# Rising Costs:

## A Look at Spending at Ontario Universities

Research Report

November 2011

OUSA

Ontario Undergraduate Student Alliance

## RISING COSTS: A Look at Spending at Ontario Universities


## OUSA | ONTARIO UNDERGRADUATE STUDENT ALLIANCE

345-26 SOHO STREET
TORONTO, ON M5T 1Z7
T: 416.341.9948 F: 416.341.0358
W: www.ousa.ca
E: info@ousa.ca

President: Sean Madden, president@ousa.ca
Executive Director: Sam Andrey, sam@ousa.ca
Director of Communications: Alvin Tedjo, alvin@ousa.ca
Director of Research: Chris Martin, chris@ousa.ca
Research Analyst: Laura Pin, laura@ousa.ca


## About OUSA

OUSA represents the interests of over 145,000 professional and undergraduate, full-time and part-time university students at nine member associations across Ontario. Our vision is for an accessible, affordable, accountable and high quality post-secondary education in Ontario. To achieve this vision we've come together to develop solutions to challenges facing higher education, build broad consensus for our policy options, and lobby government to implement them.


## Acknowledgements

The authors of *Rising Costs* extend a warm thank you to the individuals who reviewed our methodologies, provided us with data and contributed valuable thoughts on our analysis. Your input has contributed to a better report.


## Recommended Citation

Pin, L, Martin, C, & Andrey, S (2011). *Rising Costs: A Look at Spending at Ontario Universities.* Toronto: Ontario Undergraudate Student Alliance.


© Ontario Undergraduate Student Alliance | November 2011

*TABLE OF CONTENTS*

## Executive Summary

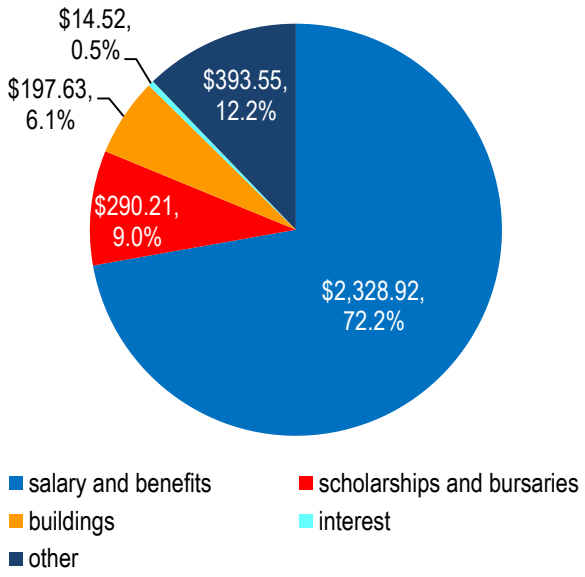
Over the past two decades, an unprecedented demand for higher education in Ontario has precipitated an enrolment surge that has more than doubled the size of the post-secondary education system. This growth shows no signs of abating, with over 60,000 more students expected to enrol in the next five years. Such substantive and swift growth has given Ontario a competitive advantage with one of the highest attainment rates in the world. However, it has also created a strong need to increase investment in higher education.

The Ontario government announced in 2005 that it would increase operating grants to colleges and universities $1.2 billion by 2009/10, both accomodating enrolment growth and increasing per-student funding. Soon after, the government announced a new tuition framework that allowed tuition fees to increase by an average of 5 per cent per year. As a result, university operating revenue has risen by over $3,000 per student since 2004/05. After adjusting for inflation, this represented a substantial new investment of nearly $2,000 for each student in Ontario's universities or an annual increase of 2.4 per cent beyond the general rate of inflation.

Given the pressure to increase investment in post-secondary education, it important to first take stock of how these recent investments in universities were used. To aid this endeavour, the Ontario Undergraduate Student Alliance has analyzed university expenditures from 2004/05 to 2009/10. The key findings are as follows:

- Roughly 70 per cent of the increase in funding since 2004/05 went to salary and benefit expenditures, followed by scholarships and capital infrastructure.
- Of the salary and benefit expenditure, 70 per cent of the increased funds were for academic salaries, followed by 10 per cent for administrative salaries.
- The increased expenditure on academic salaries was not used to hire significantly more full-time faculty to reduce class sizes, but rather for increases for existing faculty and an increased reliance on temporary or sessional instructors to teach undergraduate students.
- The average salary of full-time faculty grew by 4 per cent annually, while senior administrators' average salaries grew by 4.5 per cent.
- Pension and benefit costs increased more than 12 per cent annually, in part due to lower than normal rates of return.
- The rising indirect costs of research required increased resources from the operating budget.
- There was disproportionate growth in the number of higher-cost graduate and professional students.
- Spending on student financial aid increased on a per-student basis, not due to government requirements but largely due to increases in merit-based entrance scholarships and graduate student aid.
- The proportion of expenditure dedicated to student support services increased in per-student terms due in part to increasing demand and contributions from student ancillary fees.

**Increase in Total Expenditure per Student from 2004/05 to 2009/10**



- Costs associated with new buildings and capital projects to accommodate growth and aging infrastructure required considerable new resources, though did not change appreciably as a proportion of operating spending.
- Spending on central computing, libraries and utilities all increased moderately but fell as a proportion of operating spending.
- Costs associated with interest on outstanding debt increased somewhat but were a relatively minor expense.

Given the current economic climate where both government and personal resources are constrained, it is unlikely that per-student funding will be able to increase dramatically either through government grants or increased tuition, while maintaining the accessibility and affordability of the system. This should not be construed as a statement that current university funding is adequate, or that all rising costs are unjustified. Increased government investment is a critical piece of a sustainable way forward. By the same token however, the sector will have to demonstrate an ability to contain costs in a fair and progressive manner that improves the quality of the learning experience. Together, Ontario universities and the government will need to explore new ways to improve the cost-efficiency of the post-secondary education system.

Cost-efficiency should not be taken as code for putting limitations on educational quality. Quite on the contrary, students believe that continued investment in post-secondary education, guided by a more concerted effort to use new resources to improve the quality of the learning experience, will serve to enhance the learning environment substantially. Already, many viable strategies have been proposed for improving quality with limited resources. Strategies such as changing tenure and promotion incentives to better balance teaching and research; creating teaching chair positions; enhancing pedagogy training and instructional support services; increasing teaching loads for some teaching-focused (not teaching-only) faculty; incorporating more experiential learning and research in the undergraduate curriculum; and eliminating unnecessary barriers to credit transfer would all be helpful if implemented properly.

It is our hope that government, institutions, faculty and students can work together to ensure a sustainable, affordable, high quality university system for years to come. However, for this work to be impactful and positive, it is of the utmost importance that attention is paid to relationship between expenditures in higher education and quality improvement. This report provides a look of how expenses have been rising in recent years, providing a basis for this discussion to begin.

# Introduction

Post-secondary education in Ontario is reaching more students than ever before. In the 2010/11 academic year, more than 420,000 students were enrolled in Ontario's universities, eclipsing university enrolment a decade earlier by more than 50 per cent.[1] As the number of students attending Ontario's universities has increased, there has been a need to inject new funds into the system to accommodate the growth. Over the decade, Ontario universities nearly doubled spending from $3 billion to $6 billion.[2]

The Ontario government has accordingly made significant investments, most notably with its *Reaching Higher* plan beginning in 2005, and after adjusting for inflation, government operating revenue for universities in 2010 was 50 per cent higher than in 2000. When controlling for enrolment and inflation, government funding kept pace with growth and held constant at just over $8,500 per full-time student.[3]

In addition to the recent influx of government funds, the other major revenue source for universities – tuition and other student fees – has also increased substantially over the past decade. Students in Ontario paid an average of $6,307 per year in university tuition in 2010/11, the highest rate in all of Canada.[4] Revenue per student has increased by more than $1,000 after adjusting for inflation since 2000.[5]

Despite the recent investments in higher education by government and students, many institutions argue that universities continue to face severe cost constraints in delivering a high quality post-secondary education. The crux of these arguments hinges on two issues: the need for increased resources to accommodate an increasing numbers of students, and the reality that costs in the university sector are increasing more quickly than inflation in the broader economy.

Given predictions that over 70 per cent of future jobs will require a post-secondary credential, as well as the Ontario government's commitment to reaching this target, it seems unlikely that the tendency for new funds to be directed towards enrolment growth will abate in the near future.[6] In the current economic climate of fiscal restraint, provincial and federal governments have demonstrated reluctance to substantially increase funding for higher education beyond covering growth at current levels. Without new investments to increase per-student government funding or substantial tuition increases, there is concern that institutional revenue will not be able to keep pace with the inflationary pressures faced by Ontario universities.

