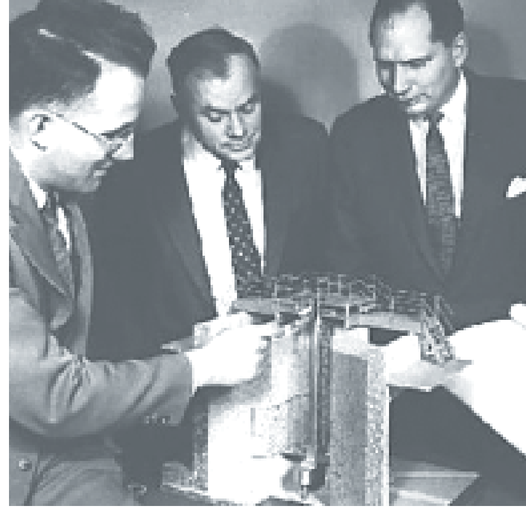
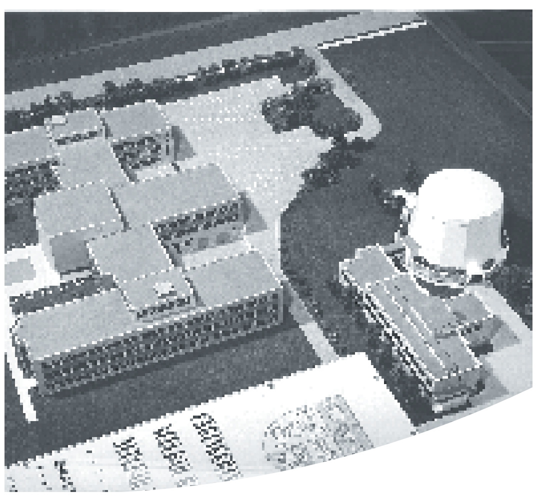




60 YEARS
of the McMaster
Nuclear Reactor

Annual Financial Report

2018-2019

BRIGHTER WORLD | mcmaster.ca

McMaster University

McMaster Nuclear Reactor by the Numbers

six
Emerging medical technologies

25
Universities supported

22,070
Days since MNR first "went critical" (i.e. began operating), making it Canada's longest serving nuclear research reactor

600
Hours of continuing education for MNR staff

60,000
Patients treated

100,000
Aircraft parts qualified

134
Nuclear energy workers based in the reactor building

2,500
Training hours to become a licensed reactor operator

2,500 visitors

16,000
Mining assays

seven thousand
Research hours

10,438
Megawatt-hours (energy output)

1,024
Shipments of iodine-125

18
Different radioisotopes shipped from MNR to researchers & customers

20,000,000
Safety checks

1,126
In-core irradiations

60 YEARS OF MNR

Clockwise from top left: Nuclear Research Building and Reactor Building today; Dr. Thode with a scale model of the McMaster Nuclear Reactor, designed as a multi-purpose, multi-user research facility; Prime Minister John Diefenbaker speaks at the opening of the McMaster Nuclear Reactor in 1959; The McMaster Nuclear Reactor at end of construction in 1959; Scale model of the newly designed McMaster Nuclear Reactor and JHE buildings; Photograph of H.G. Thode (by Tom Bochsler, courtesy of Andrew Colgoni and Rebecca, Thode Library)

Annual Financial Report

2018-2019

McMaster Nuclear Reactor and former
McMaster University President, Harry Thode

The 2018/19 Annual Financial Report is dedicated to highlighting McMaster's Nuclear Reactor (MNR), which celebrated its 60th anniversary in April 2019.

Through the vision of a past President Harry Thode, McMaster was able to capitalize on the strength of its academy and garner government support to build Canada's only university campus nuclear reactor. McMaster's Nuclear Reactor Building was an initial step, however Thode's vision was for "a research reactor on campus, where we could produce our own radioisotopes and provide beams of neutrons on a grand scale for producing nuclear reactions." Thode further speculated "McMaster was ideally suited in regard to industry. Although it was too early to predict what industrial uses would pay off, it was a certainty there would be industrial uses of neutrons and gamma rays on a large scale."

Credit quotes to: Harry Thode, excerpted from Manual Zack, Lawrence Martin, and Alvin A. Lee, *Harry Thode, Scientist and Builder at McMaster University*, McMaster University Press, 2003, p. 69.

BUILDING A SUSTAINABLE RESOURCE

Clockwise from left: Original reactor core showing a "fuel assembly" being inserted into the grid plate at the bottom of the pool to make the "core" of the reactor (the grouping of fuel assemblies); Single fuel assembly. Because the reactor core is essentially modular, fuel elements can be replaced one at a time, as needed, rather than having to replace the entire core at one time, which would be prohibitively expensive; "Reactor On" sign. Smaller (but ongoing) fuel costs are part of the reason MNR has been able to operate for so long.

Year in Review

2018/19 Financial Analysis and Commentary

The 2018/19 financial year marks McMaster University's 60th anniversary year for its Nuclear Reactor, the only Canadian university campus to operate a nuclear reactor for academic, research and commercial uses. The theme of the annual report is focused on the Nuclear Reactor's history, which for 2018/19 also marks the initiation of academic and market reviews to examine the future strategic directions of the reactor. Included in these considerations are balancing academic and research objectives with commercial or market demands, while also examining additional capacity. The reviews underway are expected to be completed sometime in the 2019/20 fiscal period.

McMaster's consolidated revenues exceed $1 billion per year across its operating, capital, research, trusts, and ancillary funds. Annual expenditures primarily relate to faculty and staff who advance, sustain, and support McMaster's academic and research mission. In addition, expenditures include pension and other non-pension costs. Each year, McMaster also aims to reserve funds, by having an excess of revenues over current expenditures, for other future obligations or commitments, such as the cost of decommissioning the Nuclear Reactor, and bond repayments. McMaster regularly estimates and reports the status of future obligations, and has established a number of funding reserve strategies to settle these obligations without adversely impacting the core academic and research mission of the University.

The 2018/19 excess revenues over expenditures was $157.0 million compared to $105.7 million in the previous year. This figure includes a $25.0 million surplus in the Operating Fund, with total appropriations predominantly held by the Faculties or within the Provost's academic priorities envelope for strategic mandate initiatives, and/or capital renovations or infrastructure needs. Excess revenues over expenditures are a result of McMaster's prudent approach to budgeting and financial planning for the University. As such, McMaster has maintained strong and stable credit ratings of AA from both Standard and Poors and DBRS.

Revenue growth predominantly relates to increased enrolment in both undergraduate and graduate programs and associated tuition income, as well as revenues from specially funded programs, non-regulated fees, other enrolment-related support service revenues, and increased recoveries for energy production sales to the affiliated hospital on campus.

The Operating Fund grant remained materially fixed at the 2016/17 level of $236.0 million determined by the Ministry's corridor funding model. It is unclear how long the corridor funding model will remain in place, however it is clear that the Ministry is adopting a performance-based model for the next Strategic Mandate Agreement beginning in 2021. The traditional largely enrolment-based methodology for flowing operating grants, albeit frozen, will transition by decreasing enrolment funding flows with offsetting increased funding flows linked to differentiation targets and specific purpose grants. McMaster has managed through the frozen operating grant for domestic capped enrolment by increasing international enrolment over the last several years. As the province changes its funding regime McMaster will examine its strategies.

McMaster's tuition revenues grew slightly less than enrolment management planning targets, but was attributed mostly to international student growth, and reflected rate increases within the legislative caps and other non-regulated fee increases. International enrolment targets have been adjusted for future years to account for a segment of students requiring additional English language skills learning before first year course loads, resulting in up to a year delay in planned enrolment for a percentage of this segment.

Investments earned a 6.0% return (2017/18 – 5.2%) after management fees, with income of $70.8 million (2017/18 – $52.3 million) in addition to $7.3 million (2017/18 – $2.7 million) attributed directly to external endowments. The Investment Pool continued to make progress on a number of recommendations related to the *President's Advisory Committee on Fossil Fuel Divestment*, including the addition of a $5.0 million Social Responsibility fund, carbon footprint measurements, carbon reduction strategies, and further planning toward signing the *United Nations Principles for Responsible Investing*.

Research income of $178.0 million recognized in the year is a reflection of current year research expenditures, which were slightly higher than prior year by $8.3 million. Research overall remained relatively steady and stable while McMaster was a key pilot institution for the Tri-Agency changes to its expense monitoring guidelines, focused more on cost reasonability, principal investigator responsibility, and risk-based sample checking. Changes to practices occurred in 2018/19 resulting in time saved policing expenditures, which can be, for example, redeployed either to a new billing system to support research or support training for a new detailed research financial reporting tool.

Other income growth is a key focus of the University, particularly at a time of frozen grant funding and deflationary tuition frameworks for 2019/20, with a reduction of 10% in the tuition rate for domestic enrolment and 0% increase thereafter in 2020/21. Other income grew over the prior year primarily related to increased energy production sales to the affiliated hospital on campus, as well as increases to non-regulated fees.

As noted earlier, personnel costs are the University's greatest expenditure, reflecting over 61.9% of total expenses or $641.8 million, up 3.6% over the previous year (2017/18 – $619.7 million). Salaries and wages grew 4.1% due to the addition of 156 faculty members and permanent staff, as well as negotiated pay increases. In an effort to ensure personnel growth represents the most efficient use of University resources, McMaster continues to be involved in several functional reviews and University-wide benchmarking initiatives with collaborating universities from around the world to better understand cost structures and further potential service opportunities.

University demand remains high and growing in parallel to recognition in global rankings, including most recently McMaster being recognized as second in the world for its impact in activities associated with the United Nations Sustainable Development Goals. As demand has increased, growth in international participation has been attained due to caps on domestic enrolment. Growth across the student bodies, the academy and support staff has resulted in additional infrastructure planning beyond the delivery of Wilson Hall in 2017/18. Major classroom space additions have been under development in the Peter George Centre for Living and Learning, along with other amenities and residence accommodations. In addition, a number of additional projects were completed or are underway to ensure McMaster's campus remains an attractive and technologically suitable place to study, such as a retrofit and expansion of the Arthur N. Bourns Building and new research commercialization spaces.

The information contained in this Annual Financial Report is intended to provide the reader with financial information for the fiscal year ended April 30, 2019. While the focus of this document is the consolidated operations of all funds on an accrual basis, extended variance analysis information regarding the Operating Fund results, which operates on a modified cash basis for budgeting and accounting purposes, has been included on page 25.

Other documents to which the reader can refer to provide a more in-depth discussion of the University include:

Strategic Mandate Agreement
https://www.mcmaster.ca/vpacademic/documents/SMA_FINAL_2017-2020.pdf

Forward with Integrity
https://president.mcmaster.ca/guiding-strategy/

McMaster Goals and Priorities Report 2017-2018
https://op.mcmaster.ca/wp-content/uploads/2018/09/Fact-Book-Goals-and-Priorities-2018_FINAL-1.pdf

Consolidated Budget – June 2019
https://financial-affairs.mcmaster.ca/app/uploads/2018/07/2019-20-Consolidated-Budget-FINAL.pdf

University Fact Book
https://www.mcmaster.ca/vpacademic/documents/FactBook2017-2018.pdf

By the Numbers

$607,700,000
Available expendable resources vs. $558,400,000 last year

$148,000,000
Capital spending vs. $145,600,000 last year

$1,193,000,000
Total revenue vs. $1,102,200,000 last year

$1,036,000,000
Total expenses vs. $996,500,000 last year

$157,000,000
Excess of revenues over expenses vs. $105,700,000 last year

$24,451
Endowment per FTE students vs. $24,443 last year

$38,497
Revenue per FTE students vs. $37,038 last year

$(274,700,000)
Non-pension employee future benefit unfunded obligation vs. $(247,700,000) last year

$(82,600,000)
Pension employee future benefit unfunded obligation vs. $19,100,000 last year

$25,000,000
Excess of revenues over expenses operating fund only vs. $44,200,000 last year

$1,220,900,000
Total net assets vs. $1,190,900,000 last year

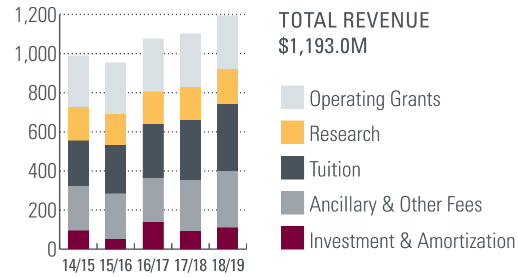
30,990
Enrolment (full time equivalent (FTE)) vs. 29,758 last year

7,772
Staff and Faculty head count vs. 7,616 last year

Financial Analysis

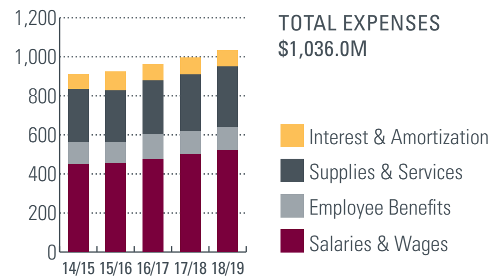
TOTAL REVENUE

- Revenues increased 8.2% to $1,193.0 million from $1,102.2 million.
- Tuition income increased by $36.4 million (11.9%) related to increased international undergraduate and graduate enrolments, rate changes for domestic students within the legislated cap and new programs.
- Enrolment-based operating grants remained frozen at 2016/17 levels, with increases in graduate expansion funding mostly offset by deductions for the International Student Recovery ($750 per student levy to the province).



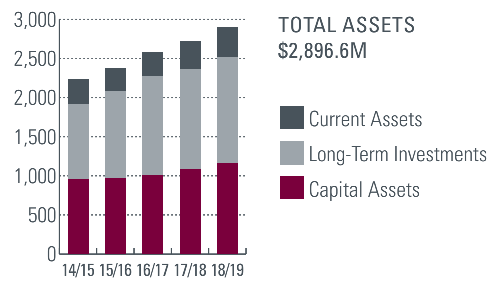
TOTAL EXPENSES

- Expenses increased 4.0% to $1,036.0 million from $996.5 million.
- Salaries and wages increased by $20.5 million (4.1%) due to the addition of faculty members and permanent staff, negotiated pay increases, and adjustments as set out in Bill-148.
- Employee benefits expense increased by $1.6 million (1.3%) as a result of the associated increase in salary and wages.
- Supplies and services increased by $16.7 million (5.7%) primarily due to additional spending in the operating, research and trust funds to support increased enrolment.



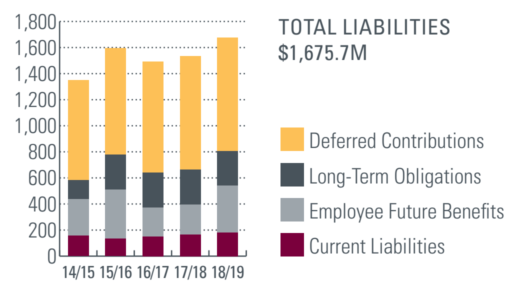
TOTAL ASSETS

- Assets increased 6.3% to $2,896.6 million from $2,724.3 million primarily related to capital asset additions and increased investments.
- Total investment holdings increased by $86.9 million (6.0%) primarily due to the 6.0% return on investments.
- Capital assets increased by $75.2 million (6.9%) related to $148.0 million in capital additions for new buildings and equipment less $72.8 million in amortization.



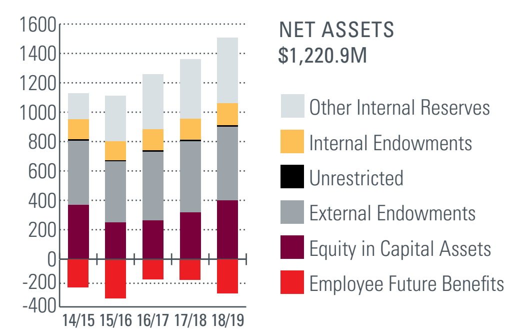
TOTAL LIABILITIES

- Liabilities increased 9.3% to $1,675.7 million from $1,533.4 million.
- Employee future benefit liabilities increased by $128.7 million (56.3%) primarily due to the introduction of the new Pension Benefits Act, involving a Provision for Adverse Deviation, interest rate and other demographic adjustments.
- Current liabilities increased by $15.4 million (9.2%) primarily related to an increase in accounts payable and accrued liabilities.
- Deferred contributions and long-term obligations remained relatively flat year over year with additions and deductions resulting in small balance changes.



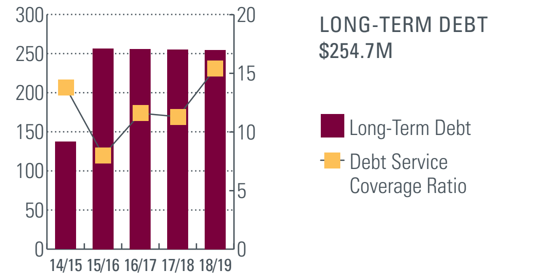
NET ASSETS

- Net assets increased 2.5% to $1,220.9 million from $1,190.9 million primarily due to increases in equity in capital assets and external endowments, offset by negative remeasurement adjustments totalling $144.5 million associated with actuarial losses in the pension and non-pension employee future benefit liabilities.
- Equity in capital assets increased by $81.6 million (25.7%) due to capital asset expenditures.
- Other internal reserves increased by $43.7 million (10.8%) as a result of increases in departmental carry-forwards and specific purpose reserves required to settle future obligations or invest in infrastructure.



