spend from its institution-designated endowment funds—other than amounts appropriated for spending through its annual budget approval and appropriation process—amounts from its institution-designated endowment could be made available if necessary, subject to liquidity of the underlying investments.

15. Functional Classification of Expenses

Expenses by functional categories reflect salaries, wages, benefits, goods, and services used for those specific purposes. The University has allocated functional expenses for depreciation and interest on indebtedness to other functional categories based on the functional use of space on the University's campuses.

Operating expenses incurred in the fiscal years ended August 31 were as follows:

(in thousands of dollars)				*2019*
	Academic	**Research**	**Support**	**Total**
Salaries, wages, and benefits	$914,581	$278,335	$246,243	$1,439,159
Services, supplies, maintenance, and other	566,670	193,503	59,993	820,166
Depreciation	111,854	40,342	12,946	165,142
Interest on indebtedness	58,740	21,185	6,799	86,724
Total	**$1,651,845**	**$533,365**	**$325,981**	**$2,511,191**

(in thousands of dollars)				*2018*
	Academic	**Research**	**Support**	**Total**
Salaries, wages, and benefits	$890,686	$268,132	$261,713	$1,420,531
Services, supplies, maintenance, and other	552,254	179,423	87,595	819,272
Depreciation	101,442	39,356	9,934	150,732
Interest on indebtedness	46,201	17,923	4,524	68,648
Total	**$1,590,583**	**$504,834**	**$363,766**	**$2,459,183**

16. Subsequent Events

The University has evaluated subsequent events in accordance with the FASB ASC Subsequent Event Topic through December 20, 2019, the date when the consolidated financial statements were issued. The University did not identify any events to be disclosed.

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Administration and Trustees