Due to this concern, much of the debate surrounding university financial sustainability has centered on where the new money should come from and how quickly the funds should grow. The issue of how and why costs are increasing has received markedly less public attention. This must change.

Cost inflation in Ontario universities is an issue of paramount importance to students in a context where tuition continues to increase above the general rate of inflation. In this environment, administrators argue that they continue to face cost constraints in delivering a high quality education. Indeed, students are hard-pressed to point out any substantial system-wide quality improvements resulting from their increasing tuition contributions. Part of the goal in releasing this study is to jump-start a discussion. If public resources are going to continue to be restrained, balancing the accessibility and quality of the system will continue to be a tension moving forward. Gaining a strong understanding of the key drivers of cost inflation in the university sector can help students, government, institutions, faculty and other stakeholders develop strategies for a more effective and efficient use of resources. This in turn will ensure that our system can achieve the goal that all stakeholders aspire to: delivering a high quality education to all willing and qualified students in Ontario.

## Cost Inflation Trends Examined in this Report

Universities are large, complex organizations, and many developments in post-secondary education affect their revenues and expenditures. Available literature points to several recent trends in the provision of higher education that have affected the roles and responsibilities of universities and consequently, the costs they incur. These general described trends have guided our analysis, and will include:

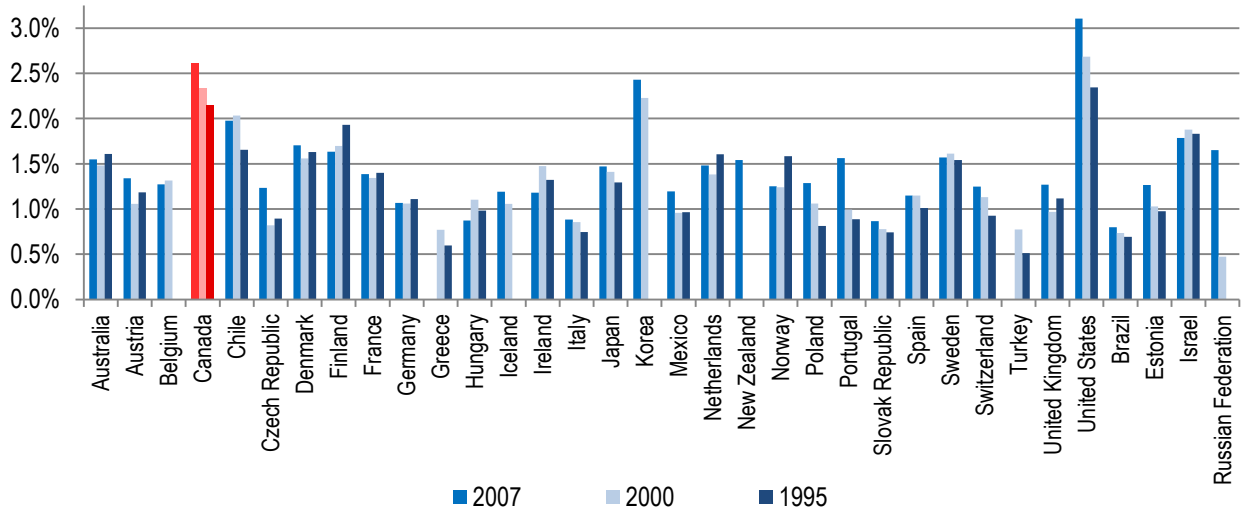
- Faculty salary increases for tenured and tenure-track faculty, as well as how these salaries relate to the increasing reliance on contract teaching faculty;
- Administrative salary increases, in part related to the growing role of university administrations;
- Rising costs of providing comprehensive pension and benefits packages;
- The direct and indirect costs associated with attracting competitive research funding, and direct and indirect costs associated with increased research intensity;
- An emphasis on universal access to higher education and student success, including funding student financial aid and support services through the general operating fund;
- Increased use of technology at a time when hardware, software, library digitization, and online portal development costs are rising; and
- A growing student body and the capital costs of increased building construction and utilities.

## Ontario in a Global Context

Canada is one of the top spenders on post-secondary education in the OECD. This is in many ways not surprising considering our relatively high attainment rate. However, Ontario trails the rest of Canada in proportional investment in post-secondary education.

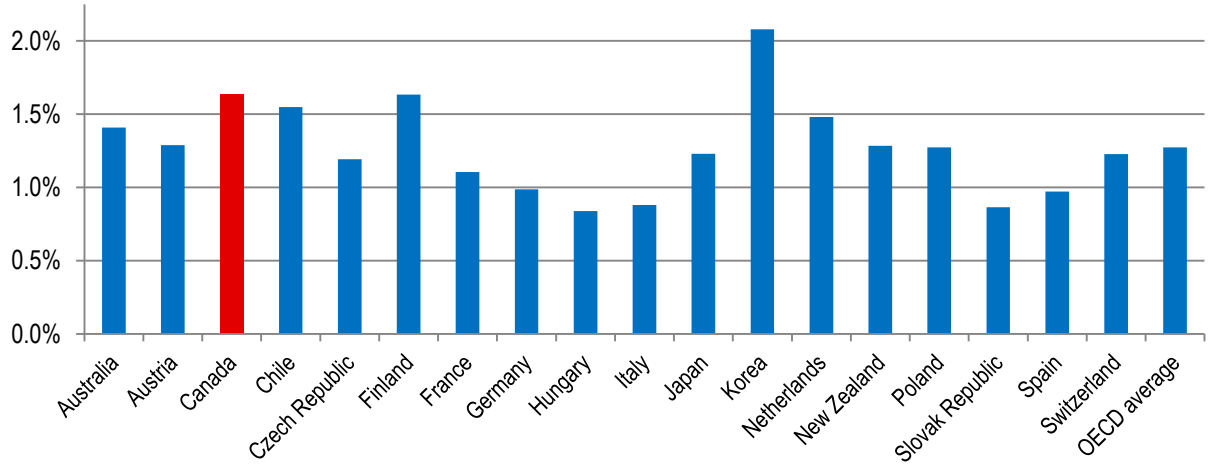
OECD data from 1995, 2000, and 2007 demonstrates that over this time period, Canada spent more on post-secondary education than any other OECD country except the United States as a percentage of Gross Domestic Product (see Figure 1).[7] Not only was Canada second only to the United States in spending on post-secondary

**Figure 1: Post-Secondary Education Expenditure as Percentage of GDP**



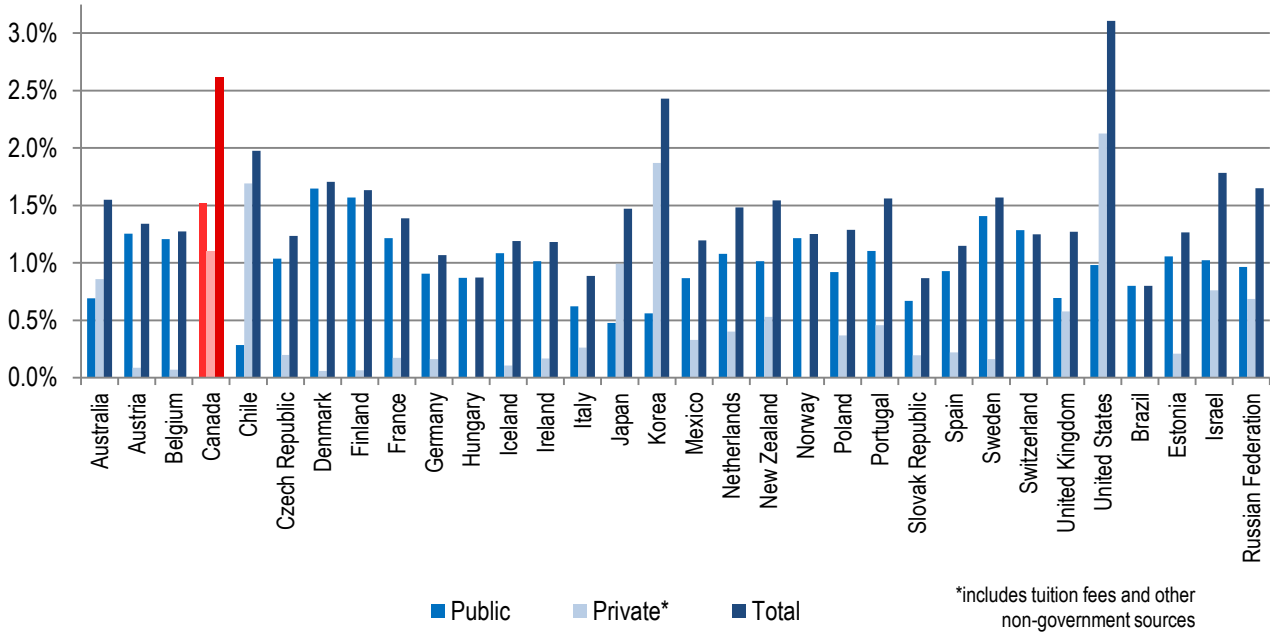
education for each of the three years sampled, but spending on post-secondary education consistently increased from 1995 to 2007. The comparison of post-secondary education spending and GDP growth demonstrates that on a national basis the rate of increase in post-secondary education spending has outpaced growth in the national economy by a considerable margin. Figure 2 below looks at expenditures on universities, in which again Canada ranks favourably internationally.