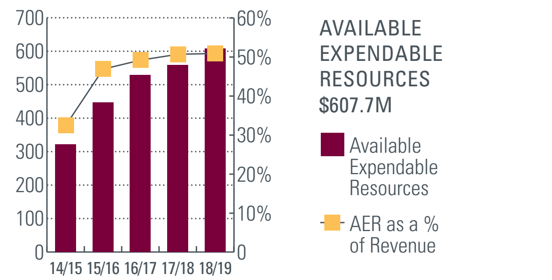
LONG-TERM DEBT

- Long-term debt primarily relates to two $120 million bonds maturing in 2052 and 2065 respectively, two sinking funds (reserves), currently valued at $34.7 million, exist to repay these debts upon maturity.
- The debt service coverage ratio improved to 15.4 from 11.3 due to the increase in net income.
- Total long-term debt decreased due to the $0.6 million principal repayment on the bank loan maturing in May 2033.



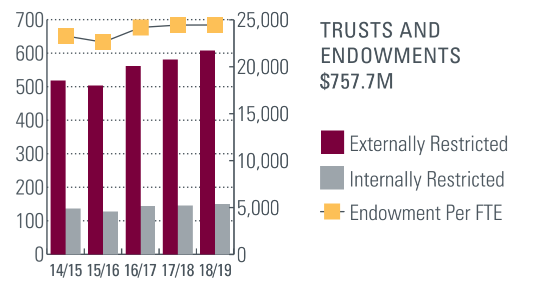
AVAILABLE EXPENDABLE RESOURCES (AER)

- AER represents funds held that are not externally committed, such as unrestricted net assets, specific purpose reserves, faculty and department appropriations, and internally restricted endowments.
- AER increased 8.8% to $607.7 million from $558.4 million due mainly to an increase in faculty and specific purpose reserves.



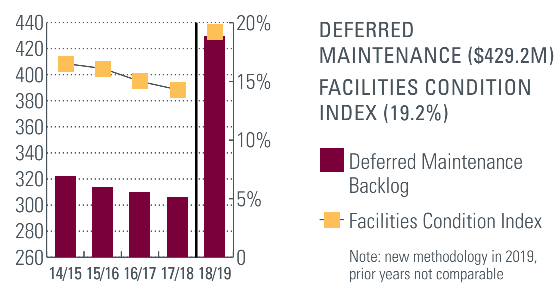
TRUSTS AND ENDOWMENTS

- McMaster's internal and external trusts and endowments increased 4.2% to $757.7 million from $727.4 million as a result of donations received and the investment return of 6.0% for the long-term investment pool.
- Endowment funds per student remained relatively flat even with an increase in student enrolment.



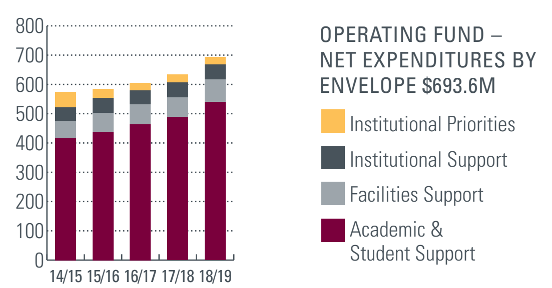
DEFERRED MAINTENANCE

- McMaster has been addressing its deferred maintenance backlog with funding from multiple sources.
- In 2019, a new measurement approach has been adopted to consider the functions within the building and reflect actual project costs, as opposed to the former model which applied a cost per square meter.
- The new approach is now considered more accurate across the Ontario higher education sector, but it is not comparable to prior years' assessments. The adequacy of the current annual provision to address the backlog is being reviewed.



OPERATING FUND – NET EXPENDITURES BY ENVELOPE

- Operating Fund net expenditures increased 9.6% to $693.6 million from $632.9 million.
- Academic and Student Support increased 10.6% as a result of support for increased enrolment, as well as faculty renewal in growth areas.
- Facilities Support increased 13.9% related to payments made on an energy loan (from savings on energy costs), and higher capital expenditures in addition to increases in salaries and operating expenses.
- Institutional Support increased 0.2%, primarily due to increased salaries and benefits expense.
- Institutional Priorities decreased 2.7% due to decreased supplemental pension plan costs, partially offset by branding initiative expenses.



MNR is the world's largest producer of the therapeutic radioisotope I-125, and provides cancer treatment for more than 200 patients every day.

ADVANCING HUMAN HEALTH

Left: Iodine-125 is a radioactive isotope that is used to treat cancer. Each vial is placed in a lead pot, within a specially designed and tested shipping box, and shipped to customers around the world. Right: Microspheres for cancer treatment being loaded into tube for neutron bombardment. When exposed to neutrons, the holmium within the microspheres becomes the radioactive isotope holmium-166, which is used. The microspheres plug the small blood vessels that feed the tumour, while also firing high energy beta particles at it from decay of the holmium-166.

Revenues

Total revenue increased by $90.8 million (8.2%) to $1,193.0 million (2017/18 - $1,102.2 million) reflecting revenue per student of $38,497 (2017/18 - $37,038). Revenue increases relate to a $36.5 million increase in tuition fees, a $20.2 million increase in donations and other grants, and an $18.5 million increase in net investment income. McMaster continues to focus on new revenue generation opportunities across all areas while actively managing existing revenue streams to optimize investments in the student experience, academic and research mission.

MNR primarily sells iodine-125 to brachytherapy seed manufacturers, who incorporate it into these tiny titanium cylinders that are then shipped to hospitals. Radiation oncologists implant the "I-125 seeds" in solid tumours (especially prostate cancer); the radiation given off by the iodine-125 kills the cancerous tissue.

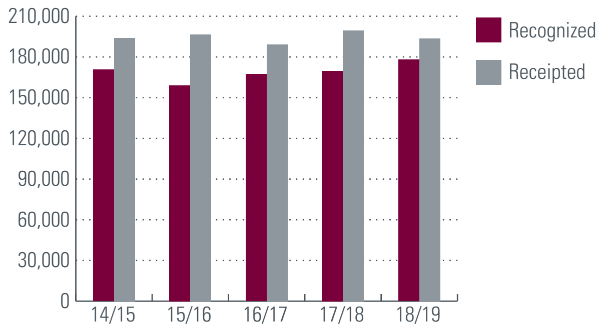
OPERATING GRANTS INCOME

Operating grants from the Ministry of Training, Colleges and Universities (MTCU) remained relatively flat. Operating grants for domestic undergraduate enrolment are frozen at 2016/17 levels under MTCU's corridor funding model.

RESEARCH GRANTS AND CONTRACTS

Research revenue is recognized as income in the year related expenditures occur. Unspent research funding and funds spent on capital are reflected as deferred contributions. McMaster's research revenue does not include research funding received and administered by affiliated hospitals or funding directed to Network Centres of Excellence, such as the Centre for Probe Development and Commercialization hosted at McMaster. Research funding receipted in the year decreased slightly by $5.8 million (2.9%) to $193.7 million (2017/18 – $199.5 million) as shown in Figure 1. Research expenditures increased by $8.3 million (4.9%), resulting in $178.0 million in research revenue recognized (2017/18 – $169.7 million).

Figure 1. **RESEARCH REVENUE: RECEIPTED VS RECOGNIZED IN INCOME – $ THOUSANDS**



RESEARCH OVERHEAD GRANTS

Research overhead grants increased by $1.4 million (9.6%) to $15.4 million (2017/18 – $14.0 million) related to more overhead-eligible awards received as well as new Incremental Project Grant funding from the federal government. Overhead grants assist the University in defraying indirect costs associated with hosting research activities. The federal and provincial governments contribute indirect costs based upon a portion of the total direct federal research grants and eligible provincial research programs.

TUITION FEES

Revenue from tuition fees increased by $36.4 million (11.9%) to $341.6 million (2017/18 – $305.2 million) due to increases in international undergraduate and graduate enrolment and tuition fee increases allowable by legislation. In 2018/19, the University adjusted fees within the allowable cap for each regulated program and remained within an overall increase cap of 3.0% for domestic students. Contributing to improved tuition revenue are increases in other fees not subject to the legislative cap. These include non-government funded programs and international student fees. International students pay fees that are higher than domestic tuition rates since there is no domestic operating grant to support these students, and account for approximately 13.2% (2017/18 – 12.9%) of the total student population.

ANCILLARY OPERATIONS

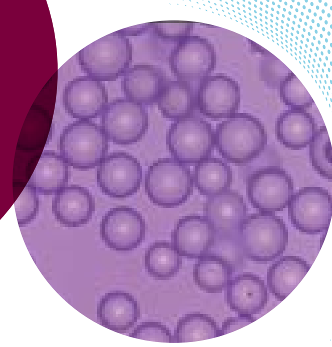
Ancillary operations provide essential academic and student support services across the University, such as housing, food services, parking, campus stores, and media/print production. Ancillary units are responsible for providing efficient and affordable services while covering all related operating and capital expenditures. Ancillaries contribute approximately 4.5% on sales toward direct student support and the Operating Fund.

A breakdown of ancillary sales is shown in Table 1. Net ancillary sales revenue increased by $1.1 million (1.4%) to $78.2 million (2017/18 – $77.1 million). Housing and Conference Services was the largest contributor to the revenue growth, increasing sales by 2.1% despite the decline in event income (primarily due to the one-time revenue from the North American Indigenous Games in the prior year). Hospitality Services sales dropped 1.4% mainly due to the renovation of the IAHS Café and lower sales from conferences. Parking Services sales increased 6.9% due to higher parking voucher demand and increased visitor and student sales. Campus Store sales declined 5.8% due to drop in revenue from technology products and course materials. Media Production Services increased total sales 3.3% largely due to increased internal sales and demand for web, print and other application development.

Table 1: **SALES BY ANCILLARY OPERATIONS** $ thousands

	2014/15	2015/16	2016/17	2017/18	2018/19
Housing and Conference Services	24,188	24,849	26,110	27,231	27,792
Hospitality Services	21,753	23,764	25,303	27,641	27,240
Campus Store	15,622	15,552	16,364	15,897	14,978
Continuing Education	6,708	6,740	7,006	7,183	7,759
Parking	5,314	5,016	5,252	5,821	6,222
Media Production Services	3,896	3,958	3,742	4,190	4,330
	77,481	79,879	83,777	87,963	88,321
Less internal sales	(8,848)	(9,573)	(9,504)	(10,851)	(10,120)
	68,633	**70,306**	**74,273**	**77,112**	**78,201**

MNR is the only North American supplier of holmium-166 microspheres, radioactive particles that are used to treat liver cancer.



INVESTMENT INCOME

The long-term investment pool (Investment Pool) rate of return (net of investment manager fees approximating 0.3%) was 6.0% (2017/18 – 5.2%). The Investment Pool achieved a rate of return of 6.3% (2017/18 – 5.5%) compared to the fund benchmark return of 7.3% (2017/18 – 3.7%). The two-year annualized return for the Investment Pool was 5.9% as compared to the fund benchmark return of 5.5% for the period ended April 30, 2019.

Ongoing uncertainty regarding global trade and global economic growth has continued to contribute to market volatility. Market volatility and low interest rates remain key management concerns; as such, broad geographic and asset class diversification within the long-term investment pool helps to mitigate volatility and protect capital. The Investment Pool is managed by external investment managers in accordance with the Statement of Investment Policy and Guidelines, which incorporates environmental, social and government considerations into its hiring and review practices. The Investment Pool is overseen by the Investment Pool Committee, a sub-committee of the Board of Governors, and involves an investment consultant and a number of investment managers noted in Table 2.

Table 2: **INVESTMENT POOL CONSULTANT AND INVESTMENT MANAGERS** as at April 30, 2019

INVESTMENT CONSULTANT:
Russell Investments Canada Limited

INVESTMENT MANAGERS:
Bentall Kennedy, Beutel Goodman & Company Ltd., BlackRock Asset Management Canada Limited, Brookfield Investment Management, Foyston, Gordon & Payne Inc., Harris Associates L.P, Integrated Asset Management Corp., Mesirow Financial, Morgan Stanley Investment Management Inc., PCJ Investment Counsel Ltd., and Russell Investments Canada Limited.

During the year, investment strategy reviews were completed for both the Investment Pool and the pension plans, examining asset allocations and alternative investments relative to objectives and risk tolerances. Implementation of refinements to investment strategy is in progress, with recommendations, updates to policies, and results to begin to take effect commencing in 2019/20.

In the year, McMaster completed a $5.0 million investment into a Social Responsibility Investment (SRI) fund (ESG[1] Global Equity Fund) in the Investment Pool which is aligned with the recommendation by the President's Advisory Committee on Fossil Fuels Divestment (PACFFD) to establish investment in a new socially responsible investment fund. In addition, in alignment with PACFFD recommendations, McMaster has completed a third-party measurement of its carbon footprint[2] relative to its policy benchmark. The Investment Pool carbon footprint was 142 tCO2e/$1 million invested (2017/18 – 126 tCO2e/$1 million invested) relative to the fund policy benchmark of 179 tCO2e/$1 million invested (2017/18 – 153 tCo2e/$1 million invested), both measured as at April 30, 2018. Finally, work continues toward the University's multi-year plan to become a signatory to the United Nations Principles for Responsible Investing.

Sensitivity analysis is performed to highlight the significance of possible variances in investment income associated with market fluctuations. The endowment funds are invested based on a benchmark asset mix of 60.0% equities and 40.0% fixed income, real estate, and infrastructure. Total investment earnings are allocated as either income in the Statement of Operations or direct increases to endowment balances as preservation of capital adjustments in the Statement of Changes in Net Assets (Table 3). The amounts posted directly to external endowments are a function of net annual returns, whereas the amounts posted to income are a function of both net returns and revenue recognition associated with required annual spending on some of the trust funds.

Investment returns for endowed funds are used for purposes set out by donors or by the Board of Governors, where gifts are for discretionary purposes. Annual endowment spending is 4.0%, along with a 1.0% allowance for trust administration costs, monitored using a five-year average rate of return. Any returns in excess of spending and other expenses go toward capital preservation. Approximately $26.1 million (2017/18 – $23.4 million) of expenses were funded from the external endowment of which a significant portion is directed towards student scholarships, bursaries and funding of Chairs and Professorships.

Table 3: **ALLOCATION OF INVESTMENT INCOME EARNED** $ thousands

	2014/15	2015/16	2016/17	2017/18	2018/19
Recognized in income	56,332	12,855	98,432	52,275	70,820
Amount posted directly to external endowments	24,400	(31,467)	44,799	2,718	7,266
Total earned	**80,732**	**(18,612)**	**143,231**	**54,993**	**78,086**

[1] ESG - Environmental Social and Governance refers to the three central factors in measuring the sustainability and ethical impact of an investment in a company or business. These criteria help to better determine the future financial performance of companies (return and risk).
[2] Carbon Measurement of Investment Pool Public Equity and Public Infrastructure Investments (excludes investments in Bonds and Real Estate).

MNR is the only facility in Canada that does on-demand production of non-standard radioisotopes. These radioisotopes are shipped across Canada and around the world to support research.

SUPPORTING RESEARCH: MADE-TO-ORDER RADIOISOTOPES

Clockwise from bottom left: A reactor operator inspects a "capsule" before loading in a sample for neutron bombardment; The reactor operator seals a sample inside the capsule prior to leak-testing it and inserting it into the reactor core; A reactor operator uses a long pole to insert the capsule into the reactor core.

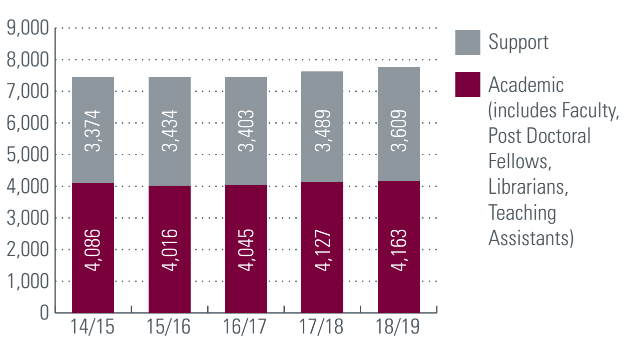
Compensation and Benefits

McMaster University provides compensation and various benefit plans for faculty and staff for both career and retirement phases of life. McMaster manages both current and future costs associated with total compensation plans to ensure long-term financial sustainability. Salary and wage expenses are shown together in the Statement of Operations, with related employee benefit costs identified separately. The employee benefit expenses include statutory benefit costs, other current benefit costs, and accruals for pension and other non-pension benefits (primarily medical benefits and dental care) that are earned in relation to service in the current year. Additional information related to the current year expenses, pension and non-pension liabilities and unfunded deficits are included in this section.

EXPENSE

Total compensation (salary and wages along with benefit costs) accounts for 62.0% of total expenditures (2017/18 – 62.2%). Figure 2 shows the count of 7,772 permanent faculty and staff members at October 2018 (October 2017 – 7,616).