**Figure 2: National Expenditure on University Institutions as a % of GDP for 2007**




When post-secondary education expenditure is split into private and public components, a slightly different picture emerges (see Figure 3).[8] Canada still has one of the highest public education expenditures, falling behind only Denmark and Finland out of all the countries surveyed. However, the private education expenditure in Canada (meaning that contributed by students and other non-government sources) is also substantially higher than most other countries, which falls behind only Chile, Korea and the United States, all of which devote a relatively low public proportion of the GDP to post-secondary education. In other words, Canada stands out from the rest of the countries surveyed in the sense that it is the only one with relatively high public and private investment in post-secondary education.

**Figure 3: Public vs. Private Tertiary Education Expenditure as a % of GDP in 2007**



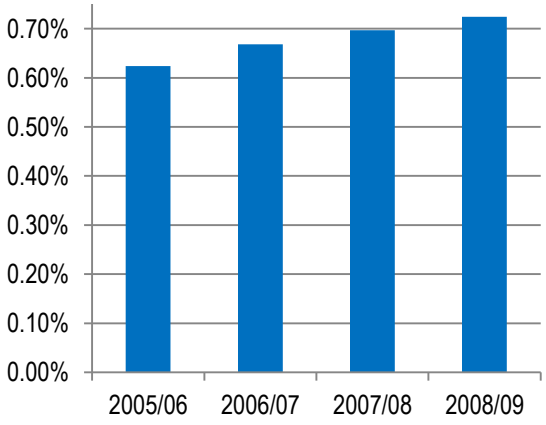
When post-secondary expenditures within Canada are examined, however, it becomes clear that certain provinces devote proportionally greater resources to higher education. Table 1 looks at expenditure on post-secondary education as a percentage of the GDP for each Canadian province. In 2008/09, Ontario ranked second last on expenditure, with 1.00 per cent of the GDP spent on higher education, below the Canadian average of 1.20 per cent. Additionally the average provincial expenditure and expenditure in each province has declined substantially in the last 15 years, despite growth in the proportion of the population attending post-secondary education.

**Table 1: Provincial Expenditure on Post-Secondary Education as a Percentage of Provincial GDP[9]**

| | NL | PEI | NS | NB | QC | ON | MB | SK | AB | BC | CAN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1992/93** | 2.53% | 1.81% | 2.18% | 1.81% | 2.18% | 1.20% | 1.24% | 1.49% | 1.37% | 1.54% | **1.54%** |
| **2008/09** | 1.10% | 1.45% | 2.07% | 0.94% | 1.60% | 1.00% | 1.14% | 1.10% | 1.16% | 1.20% | **1.20%** |

Figure 4[10] specifically examines university data. Because international data includes federal, provincial and municipal funding, accurate Ontario data cannot be fairly compared with OECD peers. However, when looking at a comparison of Ontario expenditure on universities as a proportion of the Ontario GDP, between 2005/06 to 2008/09, expenditure on university institutions increased from 0.67 per cent of the GDP to 0.72 per cent of the GDP, out of a total post-secondary education expenditure of roughly 1.00 per cent. This demonstrates that university expenditure in Ontario as a proportion of the GDP has been modestly increasing over the past five years, although it remains below levels in the early 1990s.

**Figure 4: Provincial Expenditure in Ontario on University Institutions as a % of GDP**




Though Canada's expenditure on post-secondary education leads most of the world, public investment in Ontario has not kept pace with this standard. Meanwhile, private investment from tuition revenue has increased considerably. This trend is well known and certainly points to the need for greater public support for higher education. However, Ontario's public investment in universities is by no means meagre by international standards, which highlights the dual truth that the system has also developed an appetite for resources that has kept pace with public and private investment. In addition to public investment, attention must turn to the cost side of the equation.

## Measurement and Methodology

In broad terms, cost inflation can be defined as the rate at which the prices for goods and services rise. The Consumer Price Index (CPI) is an in inflationary indicator that measures the change in the cost of a fixed basket of products and services, including housing, electricity, food, and transportation. Cost inflation is a normal economic process, and in Canada CPI inflation has typically averaged around 2.0 per cent annually over the last two decades.[11]

Some analysts argue that because CPI is based on a general basket of goods and services, rather than the specific costs associated with providing a higher education, alternative measures provide a more accurate perspective on the inflationary costs of post-secondary education. The Higher Education Price Index (HEPI) is an inflation index used to

measure the average prices in a fixed basket of goods and services purchased by universities each year to fund educational and general expenditures. The Higher Education Quality Council of Ontario has developed a preliminary HEPI that is Ontario specific.[12] HEPI generally is a better measure of cost inflation in the post-secondary sector, since some elements – like technology, textbooks and salaries – rise differently than those measured in the CPI basket. Nevertheless, CPI is important because it has implications for how much living costs are rising, and thus crudely reflects the ability for individuals, families, and society to pay for a post-secondary education. HEPI has also been strongly criticized as being overly self-referential in nature. For example, HEPI is assessed based on actual salary increases in the sector, rather than in comparison to an outside metric, providing a description of how much salaries are rising, but not actually assessing whether this increase is in excess of what should be expected in a broader context. HEPI also only considers certain areas of university expenditure – primarily salaries, supplies and materials, library resources, and utilities – and consequently may miss important trends in university expenditure that fall outside of these parameters. Due to the lack of a reliable HEPI for Ontario, this document generally uses unadjusted dollars or CPI inflation as a benchmark, unless otherwise specified. When discussing specific expenditure changes over the past five years, unadjusted dollars are principally used. This is a conscious decision, in part due to the negative growth in CPI inflation in 2008/09 which would have unfairly distorted the year-over-year growth in some expenses.

In addition, when examining university expenditures, accurately measuring university enrolment is also important. Investment in post-secondary education is often measured on a per-student basis. A "Fiscal Full-Time Equivalent" (FFTE) is a measurement of the number of students whose study loads in a given fiscal year are equal to the normal full-time study load for his or her program in the academic year.[13] In other words, the term is equivalent to one student studying full-time in their program. FFTE measurements do not differentiate between full-time students in different programs of study. Part-time students are counted using a partial FFTE equivalency; often three part-time students are considered equivalent to one full-time student, or the number of courses that part-time students take is used to create an equivalent FFTE count. In contrast, Basic Income Units (BIUs) are used to provide an enrolment measure usable for public funding purposes, and are weighted differentially by program. Depending on discipline and level, programs are assigned different BIUs to account for differences in the estimated cost of educating students. For example, a fourth-year engineering student would have a greater BIU weight than a first-year sociology student. BIUs are valuable because they attempt to capture the cost differences associated with different disciplines. Since student program choices affect reported BIUs, and public funding as a result, they affect public expenditure on higher education quite substantially. However, because BIU levels vary between program and level of study, it is difficult to use this measure to express a "per-student" level of funding. Additionally, little analysis has been done to determine whether or not BIU weights accurately reflect differential program costs.