Figure 2. **FACULTY MEMBERS AND PERMANENT STAFF AS OF OCTOBER 2018**



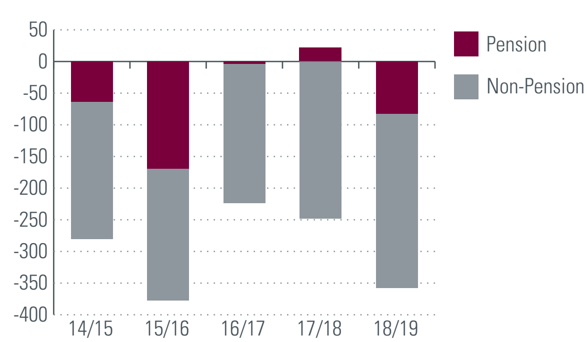
Salary and wage expenses increased 4.1% due to the addition of faculty members and permanent staff, negotiated pay increases, and adjustments as set out in Bill-148. Accordingly, benefit expenses increased 1.3%. Total compensation expenses of $641.8 million are up 3.6% (2017/18 – $619.7 million) representing a net 1.5% increase on a per employee basis.

EMPLOYEE FUTURE BENEFIT COSTS

Included in total compensation expenses are defined benefit pension, group RRSP and non-pension benefit costs. The non-pension benefit costs include extended health, dental and life insurance for most employees of the University. Under the Canadian accounting standards for not-for-profit organizations, annual remeasurements, investment gains and losses, and other items specifically related to employee future benefits are recorded directly in the Statement of Changes in Net Assets. Only current year benefit costs are expensed in the Statement of Operations.

The pension and non-pension plan obligations continue to be a significant draw on University resources (Figure 3). Over the last few years, several cost-balancing measures have been taken including plan design changes and increased employee contributions. The benefit costs could be eased in future years by interest rate improvements. However, changing mortality tables used to measure the liability, resulting from individuals living longer, are a permanent and ongoing increase to future benefit obligations. The pension and non-pension obligations continue to receive ongoing management monitoring and long-term strategic financial planning. McMaster continues to deploy a cost-smoothing approach to charging benefit expenses to faculties and departments. Benefits are charged at an average rate of approximately 30.0% of salaries each year, although annual benefit cash outflows can vary year over year.

Figure 3. **POST RETIREMENT (UNFUNDED OBLIGATIONS)/ SURPLUS** (includes Pension and Non-Pension Benefits) **($357.3M) – NET**



PENSION PLANS

Steps taken over the last few years to manage the pension liability have included revised eligibility rules for some groups, increased employee contributions, and the introduction of a group RRSP plan for new employees in some groups. The group RRSP now includes 388 full time employees (2017/18 – 361).

McMaster filed an updated valuation for the Salaried Pension Plan as of July 1, 2018 under new pension rules which resulted in a negative remeasurement adjustment in the 2018/19 financial statements. The valuation includes a new requirement for a Provision for Adverse Deviation (PfAD), which is based on the plan's open or closed status and its asset mix. The initial regulations identified the University's large salaried plan as closed. Since filing, the definition of a closed plan has changed and the large salaried plan is now under the open plan definition for the PfAD calculation methodology, which will reduce the University's PfAD liability during the next valuation (July 2021).

Management continues to monitor the plan's solvency funded status and future PfAD payments, which are incorporated into a long-term smoothed benefit rate charged to faculties and departments. Management's current benefit rate funding strategy continues to be effective despite the negative remeasurement adjustment. All plans qualified for Stage 3 solvency funding relief, whereby interest only payments are made on solvency deficiencies. The salaried plans have been refiled adopting more recent Pension Benefit Act rules, which result in both salaried plans qualifying for no solvency payments, however both plans are now funding the PfAD. The hourly plan continues to benefit from the Stage 3 solvency funding relief.

In addition to the above, new pension rules for all public and private sector Ontario defined benefit plans, the province has also passed enabling legislation for a jointly sponsored pension plan to be developed for the higher-education sector. The University Pension Plan Ontario (UPP) has achieved the required consent threshold for each of the five existing pension plans in three universities, and the conversion to the UPP is expected to proceed for these universities. The UPP, as designed, is more expensive than McMaster's current plans, however management is monitoring UPP design and transition planning.

The change in the funded status of the defined benefit pension plans is summarized in Table 4.

A $131.6 million negative pension remeasurement adjustment was made in the Statement of Net Assets (2017/18 – -$10.6 million) primarily related to the PfAD adjustment required under the definition of a closed plan. It is expected that a significant portion of this adjustment will be reversed after the next funding valuation. Since remeasurements are adjusted directly in reserves, the PfAD adjustment has had no impact on 2018/19 expenses.

Table 4: **CHANGE IN FUNDED STATUS OF PENSION BENEFIT PLANS** $ millions

	2014/15	2015/16	2016/17	2017/18	2018/19
Funded status, opening balance	**(165.9)**	**(63.3)**	**(169.3)**	**(3.5)**	**19.1**
Current service and finance cost	(42.6)	(36.3)	(43.3)	(33.3)	(32.3)
Remeasurements	95.8	(134.4)	143.8	(10.6)	(131.6)
University contributions	49.4	64.7	65.3	66.5	62.2
Funded status, closing balance, net	**(63.3)**	**(169.3)**	**(3.5)**	**19.1**	**(82.6)**

NON-PENSION POST-RETIREMENT AND POST-EMPLOYMENT BENEFIT PLANS

These plans provide extended health benefits to retirees and to employees on long-term disability leave. The deficit status of the plans increased by $27.0 million (10.9%) to $274.7 million (2017/18 – $247.7 million). Management continues to actively work with eligible employee groups to reduce the deficit and ongoing liability. A long-term funding strategy for these obligations includes annual contributions to an internally restricted reserve monitored annually and reassessed by actuaries on a tri-annual basis.

In 2018/19, non-pension employee benefit expenses increased by $1.0 million (4.9%) to $21.4 million (2017/18 – $20.4 million) primarily due to an increased current service cost and interest on the liabilities (Table 5). Payments by the University for claims from the plans totaled $7.3 million.

Table 5: CHANGE IN FUNDED STATUS OF NON-PENSION BENEFIT PLANS $ millions

	2014/15	2015/16	2016/17	2017/18	2018/19
Funded status, opening balance	**(206.8)**	**(217.2)**	**(208.0)**	**(220.3)**	**(247.7)**
Current service and finance cost	(19.0)	(19.9)	(19.7)	(20.4)	(21.4)
Remeasurements	1.9	22.3	0.2	(14.9)	(12.9)
University contributions	6.7	6.8	7.2	7.9	7.3
	(217.2)	(208.0)	(220.3)	(247.7)	(274.7)
Internally restricted reserve	51.3	60.4	73.6	83.2	93.8
Funded status, closing balance, net	**(165.9)**	**(147.6)**	**(146.7)**	**(164.5)**	**(180.9)**

EMPLOYEE FUTURE BENEFITS IN INTERNALLY RESTRICTED NET ASSETS

In order to promote innovation and accountability in departments, it is McMaster's policy to allow unspent surpluses to be carried forward from year to year, segregated as part of internally restricted net assets. In 2013, there was recognition that charging departments for the full cost of benefits (both current service costs and any unfunded past service costs) was constraining efforts to achieve strategic priorities and reducing McMaster's competitiveness for research funding. As a result, McMaster implemented charging only current service costs to departments, and funds past service costs separately. Under this practice, fluctuations in the reserve for past employee future benefit costs do not impact the funding available to departments, but are also tracked separately within McMaster's internally restricted net assets.

In order to obtain a complete picture of the net operating department reserves, which includes all related employee future benefits, the reserves for employee future benefits must be netted against the total departmental funds carried forward. Table 6 demonstrates the true net position of McMaster's department reserves after all employee benefit costs are applied.

Table 6: NET OPERATING FUND DEPARTMENTAL RESERVES $ millions

	2018/19			2017/18		
	Faculties	Support/Ancillary	Total	Faculties	Support/Ancillary	Total
Departmental reserves	99.7	77.6	177.3	81.1	72.6	153.7
Pensions	(85.4)	(20.8)	(106.2)	(3.4)	(0.8)	(4.2)
Other post-employment benefits	(136.6)	(44.3)	(180.9)	(124.3)	(40.2)	(164.5)
Employee benefit reserve	6.5	5.1	11.6	6.2	5.3	11.5
Net departmental reserves	**(115.8)**	**17.6**	**(98.2)**	**(40.4)**	**36.9**	**(3.5)**

MNR: A RESEARCH-INTENSIVE FACILITY

Clockwise from left: Reactor core today. MNR can support dozens of experiments at any time, with six different instruments on its neutron beamports, more than a dozen in-core neutron irradiation sites, and several automated sample irradiation facilities; Original reactor core. The MNR core was designed with gaps within the grouping of fuel assemblies, so that research samples can be inserted into the core and exposed to neutrons. The designers also included six large “beam tubes” to carry neutrons away from the core to experiment stations; Experiment stations outside reactor pool, 1959. Scientists use neutrons coming out of the beam tubes for a variety of applications.

Capital Projects and Financing

McMaster University is committed to building purpose-focused technology-enabled spaces while also renewing existing infrastructure to ensure its research-focused, student-centered identity is maintained to support an environment of excellence.

The McMaster Campus Plan and annual Capital Plan provide a comprehensive framework guiding campus capital development. The University's capital objectives are to preserve and enhance a high-quality campus while meeting McMaster's changing needs.

CAPITAL PROJECTS

Construction of the Peter George Centre for Living and Learning (PGCLL), a 518-bed undergraduate residence on campus adjacent to the Ron Joyce Stadium, continued development during 2018/19. The PGCLL also includes teaching and learning spaces, expanded study and collaborative student spaces, a new home for both the Student Wellness Centre, the McMaster Child Care Centre, underground parking, and new hospitality services. This multi-purpose building maximizes the use of campus lands.

Other capital projects underway in 2018/19 included the retrofit and expansion of the Arthur N. Bourns Building (ABB) and infrastructure projects that support research commercialization.

In addition to these capital building projects, the University spent approximately $27.3 million on equipment, software and furnishings. This represents a decrease of $6.0 million (18.1%) over last year primarily due to the acquisition of additional utilities infrastructure related to the Cogen project in 2017/18.

The University's total capital expenditures totalled $148.0 million (2017/18 – $145.6 million) and are summarized in Table 7. Building and Construction in Process expenditures have increased largely due to spending for PGCLL and ABB.

MNR containment building today. The MNR design team chose to incorporate large hollow pipes in the exterior walls of the reactor containment building that line up with the beamports on the outside of the pool wall.

Table 7: CAPITAL ASSET ADDITIONS $ thousands

	2014/15	2015/16	2016/17	2017/18	2018/19
Land, Completed Building Projects & Construction in Process	73,698	44,631	76,317	102,446	110,835
Computers, Software, Furniture and Other Equipment	56,696	31,502	27,673	33,367	27,342
Library Materials	5,482	18,264	9,497	9,778	9,833
	135,876	**94,397**	**113,487**	**145,591**	**148,010**

CAPITAL FINANCING

Completed building projects with long-term funding sources such as user fees, parking levies and future fundraising continued to be financed through internal central bank loans. In 2018/19, all scheduled loan repayments were received. The internal central bank capital loans decreased to $69.9 million in 2018/19 from $78.6 million last year. The loans have varying repayment terms and interest rates, which reflect the date of issue and the project's income stream.

The University's Debt Policy ratios provide a framework for monitoring the ability to undertake additional external or internal debt to carry out strategic investments. The University has two long-term bonds outstanding, each for $120 million, one maturing in 2052 at 6.15% and the other maturing in 2065 at 4.105%. McMaster holds two sinking funds accumulating the required repayment of each bond. Debt is considered a perpetual component of the University's capital financing structure; as such, additional debt is contemplated annually in conjunction with the Capital Plan updates and other strategic projects within the multi-year financial projections. McMaster's weighted average cost of capital used for internal loans is 5.75%, including administration costs.

FINANCIAL HEALTH AND SUSTAINABILITY METRICS

MTCU has now incorporated financial health metrics into the Strategic Mandate Agreement and its annual reporting requirements. The inclusion of financial health metrics recognizes that financial health and sustainability are critical to achieving institutional mandates. McMaster's strong financial health, as indicated also by its strong credit rating, is supported by the MTCU metrics outlined in Table 8.

Table 8: **FINANCIAL HEALTH AND SUSTAINABILITY METRICS**

Key Ratios	2014/15	2015/16	2016/17	2017/18	2018/19
Expendable Net Assets ($ millions):	322.09	447.42	528.89	558.40	607.70
Net Income/Loss: A performance measure that calculates the net income or loss as a percent of total revenues	7.93%	3.05%	10.42%	9.59%	13.16%
Net Operating Revenues: A performance measure that calculates cash flow from operating activities as a percent of revenues	14.75%	7.08%	14.28%	12.01%	15.74%
Primary Reserve (days): A liquidity measure that calculates the number of days university reserves can cover operating expenses	129	176	200	205	214
Interest Burden: A leverage measure that calculates interest expense as a percent of total expenses net of amortization	1.01%	1.29%	1.50%	1.44%	1.38%
Viability: A leverage measure that calculates the number of times that long-term debt could be settled using unrestricted assets	2.2x	1.7x	2.0x	2.1x	2.3x

MNR BEAMPORTS

Top: Chris Heysel and Bruce Gaulin at the official opening of the new underground "guidehall". The guidehall was built in 2018 in between the reactor containment building and the Nuclear Research Building to enable researchers to use MNR's neutrons in a spacious and controlled environment. The guidehall houses scientific equipment such as a Small Angle Neutron Scattering instrument for materials science research; Bottom: Director Chris Heysel points out the location of a beamport in the guidehall.

NON-DESTRUCTIVE ELEMENTAL ANALYSIS

A technique called Neutron Activation Analysis (NAA) uses neutrons from MNR to determine the elemental composition of soils, environmental samples, steel, and much more. Clockwise from top left: NAA samples are sealed inside small plastic cylinders, then sent into the reactor core using an automated pneumatic system. When they are exposed to neutrons, some of the atoms become radioactive, and give off distinct radiation signatures; Researcher placing an NAA sample on detector. The pneumatic system can send samples automatically to a detector, or return them to an operator who then places them on a detector: Researchers examining the radiation signature of an NAA sample. The detector records the radiation signature, which enables the system operator to determine what chemical elements are present and in what quantities.

Enterprise Risk Management

The Enterprise-wide Risk Management program continued its focus on collaboration and dialogue regarding the University's opportunities and risks in support of the University's strategic and operational objectives. Detailed review sessions led by identified risk leaders continued in 2018/19. Sessions were held with the President and Vice Presidents (PVP) group and the Audit Committee focused on Financial Risk and Government Policy Risk.

The annual Opportunities and Risks Review and Assessment session was held by the Enterprise Risk Steering Committee (PVP) in March 2019. As well as the review, discussion and update of the University's Opportunity and Risk Registers, the Committee reviewed documentation including key opportunity and key risk maps from the 2018 assessments and the key risk mitigation strategies summary authored by key risk leaders.

The Risks Review and Assessment resulted in eighteen key risks being identified and assessed based on residual (net) risk levels (Table 9). Key risks from 2018 were retained, and geopolitical risk was added. Several modifications were made to various key risk rankings for 2019 as a result of factors including current government initiatives and priorities as well as in recognition of the impact that various risk mitigation strategies and other strategic and operational initiatives underway have had on the University.

In keeping with the principles of continuous improvement, a review process was initiated to identify and develop program content and process enhancements that will align with the revised Audit and Risk Committee Terms of Reference, available on the University's Secretariat website.

Table 9: **2019 KEY RISKS**

Attract Graduate Students	Information Availability & Quality	Reputation and Brand
Change Readiness	Information Security	Research
Financial	Leadership	Research Infrastructure
Geopolitical	Mental Wellness	Student Experience, Retention & Satisfaction
Government Policy	Partnership	Technology
Human Capital	Physical Infrastructure	Undergraduate Student Enrolment

EXPERIENTIAL LEARNING

Nuclear Operations & Facilities (NO&F) provides summer jobs, co-op work placements, and thesis project supervision for over a dozen undergraduate students every year. Students get hands-on experience in radioisotope research, medical isotope production, radioanalytical chemistry, design and fabrication of nuclear components, reactor operations, and more.
Clockwise from top left: Students with staff scientist in a radioisotope research and development laboratory;
Summer students by the reactor pool; Engineering intern working in the NO&F test laboratory, verifying the integrity of medical isotope production equipment before it is put into service.

Supplemental Information

Operating Fund Variances in relation to Strategic Mandate Agreement objectives

The audited financial statements are prepared as required by statute in accordance with accounting standards for not-for-profit organizations as prescribed by the Chartered Professional Accountants of Canada using the deferral method of accounting and consolidation of all activity. For external reporting under the deferral method, all funds are consolidated in a single column on the Statement of Operations.

McMaster University's daily finances are managed pursuant to the concepts of fund accounting. Under this method, budgets are established for each fund, which is comprised of assets, liabilities, revenues and expenses. Fund accounting enhances accountability over resources ensuring restricted grants and contributions are spent only for the purposes intended. McMaster uses the following segregated funds: Operating, Specifically Funded, Research, Capital, Externally Restricted Trusts and Endowments, Internally Restricted Endowments, and Ancillary Operations. The University budget model focuses on the allocation of resources within the Operating Fund, however the consolidated Statement of Operations and Statement of Financial Position represents the results of all funds combined.

The 2018/19 Operating Fund financial results compared to the approved budget on a modified cash basis are presented in this section as well as a comparison to the consolidated results on a full accrual basis.

OPERATING FUND SUMMARY STATEMENT OF OPERATIONS

The Operating Fund represents approximately 66% of the consolidated budget and includes all revenue and expenses for faculties and support departments, such as offices of the President and Provost, student affairs, libraries, finance, human resources, facilities, and information technology. The 2018/19 Operating Fund budget included a number of strategic funding priorities, such as student accessibility services, inflationary journal costs for libraries, business intelligence project staffing, and community engagement. Overall, the budget supported McMaster's Strategic Mandate Agreement objectives, including key differentiation goals, enrolment targets, and other targeted program outcomes. The Operating Fund ended 2018/19 in a more favourable position compared to the budget and projection due to both greater funding and lower expenditures (Table 10).

McMaster is the only university in Canada where students can get a summer job operating a nuclear reactor.

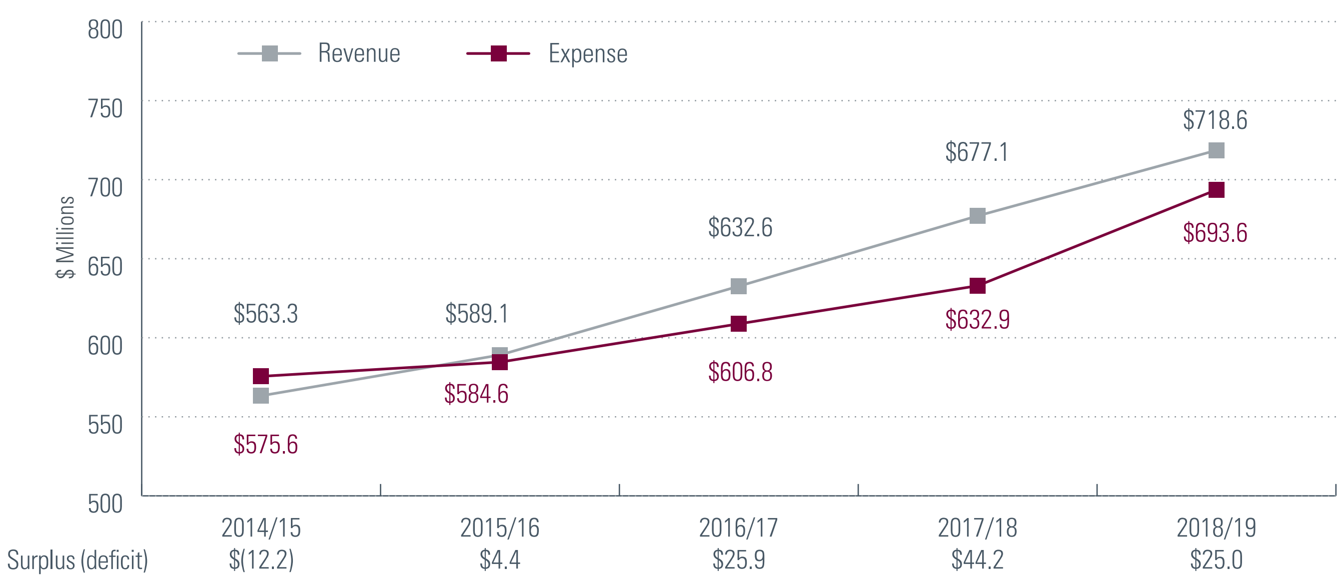
Table 10: **OPERATING FUND SUMMARY**

$ thousands

OPERATING FUND	2018/19 Budget	2018/19 Projection	2018/19 Actual	Variance: Actual vs. Budget		Variance: Actual vs. Projection	
Revenues							
Provincial grants	235,368	235,016	235,983	615	0.3%	967	0.4%
Tuition	334,153	327,272	327,060	(7,093)	-2.1%	(212)	-0.1%
Research Overhead income	25,904	28,933	31,045	5,141	19.8%	2,113	7.3%
Investment income	12,901	12,901	12,901	(0)	0.0%	0	0.0%
Other income	93,990	104,461	111,568	17,578	18.7%	7,107	6.8%
Total revenues	**702,316**	**708,583**	**718,556**	**16,240**	**2.3%**	**9,974**	**1.4%**
Expenses							
Salaries, wages and benefits	476,153	473,605	465,014	11,139	2.3%	8,592	1.8%
Utilities and maintenance	38,749	35,469	37,164	1,585	4.1%	(1,695)	-4.8%
Equipment and renovations	50,392	58,286	65,972	(15,580)	-30.9%	(7,687)	-13.2%
Scholarships, bursaries, and work study	37,252	39,303	36,870	383	1.0%	2,433	6.2%
Library acquisitions	12,829	12,650	13,327	(497)	-3.9%	(676)	-5.3%
Debt and financing charges	18,423	22,623	22,377	(3,954)	-21.5%	246	1.1%
All other expenses	64,773	64,189	52,874	11,899	18.4%	11,314	17.6%
Total expenses	**698,571**	**706,125**	**693,597**	**4,974**	**0.7%**	**12,527**	**1.8%**
Excess of revenues over expenses	**3,745**	**2,458**	**24,959**	**21,214**	**566.5%**	**22,501**	**915.4%**
Fund balance, beginning of year	110,679	142,698	142,698	32,019	28.9%	0	0.0%
Fund balance, end of year	**114,423**	**145,156**	**167,657**	**53,233**	**46.5%**	**22,501**	**15.5%**

The Operating Fund surplus highlights McMaster's continuing strong academic reputation as well as enrolment growth, as the focus remains on key priorities (Figure 4).

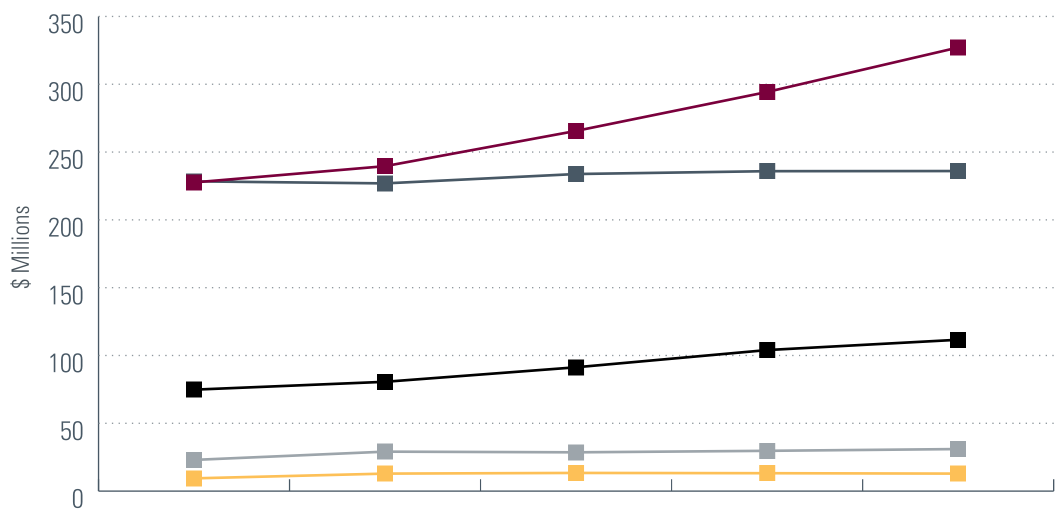
Figure 4: **OPERATING FUND (ONLY) REVENUE AND EXPENSES TREND**



SOURCES OF FUNDING

Total Operating Fund revenues were $718.6 million as compared to the budgeted funding of $702.3 million or to the projected funding of $708.6 million. Growth in overall revenue continues to come from tuition through both increased enrolment and rate increases within the provincial framework, and other revenue related to English language programs for international students, while other sources of revenue remain relatively flat (Figure 5).

Figure 5: **OPERATING FUND (ONLY) REVENUE TREND BY TYPE**



	2014/15	2015/16	2016/17	2017/18	2018/19
Provincial Grants	$228.4	$226.9	$233.8	$235.9	$236.0
Tuition	$227.6	$239.6	$265.6	$294.3	$327.1
Research Overhead Income	$23.0	$29.1	$28.6	$29.7	$31.0
Investment Income	$9.4	$12.9	$13.4	$13.2	$12.9
Other Income	$74.8	$80.6	$91.3	$104.0	$111.6

PROVINCIAL GRANTS

In 2017/18, MTCU introduced a corridor funding model, which limits enrolment-based funding to the 2016/17 grant level, while allowing universities to be plus or minus 3.0% (corridor) of the funding mid-point. MTCU funding is now flowed to universities via funding envelopes defined as follows:

- Enrolment Envelope: enrolment-based funding that is based on a revised weighted grant unit (WGU) value;
- Differentiation Envelope: funding based on performance and/or achievement of priorities as set out in the Strategic Management Agreement; and
- Special Purpose Envelope: grants based on government priorities such as improving access for Indigenous learners and students with disabilities.

Additionally, a Graduate Expansion Grant funded growth in graduate students over the 2016/17 level (Table 11). Despite the removal of the one-time Undergraduate Enrolment Transition Grant which was awarded in 2017/18 to support the transition of students admitted during the period of recent growth into upper years of study, total provincial grant funding was slightly favourable to projection by $1.0 million (0.4%) due to a higher than expected Graduate Expansion Grant. The International Student Reduction, a $750 decrease in grant funding per student, continues to grow with increased international enrolment.

Table 11: PROVINCIAL GRANTS $ thousands

	2018/19 Budget	2018/19 Projection	2018/19 Actual
Enrolment Envelope			
Core Operating Grant	215,885	215,371	215,374
Graduate Expansion Grant	1,970	2,229	3,099
	217,855	217,600	218,473
Differentiation Envelope			
Performance/Student Success Grant	19,461	19,169	19,168
Graduate Expansion – Performance	178	201	279
	19,639	19,370	19,448
Special Purpose Envelope			
Grant for Clinical Programs	429	429	458
International Student Recovery	(2,555)	(2,383)	(2,395)
Total Provincial Grants	**235,368**	**235,016**	**235,983**

TUITION

Actual tuition decreased compared to budget due to lower international enrolment than budgeted (Table 12).

Table 12: **UNDERGRADUATE AND GRADUATE ENROLMENT**

				Variance			
	2018/19 Budget	2018/19 Projection	2018/19 Actual	Actual vs. Budget		Actual vs. Projection	
Undergraduate FFTEs – Domestic	23,419	23,645	23,834	415	1.8%	189	0.8%
Undergraduate FFTEs – International	3,062	2,800	2,837	(225)	-7.3%	37	1.3%
Total	**26,481**	**26,445**	**26,671**	**190**	**0.7%**	**226**	**0.9%**
Graduate FTEs – Domestic	3,056	3,081	3,080	24	0.8%	(1)	0.0%
Graduate FTEs – International	1,140	1,238	1,238	98	8.6%	0	0.0%
Total	**4,196**	**4,319**	**4,319**	**123**	**2.9%**	**(0)**	**0.0%**
Total UG & G Combined – Domestic	26,475	26,726	26,914	439	1.7%	188	0.7%
Total UG & G Combined – International	4,202	4,038	4,075	(127)	-3.0%	37	0.9%
Total	**30,677**	**30,764**	**30,990**	**313**	**1.0%**	**226**	**0.7%**

Overall enrolment increased in accordance with the Strategic Mandate Agreement and the enrolment management targets (Figure 6 and Table 13), enabled by the completion of Wilson Hall in 2016/17. Demand for McMaster's undergraduate programs remains greater than the number of spaces available. Many applicants whose academic record suggests that they could be successful at McMaster must be turned away. Enrolment increases are expected to be maintained and managed through a combination of admitting eligible domestic applicants up to the corridor midpoint and allowing increased international participation rates due to MTCU limitations on domestic new entrants.

Figure 6: **TUITION AND FTE ENROLMENT**

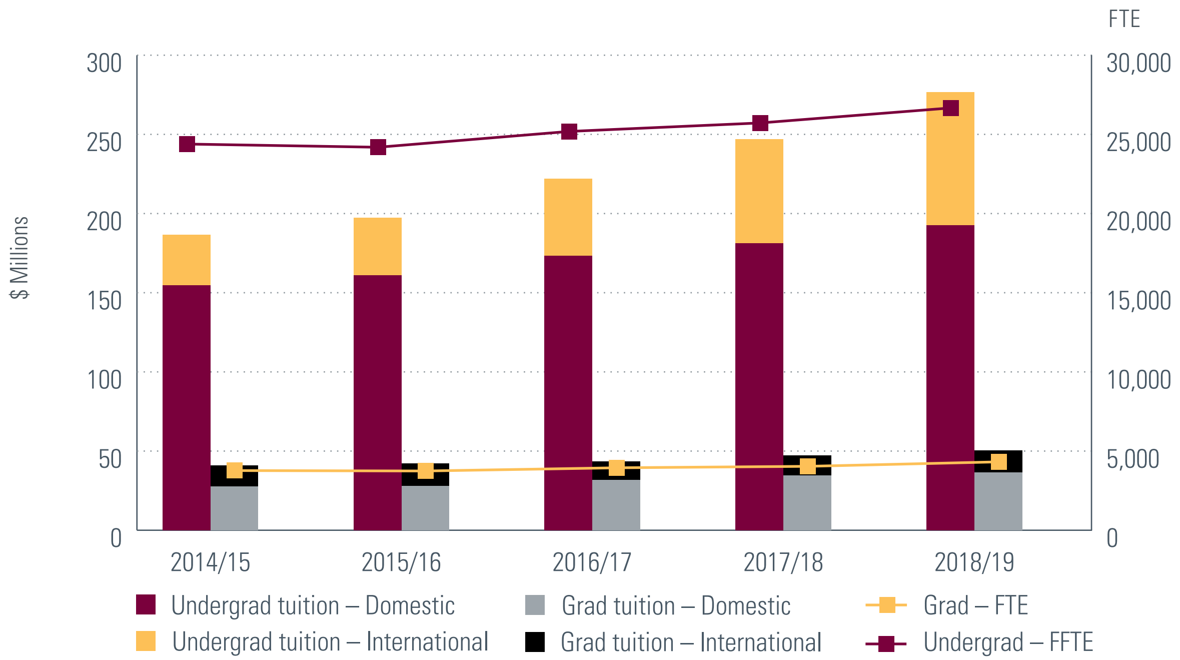


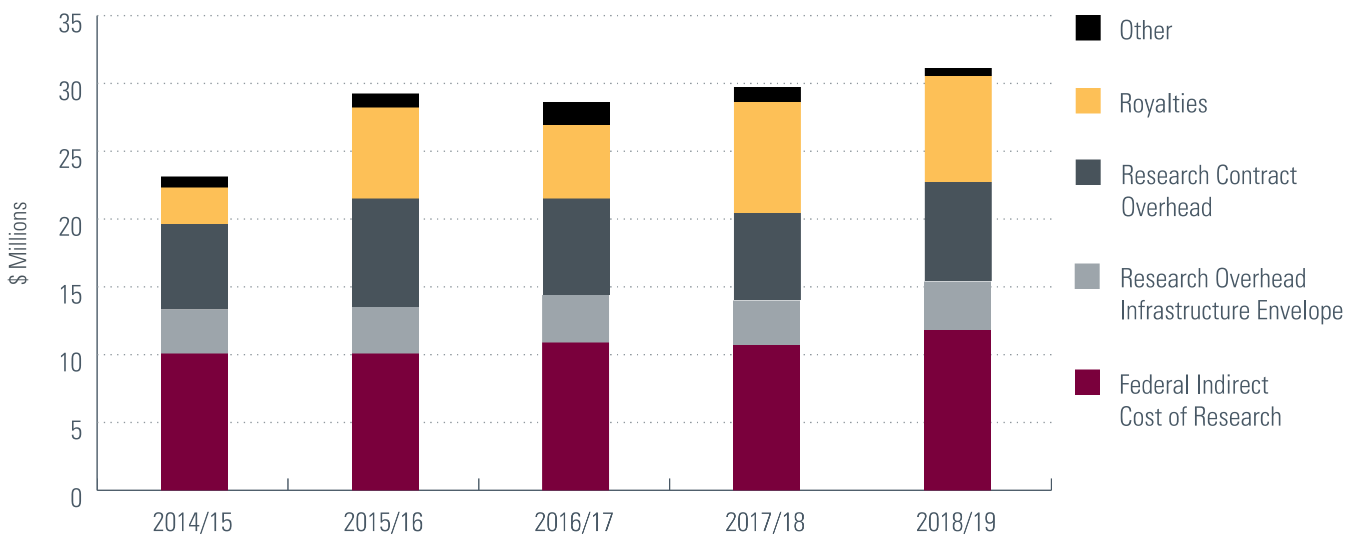
Table 13: **TUITION AND FTE ENROLMENT**

	Tuition ($ millions)					FTE Enrolment				
	2014/15	2015/16	2016/17	2017/18	2018/19	2014/15	2015/16	2016/17	2017/18	2018/19
Undergraduate – Domestic	154.7	160.9	173.4	181.2	192.6	22,842	22,639	23,327	23,306	23,834
Undergraduate – International	32.0	36.5	48.6	65.9	84.1	1,547	1,548	1,859	2,417	2,837
Total	**186.8**	**197.4**	**222.1**	**247.1**	**276.7**	**24,389**	**24,187**	**25,186**	**25,722**	**26,671**
Graduate – Domestic	27.5	27.9	31.8	34.6	36.6	2,881	2,904	2,980	2,928	3,080
Graduate – International	13.4	14.4	11.7	12.6	13.8	887	838	964	1,108	1,239
Total	**40.9**	**42.3**	**43.5**	**47.3**	**50.3**	**3,767**	**3,742**	**3,944**	**4,036**	**4,319**
Total UG & G – Domestic	182.3	188.7	205.2	215.8	229.1	25,723	25,543	26,307	26,234	26,914
Total UG & G – International	45.4	50.9	60.4	78.5	97.9	2,434	2,386	2,823	3,525	4,076
Total	**227.7**	**239.6**	**265.6**	**294.3**	**327.1**	**28,156**	**27,929**	**29,130**	**29,758**	**30,990**

RESEARCH OVERHEAD

Research overhead income was $5.1 million (19.8%) favourable to budget and $2.1 million (7.3%) favourable to projection, primarily due to the conservative budgeting of royalties and research contract overheads. Overhead is levied as a percentage of research grants and contracts where allowed, with the objective of recovering the full amount of indirect costs. Royalty income is payment for commercial use of intellectual property owned by McMaster as a result of research discoveries. Both contract overhead and royalties fluctuate depending on activity (Figure 7).