This paper uses "gross tuition" as its measure of tuition. That is, the total amount of tuition paid by students in a given year is reported as tuition revenue, and also used to calculate total operating revenue. The Ontario government established a set-aside policy in 1996/97, requiring that a percentage of revenue derived from tuition increases be set aside for locally-delivered financial assistance for students with financial need unmet by the Ontario Student Assistance Program (OSAP). Currently, this amount is set at 10 per cent of tuition increases for a total of approximately $370 per full-time student. Some researchers have used "net tuition" as a stand-in for "gross tuition" where the tuition set-aside for financial assistance is subtracted from total tuition. However, since the CAUBO revenue data includes all tuition in its reporting of operating funds, this paper follows suit. It is worth noting that, although counted in operating expenditure, the tuition set-aside does not truly constitute unrestricted operating funds since its use is limited to financial assistance. This expenditure is discussed more under the Student Financial Assistance section below.

Finally, this document is an expenditure-side analysis. That is, it examines where money is being spent in the university sector and how spending patterns have changed over the past few years. To do so, it examines general operating fund expenditure data, as well as total university expenditures. The general operating fund is the fund used to cover the day-to-day operations of the university, primarily comprised of provincial government grants and student fees. For a full description of the general operating fund and other funding descriptors, please see Appendix A.

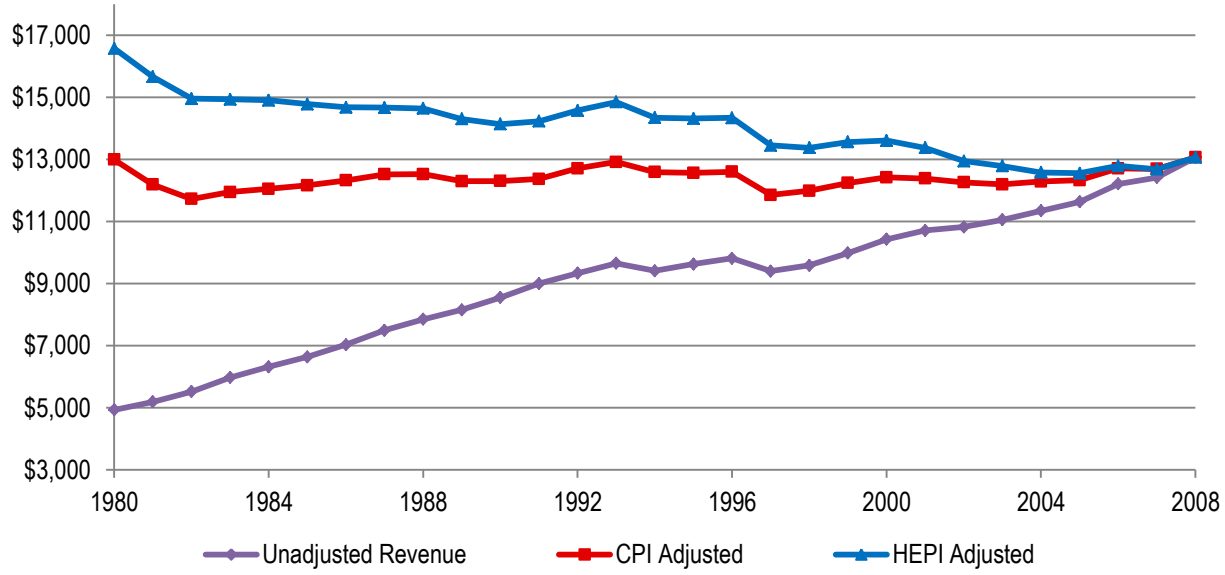
In some cases, this report examines the total university expenditure[14] in a specific category, rather than the general operating fund. Total expenditure encompasses spending from the operating funds plus other sources of revenue. This is usually the case when a substantial amount of money is being used for a particular activity that is not paid out of operating funding. For example, new buildings can be funded partially through the general operating fund but mostly are financed through specific capital funds from government or private sources. So in this case, total expenditure gives a better sense of how much money is being spent on capital costs.

Expenditure-based analysis is important in assessing where incremental funds dedicated to post-secondary education have been spent; however, this methodology provides little information about how the costs of specific items have changed. For example, a decrease in library spending could result from the decreased prioritization of libraries, and not a decrease in the per-unit cost of library materials. Where possible, this report has tried to use non-expenditure data to assess whether the former or latter was the case.

## University Operating Revenue

The major source of funding that universities use to cover their day-to-day activities of teaching and research is categorized as operating funding. Operating expenditure is useful for examining how cost pressures are affecting the day-to-day operations of university institutions because it excludes highly variable funds like capital funding, food services, and sponsored research, which are largely unavailable to cover day-to-day expenses. Operating funding for universities is derived from two major sources: student fees and government grants. Figure 5[15], adapted from a report by the Higher Education Quality Council of Ontario, shows university operating revenue from provincial government grants and tuition per FFTE adjusted by two measures of inflation. Unadjusted total operating revenue on a per-student basis has nearly tripled since 1980; however, once this revenue is adjusted for CPI, it has remained relatively constant in real dollars, increasing by just $70 over the three decades. At its lowest point in 1997, operating funding was 10 per cent lower per student than in 1980, but operating funding was returned to previously levels in large part by the Ontario government's *Reaching Higher* investments beginning in 2005.[16] When an Ontario-specific HEPI indicator is used, operating revenue appears to have decreased by nearly 30 per cent since 1980. As

**Figure 5: Total Revenue from Government Grants and Tuition per FFTE Unadjusted and Adjusted for CPI and HEPI to Constant Dollars**



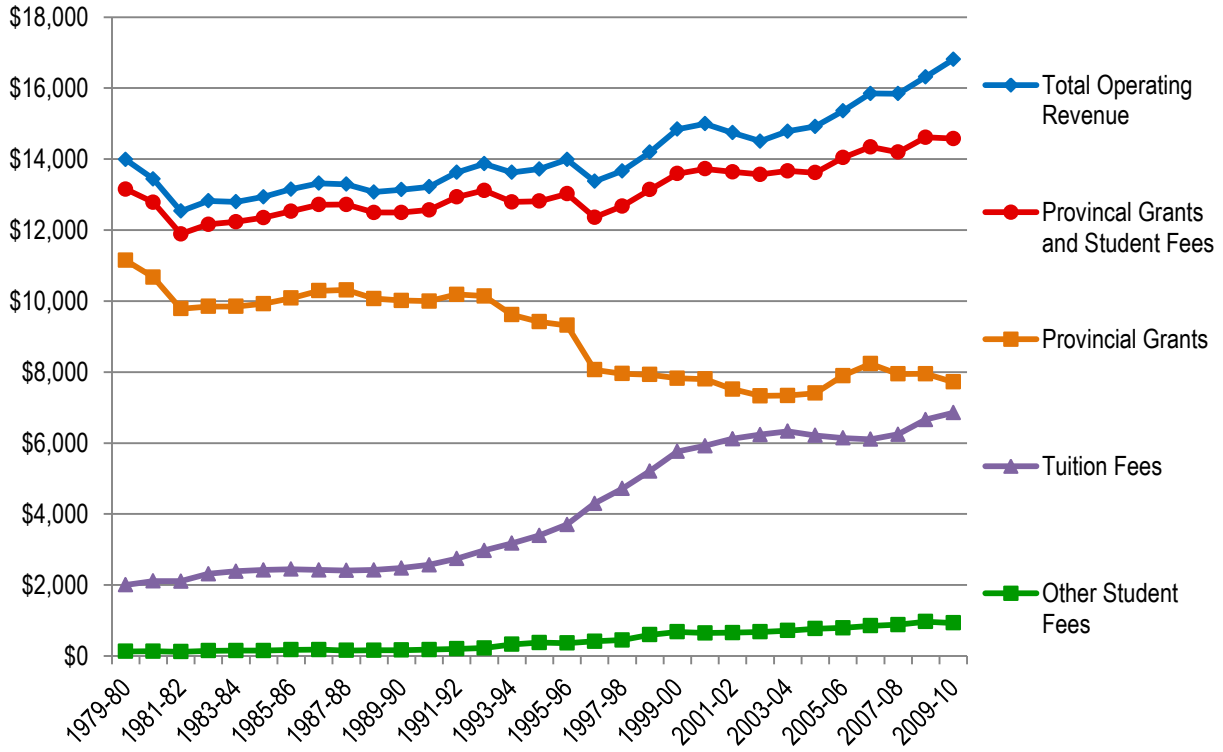
previously mentioned, however, there are some problems with uncritically accepting HEPI as a complete and accurate portrayal of the necessary cost pressures facing universities.