Figure 7: **RESEARCH OVERHEAD INCOME**



INVESTMENT INCOME

The investment income attributed to the Operating Fund is predominantly fixed. Any differences between the budget and actual returns are absorbed in the University's specific purpose reserve. The specific purpose reserve is used to ensure the Operating Fund receives investment income each year regardless of returns in the year. The annual fixed transfer is $9.5 million, which beginning in 2015/16 is increased by five one-time $3.0 million per year transfers. This additional funding assists in balancing the Operating Fund during years following the policy lever implementation, which resulted in a permanent $3.4 million funding cut, and transition to the corridor model whereby the operating grant is fixed at the 2016/17 level.

OTHER INCOME

Higher student enrolment contributed more than expected to other income. The favourable variance of $17.6 million (18.7%) compared to budget was primarily due to:

- increased service fees;
- higher fees from non-degree programs; and
- higher recoveries for utilities from external affiliates due to increased usage.

EXPENDITURES

Total Operating Fund expenditures were $693.6 million (Figure 8 and Figure 9) compared to budget and projected expenditures of $698.6 million and $706.1 million, respectively. The favourable variances are small as a percentage of both the original budget (0.7%) and projection (1.8%), caused by conservative budgeting.

Under the current budget model, faculties (activity units) are allocated all central revenue net of support unit costs. Early finalization of support unit projections in the fall allows for more certain inputs to activity unit budgets, which are prepared in the spring. However, this means that there is greater chance that support unit plans will change during the remainder of the year. This greater variability is not considered a significant risk to planning and will continue for 2019/20 and beyond.

Figure 8: **2018/19 TOTAL OPERATING FUND ACTUAL EXPENSE BY TYPE** $ Millions

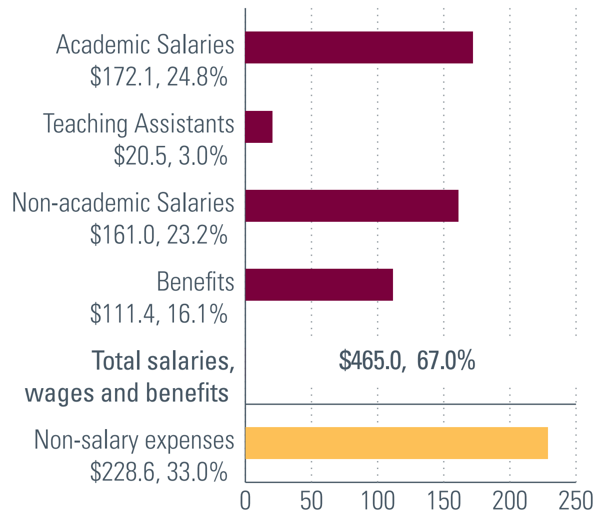
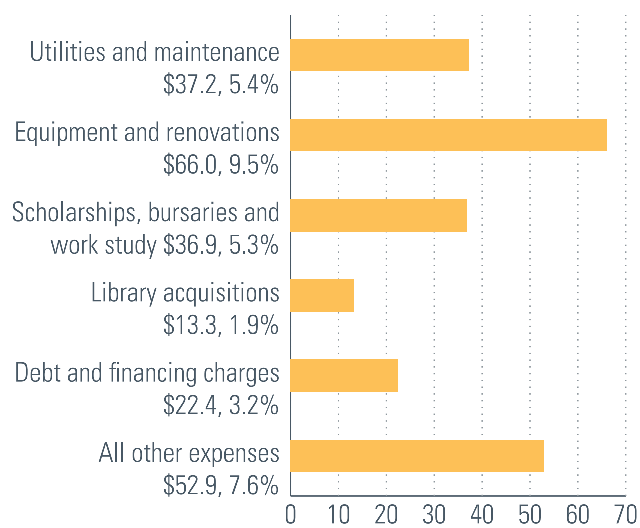


Figure 9: **2018/19 OPERATING FUND ACTUAL NON-SALARY EXPENSE BY TYPE** $ Millions



Total expenses were favourable by $5.0 million (0.7%) compared to budget:

- Salaries, wages and benefits were favourable by $11.1 million (2.3%) primarily due to unfilled staff vacancies.
- Utilities and maintenance were favourable by $1.6 million (4.1%) due to lower utility rates.
- Equipment and renovations were unfavourable by $15.6 million (30.9%) due to higher investment in capital projects such as the DeGroote School of Business expansion, the David Braley Athletic Centre expansion, and Energy Management Plan approved projects.
- Library acquisitions were unfavourable by $0.5 million (3.9%) due to journal cost inflation.
- Debt and financing charges were unfavourable by $4.0 million (21.5%) due to use of savings in utilities toward additional payments on the energy loan.
- All other expenses were favourable by $11.9 million (18.4%) primarily due to savings or delayed spending in expenses such as materials and supplies, special projects, and travel.
- Variances were insignificant in scholarships, bursaries and work study.

Total expenses were favourable by $12.5 million (1.8%) compared to projection:

- Salaries, wages and benefits were favourable by $8.6 million (1.8%) primarily due to unfilled staff vacancies.
- Utilities and maintenance were unfavourable by $1.7 million (4.8%) due to an accounting adjustment for a rebate in the projection, this is partially offset by lower utility rates and greater external recoveries.
- Equipment and renovations were unfavourable by $7.7 million (13.2%) due to higher investment in capital projects as noted above.
- Scholarships, bursaries and work study were favourable by $2.4 million (6.2%) due to Student Access Guarantee (SAG) requirements lower than projected.
- Library acquisitions were unfavourable by $0.7 million (5.3%) due to journal cost inflation.
- All other expenses were favourable by $11.3 million (17.6%) primarily due to savings or delayed spending in expenses such as materials and supplies, special projects, and travel.
- Variances were insignificant in debt and financing charges.

APPROPRIATIONS

The favourable results increase the Operating Fund appropriations balance by $25.0 million (17.5%) to $167.7 million (Figure 10), which represents an improvement of $21.2 million on budget and $22.5 million on projection. Appropriations are carried forward for expenditure in 2019/20 and future years by activity or support units. Appropriation balances are used for capital renovations and/or Strategic Mandate Agreement initiatives. Of the $167.7 million held in appropriations, $99.7 million is held by faculties and another $43.9 million is held for academic priorities (Table 14).

Figure 10: OPERATING FUND APPROPRIATIONS

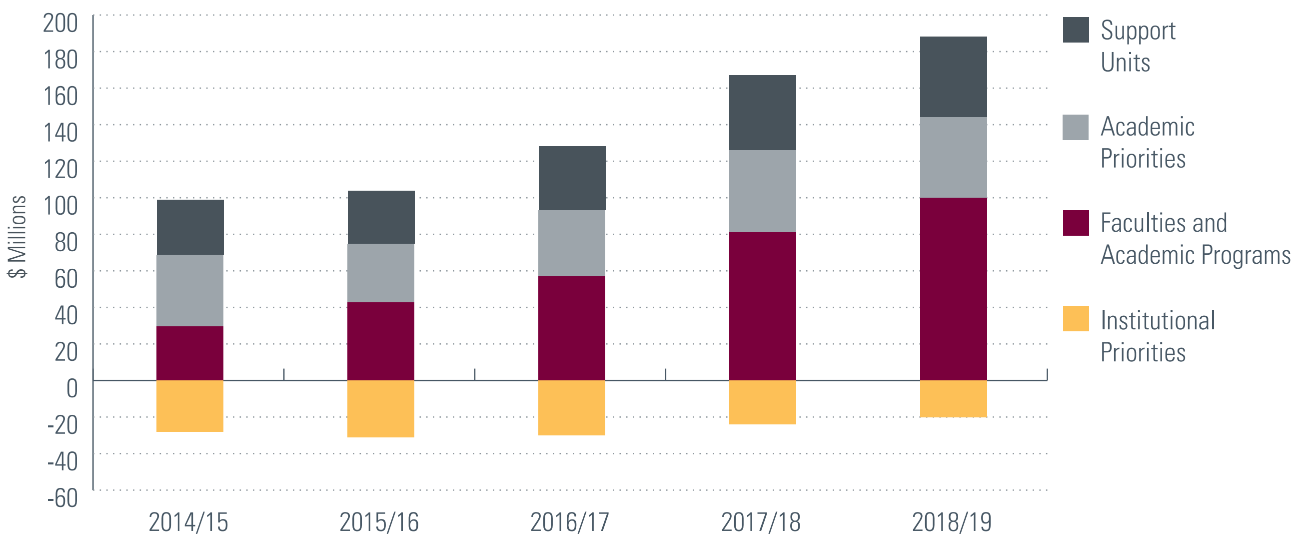


Table 14: APPROPRIATION/ENVELOPE ANALYSIS, YEAR ENDED APRIL 30, 2019 — $ thousands

	Appropriations May 1, 2018	Net Surplus (Deficit)	Appropriations April 30, 2019	Net Surplus (Deficit) Variance
Faculties and Academic Programs				
Business	3,534	(79)	3,455	(244)
Engineering	21,318	2,930	24,248	1,587
Health Sciences	40,418	826	41,243	(1,425)
Humanities	(1,104)	3,682	2,578	931
Science	13,295	7,068	20,363	1,621
Medical Radiation – Mohawk share	1	(0)	1	1
Social Sciences	1,164	5,113	6,276	1,686
Arts & Science	2,502	(938)	1,564	48
Sub-total	81,127	18,601	99,728	4,204
Academic Priorities	44,736	(848)	43,887	323
Academic Support	14,040	(1,749)	12,291	1,479
Research Support	1,372	2,293	3,665	3,370
Student Support	7,391	2,469	9,860	4,755
Facilities Support	7,078	(3,130)	3,948	758
Institutional Support	10,891	3,167	14,058	7,200
Institutional Priorities*	(23,936)	4,156	(19,780)	400
Total Operating Fund	**142,698**	**24,959**	**167,657**	**22,489**

*Includes the approved internal funding for the Mosaic project, which will be repaid by 2023/24.

COMPARISON TO CONSOLIDATED RESULTS – FULL ACCRUAL BASIS

The consolidated financial statements are prepared on the accrual accounting basis for accounting standards compliance and auditing purposes. Adjustments from McMaster's modified cash basis budgeting approach to accrual accounting involve the following key changes (Table 15):

- Net capital expenditures within fund units or departments are reversed and only one year of asset use is amortized. Asset lives vary between 1 and 40 years.
- Share of investment income earned/lost on internal endowments and not already assigned to the Operating Fund and earned/lost on non-operating funds is booked to revenue.
- Non-cash adjustments for pension and non-pension employee accrued future benefit costs measured at April 30 are recorded.
- Adjustments eliminating internal revenue and expense transactions between funds occur.

Table 15: **RECONCILIATION OF OPERATING FUND SURPLUS TO CONSOLIDATED STATEMENT OF OPERATIONS** $ thousands

	2018/19 Budget	2018/19 Projection	2018/19 Actual
Excess of Operating Fund revenues over expenses	**3,745**	**2,458**	**24,958**
+ Capital expenditures net of amortization	92,016	73,398	91,283
+ Investment income on internal endowments	3,638	1,604	4,633
± Pension & non-pension adjustments	3,287	(7,600)	26,105
± Change in other reserves; specific purpose reserve, capital projects reserve, and University benefits reserve	(15,128)	38,605	10,013
Total accrual adjustment	83,813	106,007	132,034
Excess of revenues over expenses	**87,558**	**108,465**	**156,992**

The total 2018/19 accrual adjustment of $132.0 million compared to $106.0 million projected results in a $26.0 million favourable variance related to:

- Larger adjustment for capital expenditures due to higher than projected capital spending with internal funding;
- Larger positive accrual adjustment for pension and non-pension employee future benefits; and
- Smaller increases in specific reserves than projected; and smaller than expected increase in the capital projects reserve due to lower internal capital loans than projected.

Annual Financial Report

2018-2019

Financial Statements

McMaster University

Statement of Management Responsibility

Management of the University is responsible for the preparation of the financial statements, the notes thereto and all other financial information contained in this Annual Financial Report.

Management has prepared the financial statements in accordance with Canadian accounting standards for not-for-profit organizations. Management believes the financial statements present fairly the University's financial position as at April 30, 2019 and the results of its operations, changes in net assets and its cash flows for the year ended April 30, 2019. In order to achieve the objective of fair presentation in all material respects, the use of reasonable estimates and judgements were employed. Additionally, management has ensured that financial information presented elsewhere in this Annual Financial Report has been prepared in a manner consistent with that in the financial statements.

In fulfilling its responsibilities and recognizing the limits inherent in all systems, management has developed and maintains a system of internal controls designed to provide reasonable assurance that University assets are safeguarded from loss and that the accounting records are a reliable basis for the preparation of financial statements.

Mercer (Canada) Limited has been retained by the University in order to provide an estimate of the University's current year position for pension and other employee future benefits. Management has provided the valuation actuary with the information necessary for the completion of the University's report and retains ultimate responsibility for the determination and estimation of the pension and other employee future benefits liabilities reported.

The Board of Governors carries out its responsibility for review of the financial statements and this Annual Financial Report principally through the Planning and Resources Committee and its Audit Committee. No members of the Audit Committee are officers or employees of the University. The Audit Committee meets regularly with management, as well as the internal auditors and the external auditors, to discuss the results of the audit examinations and financial reporting matters, and to satisfy itself that each party is properly discharging its responsibilities. The auditors have full access to the Audit Committee with and without the presence of management.

The financial statements for the year ended April 30, 2019 have been reported on by KPMG LLP, Chartered Professional Accountants, the auditors appointed by the Board of Governors. The Independent Auditors' Report outlines the scope of their audit and their opinion on the presentation of the information included in the financial statements.

Vice-President, Administration
October 24, 2019

Acting President & Vice-Chancellor

AVP (Administration) & CFO

KPMG LLP
Commerce Place
21 King Street West, Suite 700
Hamilton Ontario L8P 4W7
Canada
Telephone (905) 523-8200
Fax (905) 523-2222

INDEPENDENT AUDITORS' REPORT

To the Board of Governors of McMaster University

Opinion

We have audited the accompanying financial statements of McMaster University (the "University"), which comprise:

- the statement of financial position as at end of April 30, 2019
- the statement of operations for the year then ended
- the statement of changes in net assets for the year then ended
- the statement of cash flows for the year then ended
- and notes to the financial statements, including a summary of significant accounting policies

(Hereinafter referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the University as at end of April 30, 2019, and its results of operations, its changes in net assets and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the "Auditors' Responsibilities for the Audit of the Financial Statements" section of our auditors' report.

We are independent of the University in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other responsibilities in accordance with these requirements.

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

Emphasis of Matter – Comparative Information

We draw attention to Note 21 to the financial statements ("Note 21"), which explains that certain comparative information presented for the year ended April 30, 2019 has been restated.

Note 21 explains the reason for the restatement and also explains the adjustments that were applied to restate certain comparative information.

Our opinion is not modified in respect of this matter.

Other Information

Management is responsible for the other information. Other information comprises:

- the information, other than the financial statements and the auditors' report thereon, included in the Annual Financial Repo document.

Our opinion on the financial statements does not cover the other information and we do not and will not express any form c assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, i doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledg obtained in the audit and remain alert for indications that the other information appears to be materially misstated.

We obtained the information, other than the financial statements and the auditors' report thereon, included in Annual Financia Report document as at the date of this auditors' report.

If, based on the work we have performed on this other information, we conclude that there is a material misstatement of thi other information, we are required to report that fact in the auditors' report.

We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadia accounting standards for not-for-profit organizations and for such internal control as management determines is necessary t enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the University's ability to continue as a goin concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unles management either intends to liquidate the University or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the University's financial reporting process

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from materia misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadia generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonabl be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment an
maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design an perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide basis for our opinion.

  The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as frau may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate i the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and relate disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audi evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on th University's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to dra attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, t modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' repor However, future events or conditions may cause the University to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whethe the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of th audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

KPMG LLP

Chartered Professional Accountants, Licenses Public Accountants

Hamilton, Canada
October 24, 2019

McMASTER UNIVERSITY
Statement of Financial Position
April 30, 2019, with comparative figures for 2018
(thousands of dollars)

		2019		2018 (restated - note 21)
Assets				
Current assets:				
Cash	$	21,944	$	18,636
Short-term investments (note 2)		203,902		189,606
Government grants and other accounts receivable (note 3)		34,107		37,748
Research grants receivable		104,083		98,207
Inventories		5,571		5,080
Prepaid expenses and deposits		13,781		10,253
		383,388		359,530
Investments (note 2)		1,329,541		1,256,897
Other investments (note 4)		24,111		23,138
Other assets (note 5)		752		1,230
Capital assets (note 6)		1,158,793		1,083,552
	$	2,896,585	$	2,724,347
Liabilities, Deferred Contributions and Net Assets				
Current liabilities:				
Accounts payable and accrued liabilities (note 7)	$	156,548	$	140,958
Deferred revenue		24,709		24,960
Current portion of long-term obligations (note 8)		665		624
		181,922		166,542
Accrued employee future benefits (note 9)		357,290		228,579
Long-term obligations (note 8)		267,741		267,810
Deferred contributions (note 10):				
Deferred for future expenses		363,168		359,191
Deferred capital contributions		505,591		511,302
		868,759		870,493
Net assets:				
Unrestricted		10,755		9,781
Internally restricted (note 11)		159,426		234,151
Equity in capital assets (note 12)		399,463		317,879
Endowments (note 13):				
Internal		150,410		145,777
External		500,819		483,335
		1,220,873		1,190,923
Commitments and contingencies (note 14)				
	$	2,896,585	$	2,724,347

On behalf of the Board of Governors:

______________________________ Chair, Board of Governors

______________________________ Chair, Audit Committee

 See accompanying notes to financial statements

McMASTER UNIVERSITY
Statement of Operations
Year ended April 30, 2019, with comparative figures for 2018
(thousands of dollars)

	2019	2018 (restated - note 21)
Revenues:		
Operating grants	$ 273,587	$ 273,493
Research grants and contracts	178,022	169,725
Tuition fees	341,629	305,171
Other (note 15)	128,619	122,533
Ancillary sales and services	78,202	77,112
Investment income, net	70,820	52,275
Donations and other grants	67,906	47,714
Research overhead grants	15,390	14,043
Amortization of deferred capital contributions	38,835	40,112
	1,193,010	1,102,178
Expenses:		
Salaries and wages	521,219	500,690
Employee benefits	120,623	119,033
Supplies and services	308,107	291,433
Interest on long-term obligations	13,300	13,340
Amortization of capital assets	72,769	71,995
	1,036,018	996,491
Excess of revenues over expenses	$ 156,992	$ 105,687

McMASTER UNIVERSITY
Statement of Changes in Net Assets
Year ended April 30, 2019, with comparative figures for 2018
(thousands of dollars)

	Unrestricted	Internally restricted	Equity in capital assets	Endowments Internal	Endowments External	2019 Total	2018 Total
							(restated - note 21)
Net assets, beginning of year as previously reported	$ 9,781	$ 234,151	$ 336,021	$ 145,777	$ 483,335	$ 1,209,065	$ 1,094,211
Restatement (note 21)	-	-	(18,142)	-	-	(18,142)	-
Net assets, as restated	$ 9,781	$ 234,151	$ 317,879	$ 145,777	$ 483,335	$ 1,190,923	$ 1,094,211
Excess (deficiency) of revenues over expenses	190,926	-	(33,934)	-	-	156,992	105,687
External endowment contributions:							
Contributions (note 13)	-	-	-	-	10,218	10,218	13,739
Protection of capital (note 13)	-	-	-	-	7,266	7,266	2,718
Transfers and adjustments:							
Transfers for specific purposes	(69,801)	69,801	-	-	-	-	-
Capital transactions from operating (note 12)	(115,518)	-	115,518	-	-	-	-
Transfer to internal endowments (note 13)	(4,633)	-	-	4,633	-	-	-
Remeasurements and other items (note 9)	-	(144,526)	-	-	-	(144,526)	(25,432)
	974	(74,725)	81,584	4,633	17,484	29,950	96,712
Net assets, end of year	$ 10,755	$ 159,426	$ 399,463	$ 150,410	$ 500,819	$ 1,220,873	$ 1,190,923

McMASTER UNIVERSITY
Statement of Cash Flows
Year ended April 30, 2019, with comparative figures for 2018
(thousands of dollars)

	2019	2018 (restated - note 21)
Cash provided by (used in):		
Operating activities:		
Excess of revenues over expenses	$ 156,992	$ 105,687
Adjustments for non-cash items:		
Amortization of deferred capital contributions	(38,835)	(40,112)
Amortization of capital assets	72,769	71,995
Employee future benefits	(15,815)	(20,658)
Equity earnings of other investments	(973)	(1,980)
Increase in decommissioning obligation	596	516
	174,734	115,448
Net change in contributions deferred for future expenses	3,977	1,156
Net change in other non-cash working capital	9,085	15,795
	187,796	132,399
Financing and investing activities:		
Purchase of capital assets	(148,010)	(145,591)
Net change in investments	(86,940)	(72,267)
Net change in other assets	478	(547)
Net change in external endowments	17,484	16,457
Deferred capital contributions	33,124	60,586
Principal repayments on long-term obligations	(624)	(586)
	(184,488)	(141,948)
Net increase (decrease) in cash	3,308	(9,549)
Cash, beginning of year	18,636	28,185
Cash, end of year	$ 21,944	$ 18,636

McMaster University (the "University"), which operates by authority of The McMaster University Act, 1976, is governed by a Board of Governors (the "Board") and Senate, the powers and responsibility of which are set out in the Act. The University is a comprehensive research institution offering a broad range of undergraduate, graduate and continuing education programs and degrees. The University is exempt from income taxes.

1. Significant accounting policies:

The financial statements have been prepared by management in accordance with Canadian accounting standards for not-for-profit organizations in Part III of the CPA Canada Handbook.

(a) Basis of presentation:

These financial statements include the accounts, transactions and operations for which the University has jurisdiction. They do not include the accounts, transactions and operations of the following entities which are independently governed and managed, and certain other related entities which carry out fundraising and other activities and are not material to these financial statements:

Independent entities:

- McMaster Divinity College
- McMaster Students Union, Inc.
- McMaster University Centre Incorporated
- McMaster Children's Centre, Inc.
- McMaster Association of Part-Time Students (MAPS)
- Graduate Students Association (GSA)

Other entities:

- The McMaster University Trust
- The McMaster University Hong Kong Foundation
- Friends of McMaster Incorporated

McMaster Innovation Park:

The investment in the related entity, McMaster Innovation Park ("Park") is accounted for by the equity method (note 4). Since the Trusts which form the Park have fiscal year ends of December 31st, the University records its share of the operating results effective on that date.

The following joint ventures are accounted for by using the equity method of accounting:

- Adiga Life Sciences Inc. ("ALS"):

  These financial statements include the University's 50% interest in ALS (note 4). ALS is a joint venture with an unrelated pharmaceutical research company to commercialize intellectual property. ALS has a fiscal year end of August 31st and the University records its share of the operating results on that date.

- Halton McMaster Family Health Centre:

  These financial statements include the University’s 50% contribution to the Halton McMaster Family Health Centre (note 4). This joint venture is a project with Joseph Brant Hospital involving the construction and establishment of a family health centre and hospital clinical and administration building. The joint venture is in the process of registering the constructed building as a leasehold condominium corporation.

OSCAR EMR:

OSCAR EMR ("OSCAR") is a not-for-profit technology/software company incorporated under the Ontario Corporations Act, controlled by McMaster University. OSCAR has a fiscal year end of December 31st. Financial information is disclosed in note 4. OSCAR has not been consolidated in the University's financial statements.

1. Significant accounting policies (continued):

(b) Revenue recognition:

The University follows the deferral method of accounting for contributions which include donations and government grants. The principles under this method are summarized as follows:

- Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.
- Contributions externally restricted for purposes other than endowment and capital assets are deferred and recognized as revenue in the year in which the related expenses are recognized.
- Contributions externally restricted for capital asset purchases are deferred and amortized to operations on the same basis as the related capital asset.
- External endowment contributions and income preserved under the endowment capital protection policy (note 1(m)) are recognized as a direct increase in endowment net assets. Income earned from the investment thereof, to the extent it is allocated, is recorded as deferred contributions and recorded as revenue in the periods in which the related expenses are incurred.

Tuition fees which relate to academic terms or parts thereof occurring after April 30th are recorded as deferred revenue. Gifts-in-kind are recorded at their fair market value on receipt, or at nominal value when fair market value cannot be reasonably determined. Pledges from fundraising and other donations are recorded in the period in which they are collected. Ancillary sales and services revenue is recognized at point of sale or when the service has been provided.

(c) Financial instruments:

Financial instruments are recorded at fair value on initial recognition. Freestanding derivative instruments that are not in a qualifying hedging relationship and equity instruments that are quoted in an active market are subsequently measured at fair value. All other financial instruments are subsequently recorded at cost or amortized cost, unless management has elected to carry the instruments at fair value. The University has elected to carry investments in equity instruments, fixed income and other securities at fair value.

Transaction costs incurred on the acquisition of financial instruments measured subsequently at fair value are expensed as incurred. All other financial instruments are adjusted by transaction costs incurred on acquisition and financing costs, which are amortized using the straight-line method.

Financial assets are assessed for impairment on an annual basis at the end of the fiscal year if there are indicators of impairment. If there is an indicator of impairment, the University determines if there is a significant adverse change in the expected amount or timing of future cash flows from the financial asset. If there is a significant adverse change in the expected cash flows, the carrying value of the financial asset is reduced to the highest of the present value of the expected cash flows, the amount that could be realized from selling the financial asset or the amount the University expects to realize by exercising its right to any collateral. If events and circumstances reverse in a future period, an impairment loss will be reversed to the extent of the improvement, not exceeding the initial impairment charge.

(d) Derivative financial instruments:

The University is party to an interest rate swap agreement which is used to manage the exposure to fluctuations in interest rates. The University uses the accrual basis of accounting for hedges. Gains or losses realized on the settlement of the hedging item are deferred until the settlement of the hedged item.

At the inception of the hedging relationship, the University designates that hedge accounting will be applied. The University formally documents the hedging relationship between the hedging instruments and hedged item. At the inception of the hedge and throughout its term, the terms of the hedging item and hedged item are the same.

Hedge accounting is used only when the notional amount of the swap matches the principal amount of the hedged item, the fair value of the swap at the inception is $nil, the fixed rate is the same throughout the swap and the variable rate is based on the same index and includes the same or no adjustment and the debt instrument cannot be settled before maturity and the swap matures within two weeks of the maturity date of the debt.

1. Significant accounting policies (continued):

(e) Investments:

Short-term investments are investments with a remaining term to maturity of one year or less and are intended to be converted to cash within one year. Short-term investments recorded at cost plus accrued income which together approximates fair value. Short-term investments includes cash and short-term investments held within pooled fund investments.

Long-term investments are carried at fair values. Changes in fair values are included in investment income.

Externally restricted investment income to the extent it is allocated is included with deferred contributions and recognized as revenue when the related expenses are incurred.

Unrestricted investment income is recognized as revenue during the period in which it is earned. Investment income from internal endowments is recorded as unrestricted revenue and transferred to internal endowments.

(f) Inventories:

Campus stores, scientific stores, and the nuclear reactor inventories are recorded at the lower of cost and net realizable value. Other inventories are recorded at cost which is a reasonable estimate of net realizable value.

(g) Capital assets:

Capital assets are recorded at cost, or if donated, at fair value on the date of receipt. Amortization is recorded on the straight-line basis at the following annual rates:

Buildings	2.5% to 10%
Decommissioning retirement costs	4%
Site improvements	5%
Library materials	20%
Computing systems	5% to 10%
Equipment, furnishings and vehicles	20%
Computing equipment	33.3%
Leasehold improvements	term of lease

Capital assets in progress are carried at cost, with no amortization recorded until such time as the assets are available for their intended use.

(h) Collections and works of art:

The McMaster Museum of Art has significant collections of works of art and coins. Donations of works of art amounted to $170,000 (2018 - $328,000) and are recorded in operations in the year of acquisition.

(i) Contributed services:

The University acknowledges the receipt of donated services. Because of the difficulty of determining their fair value, donated services are not recognized in the financial statements.

1. Significant accounting policies (continued):

(j) Ancillary enterprises:

Ancillary enterprises are self-sustaining operations which fund their own replacements and renovations of equipment and facilities. Substantially all of the net operating results are transferred annually from unrestricted net assets to internally restricted net assets.

(k) Employee future benefits:

The University maintains defined benefit registered and non-registered pension plans, a retirement incentive program and group registered retirement savings plans. Non-pension post-retirement and post-employment benefits plans are also provided. Financial information is disclosed in note 9.

- The University accrues its obligations for the defined benefit plans as the employees render the services necessary to earn the benefits. The current service cost and the finance cost for the year are charged to excess of revenues over expenses. The actuarial method of determining the accrued benefit obligations for the defined benefit plans uses the funding valuation method, which reflects the long-term nature of the plan and reflects management's estimates of investment yields, salary inflation, benefit cost trends and other factors.
- The University has elected to accrue its obligations and related costs for unfunded plans on a basis consistent with funded plans.
- Remeasurement and other items are recognized as a direct increase (decrease) to net assets and are not reclassified to the statement of operations in subsequent periods. Remeasurement and other items comprise the aggregate of: the difference between the actual return on plan assets and the return calculated using the discount rate used to determine the defined benefit obligation; the actuarial gains and losses; the effect of any valuation allowance in the case of a net defined benefit asset; past service costs; and any gains and losses arising from settlements and curtailments.

The University also makes regular contributions to its Group Registered Retirement Savings Plan ("RRSP"), administered by a third party, on behalf of each eligible employee. Group RRSP contributions are expensed in the year made.

(l) Net assets:

Net assets are classified as follows:

Unrestricted: accounting surplus, including equity adjustments for related entities, without specific restrictions.

Internally restricted:

- Employee future benefits: unfunded portion of pension and other non-pension retirement and post-employment benefits, net of funds set aside to meet estimated future obligations.
- Other internal reserves: as approved by the Board, amounts include unexpended departmental carry forward amounts for future expenditures or amounts set aside to settle future oriented obligations.

Equity in capital assets: funds invested in capital assets, exclusive of capital assets financed through long-term obligations or deferred capital contributions.

Internal endowments: unrestricted contributions including unspent investment income which have been restricted by action of the Board.

External endowments: external contributions, the principal of which is non-expendable pursuant to the restrictions by the donor, and income retained under the endowment capital protection policy.

1. Significant accounting policies (continued):

(m) Endowment capital protection policy:

In order to protect the capital value of endowment investments, an endowment capital protection policy limits the amount of investment income allocated for spending to 4%, plus 1% administration spending, and requires the reinvestment of excess income earned (interest, dividends, realized and unrealized capital gains, net of investment expenses).

Should endowment spending commitments exceed allocated income, amounts will be drawn from accumulated net investment income balances to fund deficiencies.

For endowments without sufficient accumulated investment income, temporary encroachment on capital is permitted. The encroached amounts will be recovered from future investment returns.

(n) Decommissioning obligation:

The fair value of a future asset retirement obligation is recognized when a legal obligation for the retirement of tangible long-lived assets is incurred and a reasonable estimate thereof can be determined. Concurrently, the associated decommissioning costs are capitalized as a part of the carrying amount of the asset and amortized over its remaining useful life. The liability and the related asset may be adjusted periodically due to changes in estimates until settlement of the obligation.

(o) Foreign currency translation:

The University accounts for transactions in foreign currencies at the exchange rates in effect at the time of the transactions. At year end, monetary assets and liabilities in foreign currencies are translated at year end exchange rates. Foreign exchange gains and losses on investments have been included in investment income.

(p) Use of estimates:

The preparation of the financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the year. Significant items subject to the use of management estimates and assumptions include the valuation of financial instruments, the carrying amount of capital assets, the valuation allowance for receivables, the valuation of pension and other employee future benefits, provisions for contingencies, and the decommissioning obligation. Actual results could differ from those estimates.

2. Investments:

Details of investments are as follows:

(thousands of dollars)	2019 Fair value	2019 Cost	2018 Fair value	2018 Cost
Equities:				
Canadian	$ 179,581	$ 155,460	$ 213,691	$ 178,688
United States	280,600	138,720	250,291	121,839
Non-North American	221,138	176,507	243,617	192,461
	681,319	470,687	707,599	492,988
Fixed income	589,816	587,009	496,981	506,833
Other	58,406	45,408	52,317	44,648
	1,329,541	1,103,104	1,256,897	1,044,469
Short-term investments	203,902	203,892	189,606	189,599
	$ 1,533,443	$ 1,306,996	$ 1,446,503	$ 1,234,068

Investments are exposed to foreign currency risk, interest rate risk, and market volatility. The University manages these risks through policies and procedures in place governing asset mix, equity and fixed income allocations, and diversification among and within categories.