Looking at all revenue sources up to 2010 reveals three trends major shifts in operating funding:

- Total revenue per student increased by nearly 20 per cent in constant dollars from 1980 to 2010
- Tuition and other student fee income have increased in absolute and in relative terms; and
- Provincial operating grants have increased in absolute terms but decreased in relative terms.[17]

Figure 6[18] shows total university operating revenue per FFTE from 1980 to 2010 broken down by a number of sources. CPI-adjusted total operating revenue per student has increased from $13,986 in 1979/80 to $16,807 in 2009/10 – an increase of 20 per cent over inflation. The increase has been primarily from increases in tuition fees and other student fees well above CPI. Tuition fees have increased substantially, from 15 per cent to over 40 per cent of operating revenue, now accounting for $6,850 per FFTE. During this same time, provincial grants have decreased from almost 80 per cent to roughly 50 per cent of operating revenue, leaving Ontario with one of the lowest levels of per-student funding in Canada.[19,20]

**Figure 6: Total Operating Revenue by Source per FFTE in Constant Dollars**

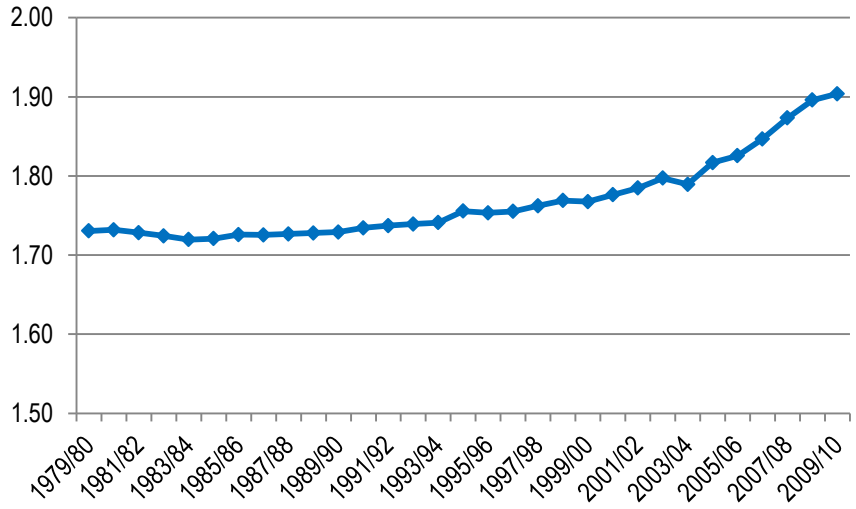



Disaggregating operating funding into student fees and provincial grants reveals that, while funding per student remained stable and then increased considerably in constant dollars, the government has been unable to maintain previous levels of financial support. Increasing tuition levels have been used to bridge the gap between institutional funding needs and operating grants. Enrolment growth is the most cited reason for why it has become increasingly difficult for the provincial government to maintain past levels of per-student funding.[21]

## A Look at the Basic Income Unit

While the majority of this paper examines expenditure in terms of FFTEs or student enrolment, it is also worth considering what expenditure data looks like in terms of BIUs. Some researchers have argued that examining cost pressures in terms of enrolment ignores an important dimension of cost inflation at Ontario universities: program mix. Educating students in some disciplines is more expensive than others. For example, the costs associated with educating an engineering student are recognized to be higher than those of educating a general arts and science student. Consequently a shift in the relative numbers of students enrolled in engineering programs would have implications for cost inflation at the university level. To some extent, the government recognizes differential costs associated with different programs and levels of study through the BIU system, where students in a program deemed more expensive to operate are given higher BIU weightings and therefore more provincial operating funds. It is also important to note that in the case of engineering, commerce, law, and medicine, institutions are able to charge higher tuition than for other undergraduate and graduate programs, which also helps to offset the higher educational costs associated with these disciplines.

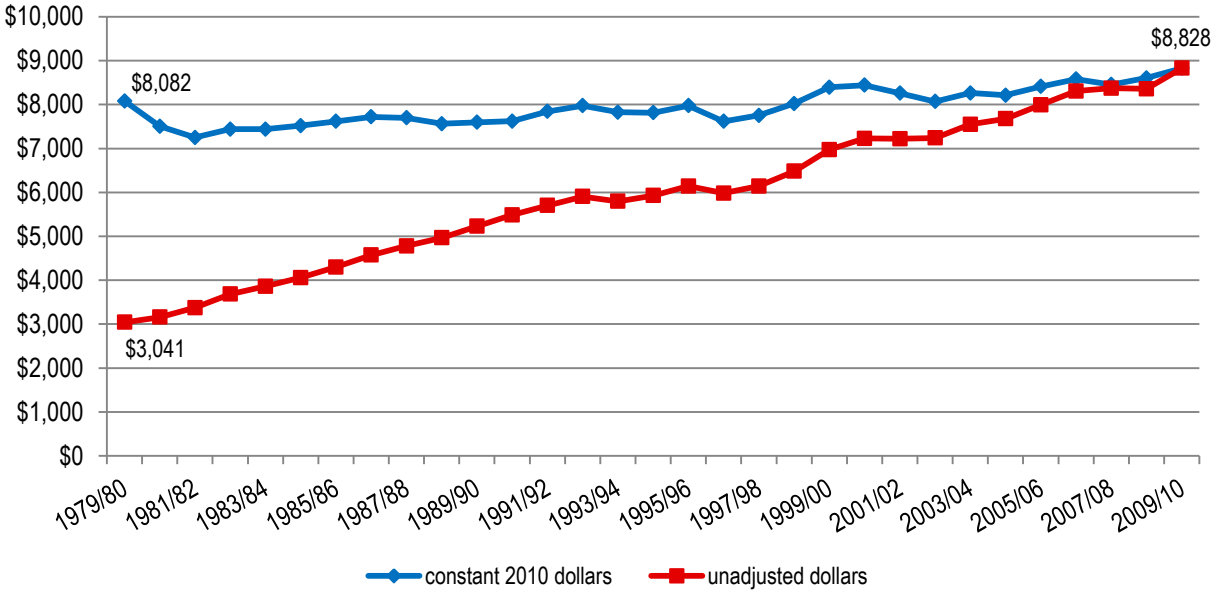
**Figure 7: Ratio of BIUs per FFTE from 1979/80 to 2009/10**




There are two main approaches to examing, through BIU counts, whether changes in the program mix offered at Ontario universities have exerted cost pressures: through the BIU to FFTE ratio and through the amount of operating funding available per BIU. When one examines the BIU to FFTE ratio, it can be seen that it has ncreased (from 1.73 to 1.90 over the last two decades). In fact, the growth has been the highest over the past five years, reflecting an increase in the number of graduate and professional students relative to non-professional undergraduates (see Figure 7[22]).

However, the amount of operating funding available per BIU tells a slightly different story. As Figure 8[23] demonstrates, when expressed in constant dollars, funding per BIU has still increased from $8,092 per BIU in 1979/80 to $8,828 per BIU in 2009/10, indicating that operating funding per BIU has not declined over the past 20 years. The growth in funding per BIU (9 per cent since 1979/80) has been slower than growth per FFTE (20 per cent), though the growth rates have been more similar in recent years. Although BIU may be an imperfect measure of costs associated with different programs – it is largely based on precedent, and may underestimate the costs associated with certain graduate programs – when investigated through the BIU lens, there is evidence to suggest that a shift to higher-BIU programs has occurred; however, this growth has still been funded beyond the rate of inflation over the past two decades.

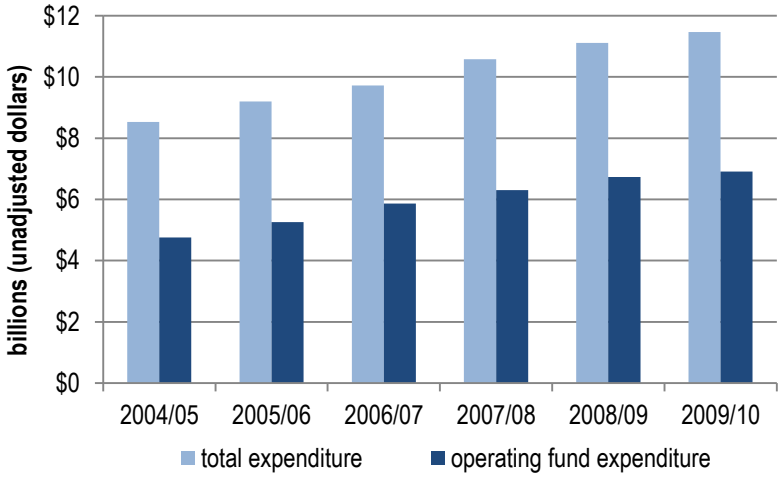
**Figure 8: Total Operating Revenue per BIU from 1979/80 to 2009/10**




## History of Reaching Higher Plan

Turning to the more immediate past, the last five years have been a time of considerable growth and investment on the part of students and the government. As Figure 9[24] demonstrates, over the past several years total university expenditure and operating expenditure have increased significantly overall. Total expenditures increased by nearly $3 billion over the five-year period, with operating expenses accounting for $2.2 billion. On a per-student basis, total spending increased by $3,500 while operating spending grew by $3,200. This increase in operating funding is equivalent to a per-student increase in revenue of 3.8 per cent annually or 2.4 per cent beyond the rate of inflation. This real increase in resources has been a result of increased revenue from both government and students.

**Figure 9: Total and Operating Fund Expenditures in Ontario Universities from 2004/05 to 2009/10**



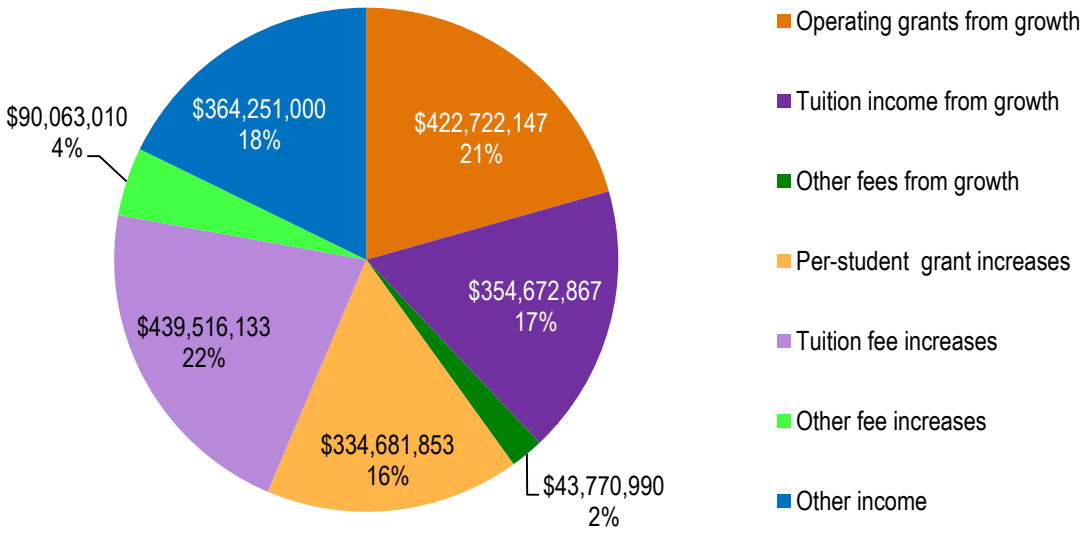

The Ontario government announced in May 2005, as a part of its *Reaching Higher* plan for post-secondary education, that it would increase operating grants to colleges and universities $1.2 billion by 2009/10 to fund enrolment growth and increase per-student funding. This meant that total university operating grants were planned to increase to $3.2 billion by 2009/10.[25] At the time, enrolment was projected to increase until 2006/07 to 340,000 full-time equivalent students and then begin to fall.[26] This was expected to result in significant per-student funding increases by 2009/10. Instead, enrolment increased to nearly 420,000 in 2009/10, representing an increase of over 60,000 students from 2004/05 levels. As a result, while the anticipated increase in university operating funding to $3.2 billion did take place (and in fact exceeded the target modestly), more was devoted to enrolment growth than originally projected. In the end, more than half of the funds went to funding enrolment growth at 2004/05 levels with the remaining funds contributing to an increase in overall per-FFTE funding of 12 per cent or a per-BIU increase of 8 per cent.[27]

On the tuition side, tuition fees for most students were frozen at 2003/04 levels in 2004/05 and 2005/06. Thereafter, average increases in domestic tuition fees were capped at 5 per cent overall.[i] International students pay considerably higher tuition, typically two to three times their domestic counterparts, and tuition increases are unregulated by the government. As a result, increases in international tuition fees averaged 6.5 per cent from 2006 to 2010.[28] Put together, total tuition revenue increased by nearly $800 million from 2004/05 to 2009/10. Average per-student revenue derived from tuition increased from $5,800 in 2004/05 to $6,850 in 2009/10, an increase of 18 per cent.[29] Therefore, 45 per cent of the increased tuition income was derived from enrolment growth, but more than 55 per cent of the income was a result of increased tuition fees (see Figure 10[30]). Ancillary and user fees per student increased by 30 per cent over the same time period from $715 to $930.[31] Other revenue not derived from the provincial government or student fees incresed by nearly $800 per student, driven in large part by federal government funding, investment income and non-government contracts.[32]

**Table 2: Ontario University Operating Revenue Changes from 2004/05 to 2009/10[33]**

| | Total Revenue | Total Revenue Per-FFTE | Provincial Operating Grants | Operating Grants Per-FFTE | Tuition Fees | Tuition Per-FFTE | Other Fees | Other Fees Per-FFTE |
|---|---|---|---|---|---|---|---|---|
| **2004/05** | $4,987 M | $13,946 | $2,475 M | $6,921 | $2,076 M | $5,807 | $256 M | $717 |
| **2009/10** | $7,036 M | $16,807 | $3,232 M | $7,720 | $2,871 M | $6,857 | $391 M | $932 |

**Figure 10: Source of Ontario University Revenue Growth from 2004/05 to 2009/10**




So while overall resources over the past three decades and through the past five years have certainly kept pace and exceeded growth and overall inflation, where the money was spent is less clear. Certainly part of the explanation is that universities face new expectations of universal access and research competitiveness. Some of the costs associated with these missions have been rolled into operating costs, decreasing the resources available to meet instructional costs.[34] This has led to "a sense that, despite the reinvestment in higher education over the past decade, the higher education sector is under considerable financial pressure."[35] This report now turns its attention to university expenditures to get a better understanding of that very question: costs are rising, but which ones and why?

[i] Caps on tuition increases are set to maximum allowable increases of 4.5% for first year arts and science students, 8% for first year professional and graduate students, and 4% for both undergraduate and graduate increases in continuing years. These must average together to an overall increase of 5%.

## Have Increases in Public Funding been Overly Restricted?

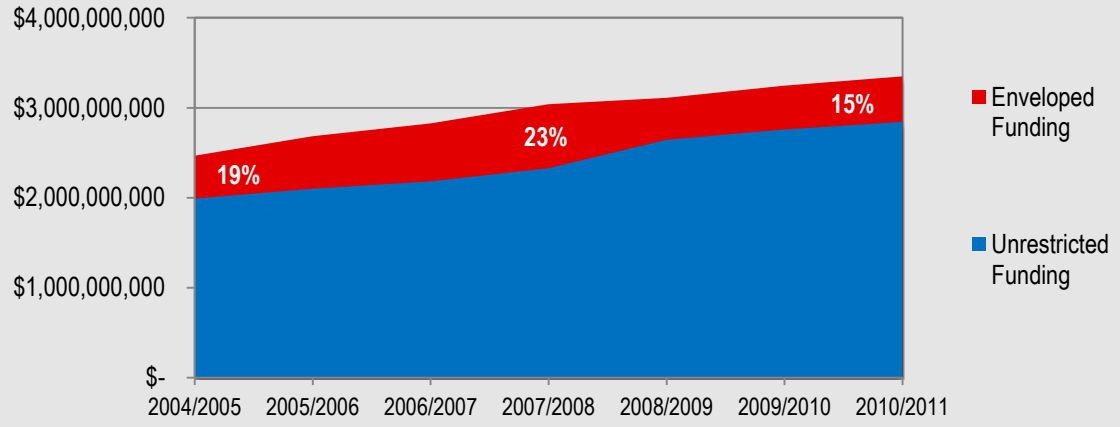
The government has a number of tools at its disposal for the achievement of its goals for the post-secondary system. One of these tools is envelope funding, whereby the government creates targeted funds for the promotion of specific programs and initiatives at universities. Envelopes can be temporary in nature and are then often rolled into the basic unrestricted operating grant after the program or incentive ends. Other envelopes have been more permanent and are designed to fund programs over the long term. Previous envelopes have included funding for undergraduate and graduate enrolment growth, scholarships for graduate students in engineering and the sciences, funds to establish Aboriginal student centres, and a fund for the promotion of women's safety on campuses.