3. Government grants and other accounts receivable:

(thousands of dollars)	2019	2018
Government grants	$ 6,975	$ 7,130
Other	32,548	36,051
	39,523	43,181
Less allowance for doubtful accounts	5,416	5,433
Balance, end of year	$ 34,107	$ 37,748

4. Other investments:

Details of other investments are as follows:

(thousands of dollars)	2019	2018
McMaster Innovation Park (a)	$ 19,271	$ 17,234
Adiga Life Sciences Inc. (b)	120	1,184
Halton McMaster Family Health Centre (c)	4,720	4,720
	$ 24,111	$ 23,138

4. Other investments (continued):

(a) McMaster Innovation Park:

The First Longwood Innovation Trust and The Gore District Land Trust ("Park") were created by the University in 2006 to develop an entity for research, education, training, innovation and commercialization.

Details of the investment are as follows:

(thousands of dollars)	2019	2018
Balance, beginning of year	$ 17,234	$ 15,427
Equity earnings	2,037	1,807
Balance, end of year	$ 19,271	$ 17,234

The University is party to a Debt Service Deficiency Agreement as disclosed in note 14(c). As part of the agreement, the University receives a fee of 0.5% on the monthly outstanding balance. For the year ended April 30, 2019, $103,192 (2018 - $107,506) in income was recorded by the University.

Included in rent expense for the University for the year ended April 30, 2019 is $2,966,570 (2018 - $3,490,872). Included in accounts receivable at April 30, 2019 is $648,020 (2018 - $1,085,390) receivable from the Park. Included in note 14(f) are $11,445,021 (2018 - $6,701,822) in operating lease commitments with the Park.

During the year the University provided payroll services at a fee which amounted to $13,200 (2018 - $13,200).

Included in Other assets in note 5 is a loan receivable from McMaster Innovation Park in the amount of $500,000 at April 30, 2019 (2018- $nil).

Pertinent information from the Park's combined financial statements are as follows:

(thousands of dollars)	December 31, 2018	December 31, 2017
Total assets	$ 111,091	$ 108,533
Total liabilities	$ 89,244	$ 87,645
Total deferred capital grants	2,606	3,684
Total trusts' equity	19,241	17,204
	$ 111,091	$ 108,533
Results of operations:		
Total revenues	$ 12,900	$ 12,279
Total expenses	10,863	10,472
Net earnings	$ 2,037	$ 1,807
Cash flows:		
Provided by (used in) operating activities	$ 429	$ (1,177)
(Used in) provided by financing and investing activities	(241)	209
Increase (decrease) in cash	$ 188	$ (968)

4. Other investments (continued):

(b) Adiga Life Sciences Inc.:

The University's share of dividends from Adiga Life Sciences Inc.'s during the year ended April 30, 2019 amounted to $883,000 (2018 - $nil).

Financial information from Adiga Life Sciences Inc.'s financial statements are as follows:

(thousands of dollars)	August 31, 2018	August 31, 2017
Total assets	$ 246	$ 2,374
Total liabilities	$ 6	$ 7
Total equity	240	2,367
	$ 246	$ 2,374
Results of operations:		
Total revenue	$ 10	$ 1,382
Total expenses	370	1,036
Net (loss) earnings	$ (360)	$ 346

(c) Halton McMaster Family Health Centre:

The investment in the Halton McMaster Family Health Centre represents the University's contribution of the base costs to construct the building.

(d) OSCAR EMR:

Financial information from OSCAR EMR's financial statements are as follows:

(thousands of dollars)	December 31, 2018	December 31, 2017
Total assets	$ 294	$ 194
Total liabilities	$ 1,766	$ 1,754
Net deficiency	(1,472)	(1,560)
	$ 294	$ 194
Results of operations:		
Total revenue	$ 682	$ 624
Total expenses	594	418
Net earnings	$ 88	$ 206

5. Other assets:

Details of other assets are as follows:

(thousands of dollars)	2019	2018
Loans receivable (a)	$ 752	$ 428
Intangible assets (b)	-	802
	$ 752	$ 1,230

(a) Loans receivable:

The University has a loan receivable from a lessee in the amount of $251,754 for lease fit out costs as at April 30, 2019 (2018 - $291,667). The loan bears interest at a rate of 0% per annum and is payable over 10 years beginning in February 2016.

During the year, the University provided a loan to McMaster Innovation Park in the amount of $500,000 (2018 - $nil). The loan bears interest at a fixed rate of 5.75% and is repayable in monthly payments of $4,113 over 15 years, beginning in May 2019.

The loan receivable from the Graduate Students' Association was paid in full during the year (2018 - $136,324).

(b) Intangible assets:

In the prior year, emissions allowances of $802,000 were included in intangible assets, resulting from the Climate Change Mitigation and Low-carbon Economy Act, 2016 (the “Cap and Trade program”), which set out a framework for the reduction in greenhouse gas (“GHG”) emissions for the province of Ontario. The University recorded the emissions allowances as intangible assets and deferred contributions at fair market value.

The Cap and Trade Cancellation Act, 2018 repealed the previous act and resulted in the wind down of the Cap and Trade program during the year ended April 30, 2019. At April 30, 2018, $650,000 was included in Accounts payable and accrued liabilities and $152,000 was included in Deferred contributions. Under the new act, the University will not receive any compensation for existing emission allowances, and has written off all related intangible assets, accounts payable and accrued liabilities and deferred contributions.

6. Capital assets:

(thousands of dollars)	Cost	Accumulated amortization	2019 Net
Land	$ 84,389	$ -	$ 84,389
Buildings	1,336,490	456,823	879,667
Decommissioning retirement costs	3,188	858	2,330
Site improvements	29,166	14,434	14,732
Leasehold improvements	59,691	16,530	43,161
Library materials	189,618	165,609	24,009
Equipment, furnishings and vehicles	409,650	356,876	52,774
Computing systems and computing equipment	143,236	85,505	57,731
	$ 2,255,428	$ 1,096,635	$ 1,158,793

6. Capital assets (continued):

(thousands of dollars)	Cost	Accumulated amortization	2018 Net (restated - note 21)
Land	$ 80,790	$ -	$ 80,790
Buildings	1,231,263	430,792	800,471
Decommissioning retirement costs	3,200	748	2,452
Site improvements	28,957	13,262	15,695
Leasehold improvements	57,893	12,677	45,216
Library materials	186,310	163,309	23,001
Equipment, furnishings and vehicles	420,742	364,186	56,556
Computing systems and computing equipment	141,062	81,691	59,371
	$ 2,150,217	$ 1,066,665	$ 1,083,552

Included in buildings is $152,125,000 (2018 - $87,980,000) representing buildings currently under construction and not available for use or subject to amortization. Included in computing systems and computing equipment is $1,770,000 (2018 - $843,000) representing software currently under development and not available for use or subject to amortization.

7. Accounts payable and accrued liabilities:

Included in accounts payable and accrued liabilities are government remittances payable, which includes amounts payable for payroll related taxes of $4,415,000 (2018 - $4,845,000).

8. Long-term obligations:

Details of long-term obligations are as follows:

(thousands of dollars)	Maturity	Interest rate	Current portion	Non-current portion	2019 Total outstanding	2018 Total outstanding
Long term debt:						
Bank term loan (a)	May 2033	floating	665	14,023	14,688	15,312
Debentures (b)	Oct 2052	6.15%	-	120,000	120,000	120,000
Debentures (c)	Nov 2065	4.105%	-	120,000	120,000	120,000
			665	254,023	254,688	255,312
Decommissioning obligations (d)			-	13,718	13,718	13,122
			$ 665	$ 267,741	$ 268,406	$ 268,434

8. Long-term obligations (continued):

Principal payments due in each of the following five years are as follows (in thousands of dollars):

2020	$ 665
2021	709
2022	756
2023	805
2024	858

(a) The bank term loan is unsecured and is being amortized over 30 years. The outstanding loan amount is subject to a 30 year interest rate swap agreement on an original notional principal of $20,954,441 with the banker whereby the University receives a floating interest rate while paying a fixed (10 year) rate of 6.384%.

(b) The debentures, which are unsecured, bear interest at 6.15% payable semi-annually in April and October. The proceeds of the issue are being used to finance various capital projects.

A voluntary sinking fund in internally restricted net assets, under other internal reserves (note 11(i)), has been established to provide funds to repay the debenture principal upon maturity. An annual increase to the sinking fund is charged to operations and other annual increases represent interest income of the fund. The value of the fund at April 30, 2019 amounted to $22,021,000 (2018 - $17,893,000).

(c) The debentures, which are unsecured, bear interest at 4.105% payable semi-annually in May and November. The proceeds of the issue are being used to finance various capital projects.

A voluntary sinking fund in internally restricted net assets, under other internal reserves (note 11(i)), has been established to provide funds to repay the debenture principal upon maturity. An annual increase to the sinking fund is charged to operations and other annual increases represent interest income of the fund. The value of the fund at April 30, 2019 amounted to $12,712,000 (2018 - $11,981,000).

(d) It is expected that the nuclear reactor will be decommissioned at some undeterminable future date. Under an agreement with the Canadian Nuclear Safety Commission (CNSC), a trust fund has been established which requires annual funding contributions to provide for the decommissioning costs. As at April 30, 2019, the fair value of the trust funds amounted to $11,697,000 (2018 - $13,330,000). The net present value of the estimated cost for decommissioning at April 30, 2019 is $12,955,000 (2018 - $12,347,000) using risk free rates ranging between 4.0% and 5.1%.

During fiscal 2015, an additional decommissioning obligation related to non-reactor radioactive materials was recognized. The obligation was recognized based on an estimated useful life of 25 years and using a risk free rate of 4.0%. At April 30, 2019, the amount of the obligation was $763,000 (2018 - $775,000), a decrease of $12,000 to reflect changes in the number of non-reactor radioactive materials in service. The CNSC does not require that a trust fund be established to satisfy this obligation, however, an internal reserve to offset this obligation is included in Other internal reserves.

8. Long-term obligations (continued):

(e) The University has in place an interest rate swap agreement for 30 years which expires in 2033. Under the terms of the agreement, the University agrees to receive a floating interest rate on the loan (note 8(a)) while paying a fixed rate of 6.384%. The use of the agreement effectively enables the University to convert the floating rate interest obligation of the loan into a fixed rate obligation and thus manage its exposure to interest rate risk.

The notional and fair values of the interest rate swap agreement is as follows:

(thousands of dollars)	2019		2018	
	Notional value	Fair value	Notional value	Fair value
30-year interest rate swap	$ 14,688	$ (4,609)	$ 15,312	$ (4,441)

The change in fair value of the swap for the year ended April 30, 2019 is ($168,000) (2018 - $1,828,000).

9. Employee future benefits:

The University maintains three contributory defined benefit registered pension plans, one for full-time hourly employees and two for salaried employees. The plan for hourly employees was closed to new members on March 15, 2010, one of the salaried plans was closed to new members on January 14, 2003 and the other salaried plan remains open to new members. The defined benefit registered pension plans provide a pension for life based on the best average earnings of the member and years of pensionable service in the plan. The University also maintains both contributory defined contribution and non-contributory defined benefit supplementary non-registered pension plans, a retirement incentive program and a group RRSP.

The University additionally maintains a non-pension post-retirement benefit plan which provides health, dental and life insurance benefits to retirees, a post-employment benefit plan which provides health benefits to employees on long-term disability and a special retirement arrangement for some senior administrators.

The accrued benefit obligations as determined by independent actuaries and the fair values of the plans' assets are recorded as at April 30th.

(a) Information on the accrued benefit liability is as follows:

(thousands of dollars)	2019			
	Pension			
	Registered	Supplemental	Other	Total
Accrued benefit obligation	$ 2,242,188	$ 67,609	$ 274,681	$ 2,584,478
Fair value of plan assets	2,227,188	-	-	2,227,188
Funded status - deficiency	$ (15,000)	$ (67,609)	$ (274,681)	$ (357,290)

(thousands of dollars)	2018			
	Pension			
	Registered	Supplemental	Other	Total
Accrued benefit obligation	$ 2,002,233	$ 61,537	$ 247,721	$ 2,311,491
Fair value of plan assets	2,082,912	-	-	2,082,912
Funded status - surplus (deficiency)	$ 80,679	$ (61,537)	$ (247,721)	$ (228,579)

9. Employee future benefits (continued):

(b) Information on the benefit expense is as follows:

(thousands of dollars)	2019			
	Pension			
	Registered	Supplemental	Other	Total
Current service cost	$ 33,373	$ 37	$ 7,631	$ 41,041
Interest (income) cost, net	(4,493)	3,458	13,769	12,734
	$ 28,880	$ 3,495	$ 21,400	$ 53,775

(thousands of dollars)	2018			
	Pension			
	Registered	Supplemental	Other	Total
Current service cost	$ 33,047	$ 41	$ 7,361	$ 40,449
Interest (income) cost, net	(3,807)	4,012	13,050	13,255
	$ 29,240	$ 4,053	$ 20,411	$ 53,704

(c) Information on remeasurements and other items is as follows:

(thousands of dollars)	2019			
	Pension			
	Registered	Supplemental	Other	Total
Investment gain	$ 44,427	$ -	$ -	$ 44,427
Actuarial loss on accrued benefit obligation	(167,128)	(8,918)	(12,907)	(188,953)
	$ (122,701)	$ (8,918)	$ (12,907)	$ (144,526)

(thousands of dollars)	2018			
	Pension			
	Registered	Supplemental	Other	Total
Investment loss	$ (16,699)	$ -	$ -	$ (16,699)
Actuarial (loss) gain on accrued benefit obligation	1,741	4,373	(14,847)	(8,733)
	$ (14,958)	$ 4,373	$ (14,847)	$ (25,432)

(d) Information on the pension plan assets includes the following:

	Percentage of fair value of total plan	Target allocation percentage
Equity securities	65.0%	64.0%
Debt securities	34.0%	35.0%
Other	1.0%	1.0%

9. Employee future benefits (continued):

(e) The significant actuarial assumptions adopted in measuring the accrued benefit obligations are as follows:

	Pension	Other
Discount rate	5.60%	5.60%
Rate of compensation increase	4.00%	-

(f) The significant actuarial assumptions adopted in measuring the net benefit expense are as follows:

	Pension	Other
Discount rate	5.60%	5.60%
Rate of compensation increase	4.00%	-

(g) Details of annual contributions and benefits paid are as follows:

(thousands of dollars)	2019		2018	
	Pension	Other	Pension	Other
Employer contributions	$ 62,243	$ 7,347	$ 66,499	$ 7,863
Employee contributions	27,580	-	25,021	-
Benefits paid	106,380	7,347	89,677	7,863

(h) For measurement purposes, a 5.25% annual rate of increase in per capita medical cost was assumed for 2016, grading down to 4.0% per annum in and after 2030. For per capita dental costs, an annual rate of increase of 4.0% per annum was assumed.

(i) Details of actuarial valuation completion for funding purposes and filing dates of the respective plans are as follows:

- hourly rated employee pensions: completed as at July, 2016, the next required filing date is July, 2019.
- salaried employees' pensions (Plan 2000): completed as at July, 2018, the next required filing date is July, 2021.
- other (post-retirement benefit): completed as at March 31, 2019; the next valuation date is March 31, 2022.
- other (post-employment and retirement allowance): completed as at April 30, 2019.

The results of valuations not completed as of April 2019, have been extrapolated to April 30, 2019, which is the measurement date used to determine the accrued benefit obligation for all employee future benefit plans.

The July 1, 2018 salaried plan (Plan 2000) valuation was completed using the Pension Benefit Act definition of closed plan. The definition of open plan was amended under the Act in 2019 such that Plan 2000 will be filed as an open plan at July 1, 2021. The change to an open plan definition will favourably affect the going concern measurements and the funding requirements for the Provision for Adverse Deviation.

(j) In 2008, the University created a group RRSP for certain types of new employees. University and employees' contributions in 2019 amounted to $3,356,000 (2018 - $2,870,000).

(k) The University has internal reserves set aside in the amount of $93,816,000 (2018 - $83,202,000) for the accrued benefit obligation of the non-pension post-retirement benefit plan included in note 11(b).

10. Deferred contributions:

(a) Deferred for future expenses:

Deferred contributions represent external contributions restricted for research and trust expenses to be incurred in subsequent fiscal years. Details of the change in deferred contributions are as follows:

(thousands of dollars)	2019	2018 (restated - note 21)
Balance, beginning of year	$ 359,191	$ 358,035
Deferred and capital contributions received	345,175	339,265
	704,366	697,300
Less:		
Amounts recognized as revenue	(308,074)	(277,523)
Deferred capital contributions transfer	(33,124)	(60,586)
Balance, end of year	$ 363,168	$ 359,191

Deferred contributions consist of the following:

(thousands of dollars)	2019	2018
Research grants and contracts	$ 226,036	$ 222,354
Donations, other grants and investment income	106,505	98,265
Capital grants and donations	7,911	13,708
Other restricted funds	22,716	24,864
	$ 363,168	$ 359,191

(b) Deferred capital contributions:

Deferred capital contributions represent the unamortized amount of donations and grants received for the purchase of capital assets. Unspent deferred capital contributions are included in deferred contributions for future expenses until such time as capital expenditures are incurred. Details of the change in the unamortized deferred capital contributions are as follows:

(thousands of dollars)	2019	2018 (restated - note 21)
Balance, beginning of year	$ 511,302	$ 490,828
Add: contribution transfers	33,124	60,586
Less: amount amortized to revenue	(38,835)	(40,112)
Balance, end of year	$ 505,591	$ 511,302

11. Internally restricted net assets:

Details of internally restricted net assets are as follows:

(thousands of dollars)	2019	2018
Pensions (a)	$ (106,244)	$ (4,170)
Other retirement and post employment benefit plans (net) (b)	(180,865)	(164,518)
Employee future benefits	(287,109)	(168,688)
Unexpended departmental carryforwards (c)	167,657	142,699
Research (d)	44,271	35,129
Employee benefit (e)	11,630	11,463
Ancillaries (f)	9,642	10,971
Specific purpose (g)	101,902	82,767
Other (h)	14,491	15,199
Sinking funds (i)	34,733	29,873
Internally financed capital projects (j)	(69,860)	(78,559)
Capital reserves (k)	112,444	113,246
Facilities services projects (l)	19,625	40,051
Other internal reserves	446,535	402,839
	$ 159,426	$ 234,151

(a) Pensions: the net unfunded pension liabilities, determined by a third party actuary, using the funding methodology.

(b) Other retirement and post employment benefit plans (net): unfunded portion of health, dental and life insurance benefits for retirees and employees on long term disability of $274,681,000 (2018 - $247,720,000), net of internal reserves of $93,816,000 (2018 - $83,202,000) for the accrued benefit obligation of the non-pension post-retirement benefit plan (note 9(k)).

(c) Unexpended departmental carryforwards: departmental operating reserves available for spending by faculties to protect against possible adverse circumstances such as changes in student enrolment (tuition fee impacts) and/or operating grant reductions.

Departmental and ancillary carryforwards in (c) and (f) do not reflect the share of future obligations to the related employees for settlement of pensions and other post-employment benefits costs as outlined in items (a) and (b). Allocation of these obligations to the related carryforward would reduce the available balances as follows:

(thousands of dollars)	2019	2018
Unexpended departmental carryforwards (c)	$ 167,657	$ 142,699
Ancillaries (f)	9,642	10,971
Employee benefit (e)	11,630	11,463
Pensions (a)	(106,244)	(4,170)
Other retirement and post employment benefit plans (b)	(180,865)	(164,518)
	$ (98,180)	$ (3,555)

(d) Research: represent research residual funds and other research contributions specifically to fund research operations, facilities and projects.

(e) Employee benefit: funds collected from departments toward benefit related pension and non-pension payments not yet due in the fiscal period.

(f) Ancillaries: funds accumulated to maintain existing infrastructure and/or invest in new infrastructure or projects associated with ancillary operations.

11. Internally restricted net assets (continued):

(g) Specific purpose: funds to mitigate the risks associated primarily with volatility in income from equity investments, representing accumulated realized and unrealized investment earnings (losses) after commitments to the operating fund. The primary use of this reserve is to supplement endowment funding to support student bursaries, scholarships, and other expenditures when investment income is insufficient. It may also be used to fund other strategic reserves such as the post-retirement benefits and capital reserves.

(h) Other: Non-cash reserve which primarily represents timing differences between cash accounting and accrual accounting.

(i) Sinking funds: funds set aside to settle debt bullet repayments of $120 million due in each of 2052 and 2065.

(j) Internally financed capital projects: long term loans for capital projects which have been internally financed by capital reserves as outlined in note 11(k).

Details of the internally financed capital projects which have various recovery terms and periods are as follows:

(thousands of dollars) Project	Funding source		April 30, 2019 balance
Stadium and Parking Project	Parking fees, pledges, fundraising	$	(14,046)
Ron Joyce Centre - Burlington	Fundraising, Region of Halton, City of Burlington		(145)
Les Prince Residence	Ancillary operations		(13,416)
David Braley Athletic Centre	Student levies, pledges, fundraising		(4,781)
LR Wilson Parking Garage	Parking fees		(944)
McMaster Automotive Resource Centre (MARC)	Various		(6,112)
McMaster University Medical Centre (MUMC)	Various		(3,437)
Comprehensive Energy Reduction Program	Various		(25,051)
Biomedical Engineering and Advanced Manufacturing (BEAM)	Various		(1,089)
Equipment Loan	Various		(69)
Halton McMaster Family Medicine	Various		(770)
		$	(69,860)

(thousands of dollars) Project	Funding source		April 30, 2018 balance
Stadium and Parking Project	Parking fees, pledges, fundraising	$	(16,047)
Ron Joyce Centre - Burlington	Fundraising, Region of Halton, City of Burlington		(1,527)
Les Prince Residence	Ancillary operations		(14,150)
David Braley Athletic Centre	Student levies, pledges, fundraising		(6,021)
LR Wilson Parking Garage	Parking fees		(1,843)
McMaster Automotive Resource Centre (MARC)	Various		(7,593)
McMaster University Medical Centre (MUMC)	Various		(3,938)
Comprehensive Energy Reduction Program	Various		(25,549)
Biomedical Engineering and Advanced Manufacturing (BEAM)	Various		(1,089)
Equipment Loan	Various		(32)
Halton McMaster Family Medicine	Various		(770)
		$	(78,559)

(k) Capital reserves: funds for planned capital projects committed and confirmed by governance approvals, as outlined in note 14(d).

(l) Facilities services projects: holding accounts for temporarily unspent funds for construction projects in progress.

12. Equity in capital assets:

The equity in capital assets is calculated as follows:

(thousands of dollars)	2019	2018) (restated - note 21)
Capital assets	$ 1,158,793	$ 1,083,552
Less amounts financed by:		
Net long-term obligations	(253,739)	(254,371)
Unamortized deferred capital contributions	(505,591)	(511,302)
	$ 399,463	$ 317,879

Details of the transfer for capital transactions are as follows:

(thousands of dollars)	2019	2018 (restated - note 21)
Repayment of long-term debt	$ 624	$ 586
Capital asset purchases from operating, net of disposals	114,894	85,067
	$ 115,518	$ 85,653

13. Endowments:

(a) Internal:

Details of the change in internally restricted endowments are as follows:

(thousands of dollars)	2019	2018
Balance, beginning of year	$ 145,777	$ 143,422
Donations	142	-
Investment income	8,029	6,925
Net transfers and expenses	(3,538)	(4,570)
Balance, end of year	$ 150,410	$ 145,777

Included in internal endowments is an amount of $68,977,000 (2018 - $67,854,000) reflecting the legacy of Dr. H. L. Hooker and $64,141,000 (2018 - $62,219,000) related to the Salaried Pension Plan surplus withdrawal from 2003. A portion of annual investment income generated from this capital is used to fund programs that enrich the academic achievements of the University as approved annually by the Board.

13. Endowments (continued):

(b) External:

Details of the change in externally restricted endowments are as follows:

(thousands of dollars)	2019	2018
Balance, beginning of year	$ 483,335	$ 466,878
External contributions	10,218	13,739
Income retained - capital protection policy	7,266	2,718
Balance, end of year	$ 500,819	$ 483,335

Investment income on external endowments amounted to $24,240,000 (2018 - $19,035,000). In accordance with the endowment capital protection policy, this income less the amount made available for spending of $17,680,000 (2018 - $16,550,000), plus net transfers of $706,000 (2018 - $233,000) were added to endowment net assets. The amount made available for spending is recorded as investment income in the statement of operations.

14. Commitments and contingencies:

(a) Canadian Universities Reciprocal Insurance Exchange:

The University is a member of the Canadian Universities Reciprocal Insurance Exchange "CURIE", a self-insurance cooperative comprised of approximately sixty Canadian universities and colleges. CURIE insures property damage, general liability and errors and omissions risks. If premiums collected are insufficient to cover expenses and claims, the University may be requested to pay additional amounts.

(b) Legal claims:

The University is involved in certain legal matters and litigation in the normal course of operations, the outcomes of which are not presently determinable. The loss, if any, from these contingencies will be accounted for in the periods in which the matters are determined. Management is of the opinion that these matters are mitigated by adequate insurance coverage.

(c) Debt Service Deficiency Agreement:

The University has guaranteed the scheduled principal and interest payments, up to $23 million of long-term debt extended to The First Longwood Innovation Trust, in the event of default. The total amount of debt outstanding and subject to the Debt Service Deficiency Agreement at April 30, 2019 was $20.3 million (2018 - $21.0 million). Since the agreement may expire without being drawn upon, it does not necessarily represent future cash requirements. As of April 30, 2019, no obligation exists under the agreement and as a result, no amount has been recognized as a liability on the statement of financial position.

(d) Capital commitments:

The estimated cost to complete approved major capital and system projects amounted to $276.3 million at April 30, 2019 (2018 - $204.5 million). The major commitments are as follows: DeGroote School of Business expansion ($72.3 million), Athletics and Recreation expansion ($60.9 million), Commercialization of Research ($40.8 million), and The Peter George Centre for Living and Learning ($32.2 million).

14. Commitments and contingencies (continued):

(e) Energy Retrofit Agreement:

In 2007, the University signed a multi-year agreement with Hamilton Health Sciences Corporation ("HHSC") when HHSC undertook a significant energy retrofit project at the McMaster University Medical Centre. Under the terms of the agreement, the University is required to pay approximately 40% of the related costs of the retrofit project. At April 30, 2019, the University's remaining share of the costs are estimated to be $9.5 million (2018 - $10.4 million). Payments to HHSC will take place up to 2029.

(f) Leases:

The University has entered into operating lease agreements for office equipment and buildings. The total annual minimum lease payments in each of the next five years are approximately as follows:

(thousands of dollars)	
2020	$ 4,227
2021	4,023
2022	2,695
2023	2,661
2024	2,770

(g) David Braley Health Sciences Centre (formerly McMaster Health Campus):

The University entered into a Conditional Financial Contribution Agreement with the City of Hamilton which requires the University to meet certain milestones in order to receive grant installments totaling $20 million by 2020, of which $19 million has been received.

(h) McMaster Main Street Student Residence:

The University is working with a private developer to provide an approximately 1,400 bed undergraduate residence that includes learning, research and additional ancillary university spaces along Main Street West on lands McMaster owns. The project land once developed will be an extension of main campus. At April 30, 2019, $16.3 million (2018 - $14.2 million) is recorded in land. The project is expected to be completed by 2023/24. The residence will be managed, operated and used by the University to support its mission.

(i) Grad Residence and Parking Garage:

The University is working with a private developer to provide a new graduate residence with approximately 660 beds and a 270 space parking garage in downtown Hamilton. The residence project is designed to be a public-private partnership project, for which the University is in ongoing negotiations. The project is expected to be completed by 2022/23. To support this project the University has entered into a 99 year land lease effective October 1, 2019, with four 25 year renewal options.

(j) Research Commercialization:

In June 2017 the Board approved an investment of up to $25 million in facilities at MIP, including up to $5 million in in-kind rental space and rent subsidies over the next five years in exchange for leases and other financial arrangements, which may include equity interest in one or more of the entities renting the space. In June 2018 the Board approved an additional investment of up to $25 million. These facilities investments are in support of research commercialization opportunities for early stage commercialization and established businesses. Construction on this space has begun and third party tenants will begin to move into the space in 2020. $4.3 million of the total $50 million approved investment has been spent as of April 30, 2019.

15. Other income:

Details of other income are as follows:

(thousands of dollars)	Major Sources		2019		2018
Faculty of Health Sciences	Non-degree educational fees, specifically funded programs, international postgraduates stipends, space/equipment rentals, other student fees	$	58,963	$	56,269
Other Faculties	Non-degree educational fees, international postgraduate stipends, space/equipment rentals, other student fees		10,542		10,848
Academic Services	Contracts and patent royalties, registrar administration fees		14,098		13,842
Student Services	Athletics and Recreation memberships and user fees		21,533		21,020
Miscellaneous	Nuclear reactor sales, application fees, late payment fees, sales of utilities and other departmental sales		22,510		18,574
Other Investment Income	Adiga Life Sciences Inc., and McMaster Innovation Park		973		1,980
		$	128,619	$	122,533

16. Related party transactions:

In addition to certain transactions and balances disclosed in note 4, the University received funds of approximately $1,199,000 (2018 - $217,000) during the year from fundraising entities.

17. Financial risks and concentration of credit risk:

(a) Liquidity risk:

Liquidity risk is the risk that the University will be unable to fulfill its obligations on a timely basis or at a reasonable cost. In managing liquidity risk, the University focuses on liquid resources available for operations. The University's objective is to have sufficient liquid resources to continue operating even if adverse financial events were to occur and to provide it with the flexibility to take advantage of opportunities that will advance its mission. The need for sufficient liquid resources is considered in the preparation of its annual and capital budgets and by monitoring and forecasting of cash flows. The University amended its line of credit agreement to increase the limit to $75 million from $15 million. The line of credit facility can be used for general corporate purposes including shorter term funding in the event of a short-term deficiency in cash flow. The line of credit was not used in 2019. In addition, the University could issue unsecured debentures or enter into other long term debt to assist in the financing of capital projects. There has been no material change to the risk exposure from 2018.

(b) Credit risk:

Credit risk refers to the risk that a counterparty may default on its contractual obligations resulting in a financial loss. The University is exposed to credit risk with respect to accounts receivable. The University assesses, on a continuous basis, accounts receivable and provides for any amounts that are not collectible in the allowance for doubtful accounts (note 3).

(c) Interest rate risk:

The University is exposed to interest rate risk on its fixed interest rate financial instruments. Further details about the fixed rate investments are included in note 2 and the long-term obligations are included in note 8.

(d) Currency risk:

Investments denominated in foreign currency are exposed to currency risk as the price in local terms in foreign markets is converted to Canadian dollars to determine fair value. The University's overall currency positions are monitored on a daily basis by the portfolio manager. There has been no material change to the risk exposure from 2019.

18. Ontario student opportunity trust fund:

External endowments include grants for funding student aid provided by the Government of Ontario's Student Opportunity Trust Fund matching program. Under the program, the Province has matched qualifying external endowment donations received with equal contributions.

(a) Ontario Student Opportunity Trust Fund - Phase I

The following schedule represents the changes for the years ended April 30th, in the first phase of the Ontario Student Opportunity Trust Fund (OSOTF I) balance:

(thousands of dollars)	2019	2018
Endowment balance, beginning of year	$ 32,147	$ 32,736
Investment income (used from) retained for protection of capital	333	(270)
Investment income transferred to expendable income	(317)	(319)
Endowment balance, end of year	32,163	32,147
Funds available for awards, beginning of year	-	-
Investment income	1,546	1,467
Bursaries awarded (2019 - 1,775 awards; 2018 - 1,288 awards)	(1,863)	(1,786)
Investment income transferred from endowment balance	317	319
Funds available for awards, end of year	-	-
Total funds at book value	$ 32,163	$ 32,147

The market value of the endowment as at April 30, 2019 was $39,727,000 (2018 - $38,971,000).

(b) Ontario Student Opportunity Trust Fund - Phase II

The Ontario government requires separate reporting of balances as at April 30th, and details of the changes in the balances for the period then ended with respect to the second phase of the Ontario Student Opportunity Trust Fund (OSOTF II) of McMaster University including Divinity College.

The following is the schedule of changes for the years ended April 30th:

(thousands of dollars)	2019	2018
Endowment balance, beginning of year	$ 6,143	$ 6,126
Investment income retained for protection of capital	35	17
Endowment balance, end of year	6,178	6,143
Funds available for awards, beginning of year	69	58
Investment income for expenditures	279	265
Bursaries awarded (2019 - 353 awards; 2018 - 231 awards)	(276)	(254)
Funds available for awards, end of year	72	69
Total funds at book value	$ 6,250	$ 6,212

The market value of the endowment as at April 30, 2019 was $7,398,000 (2018 - $7,308,000).

19. Ontario trust for student support:

External endowments include grants for funding student aid provided by the Government of Ontario's Ontario Trust for Student Support (OTSS) matching program. Under the program, the Province will provide an equivalent matching contribution for external endowment contributions made to a specified ceiling.

The following is the schedule of changes in the endowment and expendable balances for the years ended April 30th:

(thousands of dollars)	2019	2018
Endowment balance, beginning of year	$ 39,539	$ 39,312
Investment income retained for protection of capital	376	227
Endowment balance, end of year	39,915	39,539
Funds available for awards, beginning of year	1,056	1,185
Investment income for expenditures	1,644	1,555
Bursaries awarded (2019 - 732 awards; 2018 - 521 awards)	(1,765)	(1,684)
Funds available for awards, end of year	935	1,056
Total funds at book value	$ 40,850	$ 40,595

The market value of the endowment as at April 30, 2019 was $53,051,000 (2018 - $51,903,000).

20. Pledges:

Outstanding but unrecorded pledges for donations and other fund raising amounted to approximately $79,000,000 (2018 - $85,000,000).

21. Prior period adjustment:

In the prior year, expenditures in capital assets were overstated by $10,909,000. Correction of this error resulted in a decrease in net capital assets of $10,772,000, an increase in supplies and services of $10,909,000 and a decrease in amortization of capital assets of $137,000. In addition, for the year ended April 30, 2018, a project initially classified as internally funded was externally funded. This resulted in a decrease in donations and other grants of $7,280,000 due to the reallocation of funding sources between internally funded and externally funded, an increase in deferred capital contributions of $7,370,000, and a decrease in amortization of deferred capital contributions of $90,000. Correction of these errors resulted in an overall decrease in excess of revenues over expenses of $18,142,000 and a decrease in equity in capital assets of $18,142,000 as at April 30, 2018.

22. Comparative figures:

Certain comparative figures for 2018 have been reclassified to conform with the financial statement presentation adopted in the current year.

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