There are some who claim that one of the reasons funding has not kept pace with increased costs is that overall grants have been curtailed by being partitioned into targeted envelopes. Proponents of this view claim that by tying ever-increasing amounts of funding to specific goals, the government forces institutions to pull money away from the core function of the university, such as faculty salaries, infrastructure and books and equipment. As a result, the underfunding of institutions is masked and quality suffers.

Evidence from the Final University Operating Transfer Payment Totals indicates that, while funding envelopes have increased as a percentage of total funding over time, 2007 saw a sharp decrease as more unrestricted funding was added, followed by a plateau that has lasted to date. For the last three years, unrestricted funding[ii] has comprised very close to 85 per cent of total government funding for universities. As the figure below indicates, over the past 7 years, the majority of funding growth has gone toward basic operating grants, not envelope funding. In fact, on a per-student basis, the amount of enveloped funding has declined. In 2004/05, each FFTE was equivalent to $5,550 in unrestricted government funding and $1,330 in restricted or enveloped funds. In 2010/11, those figures had changed to $6,510 and $1,150.

It is a fair argument that the envelopes create a degree of uncertainty and inefficiency in the funding formula, particularly when an envelope's continuation is uncertain. However, it is questionable that increased use of envelopes through *Reaching Higher* was the root of underfunding or came at the expense of core funding for universities.

**Restricted or Enveloped Funding as a Proportion of Operating Funding**




[ii] Defined as all funds without a specific purpose, including the basic operating grant, undergraduate accessibility fund and the graduate expansion fund.

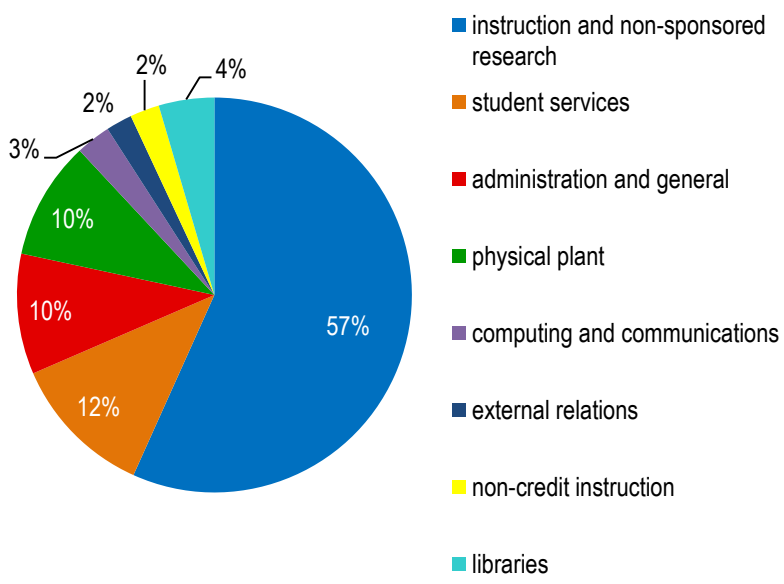
## University Expenditures

University expenditures can be broken down in several different ways. They are often categorized by fund; for example the general operating fund or sponsored research fund, and then broken down into subcategories within these funds. Examples of subcategories in a fund are "salaries and benefits" and "library acquisitions". In addition, the Canadian Association of University Business Officers (CAUBO) also divides the general operating fund into different functional categories. An example of a functional category is "libraries" which would include both the salaries of library employees and also the cost of library acquisitions.[36] This section of the paper examines the total expenditure and general operating fund, as well as how funds are distributed through the functional categories (like "libraries") in the general operating fund. Changes in the general operating fund are the principal piece of the analysis, as this fund accounts for universities' primary operating activities of interest to students – instruction and support services – while excluding other significant expenses like sponsored research that are not directly contributed to by undergraduate students. Appendix A provides a description of the expenditure categories used in this analysis.

The analysis principally examines how expenditure increases have been spent, particularly since the introduction of the Ontario government's *Reaching Higher* plan in 2005, since this investment was intended to increase resources to support educational quality, accessibility and accountability.[37]

In the general operating fund, more than half the expenditures by function went to costs associated with instruction and non-sponsored research in the 2009/10 academic year (see Figure 11[38]). Student services, administration, and physical plant costs followed in magnitude, each with roughly one-tenth of operating fund expenditures. Finally, computing and communications, external relations, non-credit instruction and libraries accounted for somewhat less of total operating expenditure, ranging from 2 to 4.5 per cent of operating expenses. Because instruction and non-sponsored research, student services, administration and the physical plant account for the bulk of operating fund expenditure, any changes in the costs of inputs in these areas have the greatest magnitude impact on the university's overall costs.

**Figure 11: Distribution of Operating Fund Expenditures, 2009/10**




Total expenditures for 2009/10 can also be examined according to sub-categories. An analysis of total university expenditure in 2009/10 by function (Figure 12[39]) reveals that salary and benefit costs accounted for nearly 60 per cent of university spending. In contrast, the next largest category, buildings, contributed only 6.8 per cent to the total. This shows that changes in salary and benefit expenditures have the most significant impact on the overall expenditure profile of universities, much more so than any of the other categories.

When the increases in total expenditure per FFTE are examined over the past five years of *Reaching Higher*, the bulk of expenditure increases can be traced to three categories: salaries and benefits, scholarships and bursaries, and buildings. Increases in salary and benefit expenditure over the time period accounted for over 70 per cent of the expenditure increase since 2004/05, despite making up 57 per cent of total expenditure. This is demonstrated in Figure 13. Scholarships and bursaries have also increased beyond their share of the total expenditure pool, accounting for 8.7 per cent of increase. Buildings have experienced a share of the increase that is roughly equal to the proportion of the expenditure pool they occupy. In contrast, most other categories of functional expenditure have received little of the increase in per-student funding that occurred over this period.

A similar pattern emerges in the general operating budget, as shown in Figure 14. Nearly 70 per cent of the increase in the operating budget went to salaries and benefits, while 6 per cent was devoted to student aid. Put another way, of the $3,200 per-student increase in the operating budget over the past 5 years, $2,200 went to salaries and benefits.

**Figure 12: Total University Expenditures by Category, 2009/10**

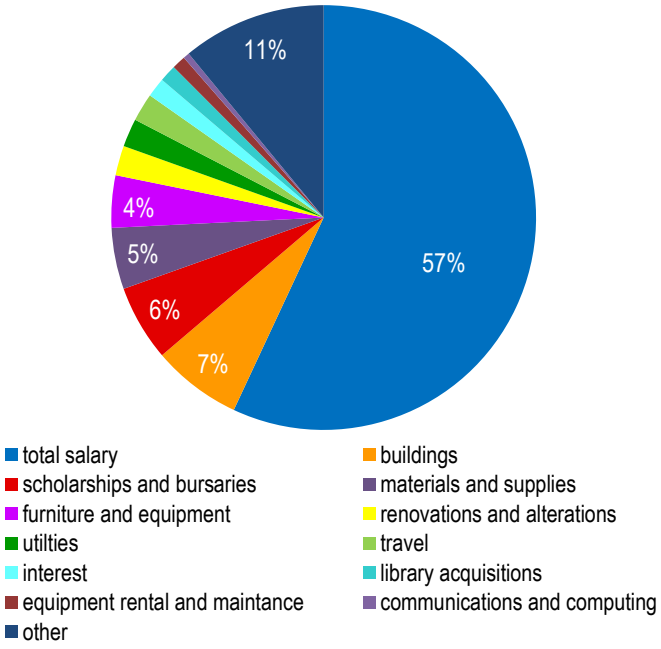



**Figure 13: Increase in Total Expenditure per FFTE from 2004/05 to 2009/10**

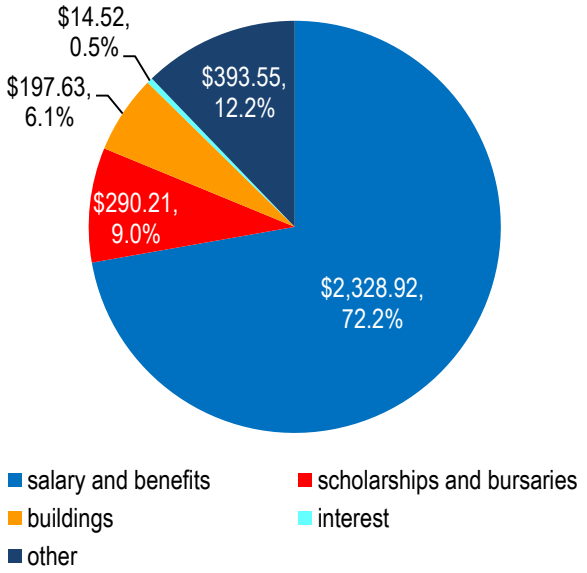
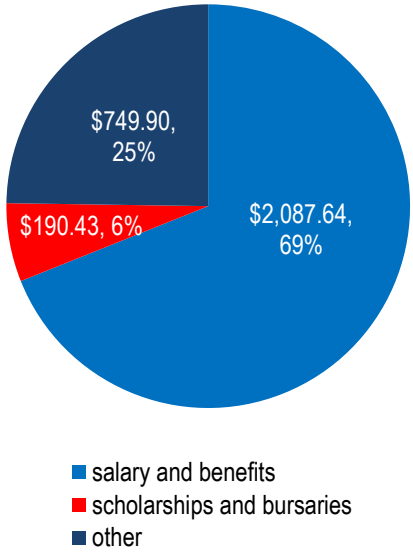



**Figure 14: Increase in General Operating Expenditure per FFTE from 2004/05 to 2009/10**

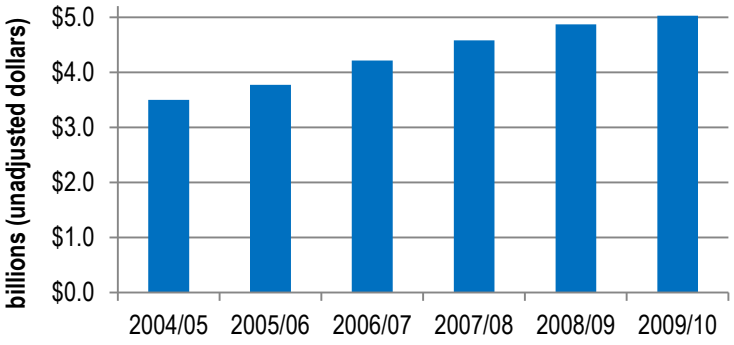



The following sections of this report go into more detail about the specific areas of expenditure that have been hypothesized to be drivers of cost inflation.

## Faculty

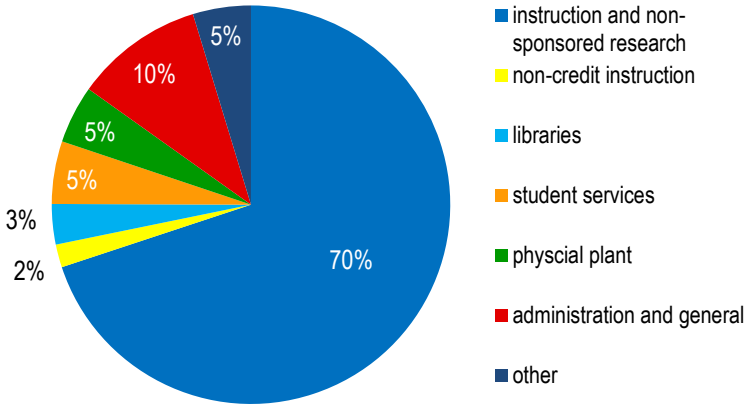
Salaries and benefits account for 57 per cent of total university expenditure, and 71 per cent of per-student spending since 2005 has gone towards funding salary-related costs. When examining just salary expenditure in the general operating fund, it has increased over the past 5 years, by 37.7 per cent, from roughly $3.5 billion to $5.0 billion (see Figure 15[40]). The steepest increases occurred in 2005/06 and 2006/07, with increases in expenditure far beyond inflation, though some of this was driven by enrolment growth as will be discussed later. In recent years, increases in expenditure on salaries and benefits declined to a level closer to CPI inflation.

**Figure 15: Total Salary Expenditure in the General Operating Fund from 2004/05 to 2009/10**




Having already established that salaries are the largest component of university expenditures and also where the greatest funding increase has been directed, the following question is to what extent have academic instructors driven these increases. The Canadian Association of University Business Officers (CAUBO) data defines "academic rank" as full and part-time staff that have an academic rank engaged in instruction and research. Consequently, academic rank captures both full-time tenured faculty and part-time instructors.[41,42] When total salaries are disaggregated into different categories, instruction and non-sponsored research accounts for 70 per cent of the operating expenditure on salaries and benefits (see Figure 16[43]).

**Figure 16: Operating Expenditure on Salaries and Benefits by Category, 2009/10**

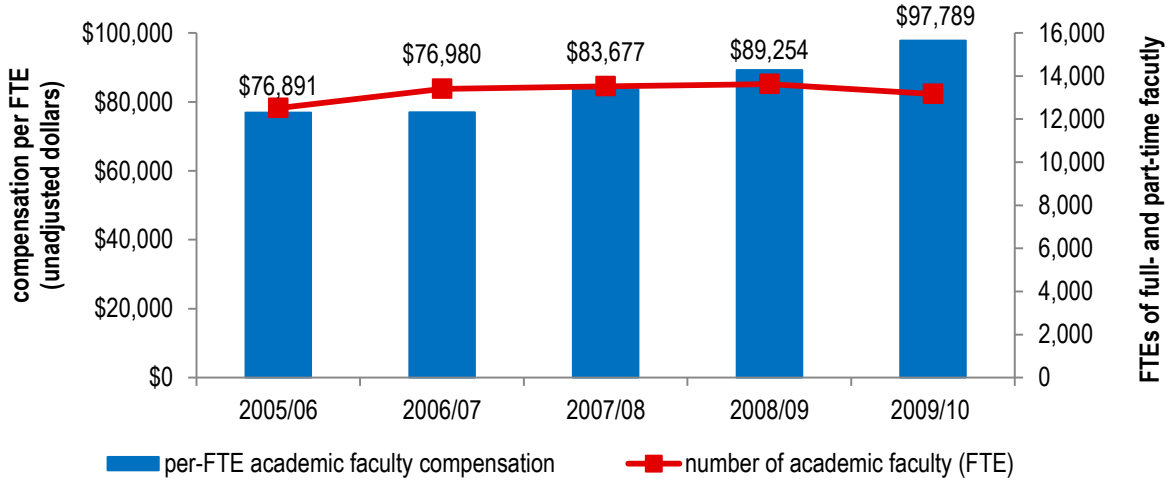



It is clear that the expenditure on academic salaries is increasing, which could mean improved quality: increased hiring results in a lower student-to-faculty ratio, smaller class sizes and greater contact between students and educators. Data suggests however that neither the student-to-faculty ratio nor average class sizes have improved over the last five years – and if anything have grown larger.[44] It is less clear how much of the expenditure increase is for more faculty members to accommodate growth and how much is going to increased compensation of current faculty members. Because the CAUBO data does not separately consider tenured faculty and contract lecturers, it is difficult to ascertain how much of this is due to increases in hiring of tenured faculty members. Figure 17[45] attempts to determine if faculty numbers or compensation have resulted in the increased expenditure by analyzing the number of full- and part-time faculty and average operating expenditure per faculty at 12 Ontario universities.[iii] This analysis does not include federal research funding, and is meant to capture institutional expenditure on teaching and learning as well as non-sponsored research. From 2005/06 to 2009/10, the overall number of faculty increased slightly, peaking in 2008/09 at 9 per cent growth and declining the following year to just under 13,000 full-time equivalent faculty (FTEs) at the institutions surveyed. The average compensation per faculty FTE, however, increased by 27 per

[iii] Only these 12 Ontario universities had consistent data available for the number of both full-time and part-time academic instructors over this time period.

cent, from $76,891 to $97,789 providing evidence that much of the increase in expenditure on academic salaries is the result of compensation of existing faculty, rather than the hiring of net new full- or part-time faculty beyond that needed to accommodate enrolment growth. It should be noted that this figure reflects overall change in compensation, and not specific negotiated contractual increases nor individual compensation levels. The fact that enrolment has increased without substantive increases in teaching faculty numbers in from 2005 to 2010 also likely reflects the increased reliance on contract lecturers for more of the undergraduate teaching load.

**Figure 17: Per-FTE Academic Faculty Compensation at Select Ontario Universities from 2005/06 to 2009/10**

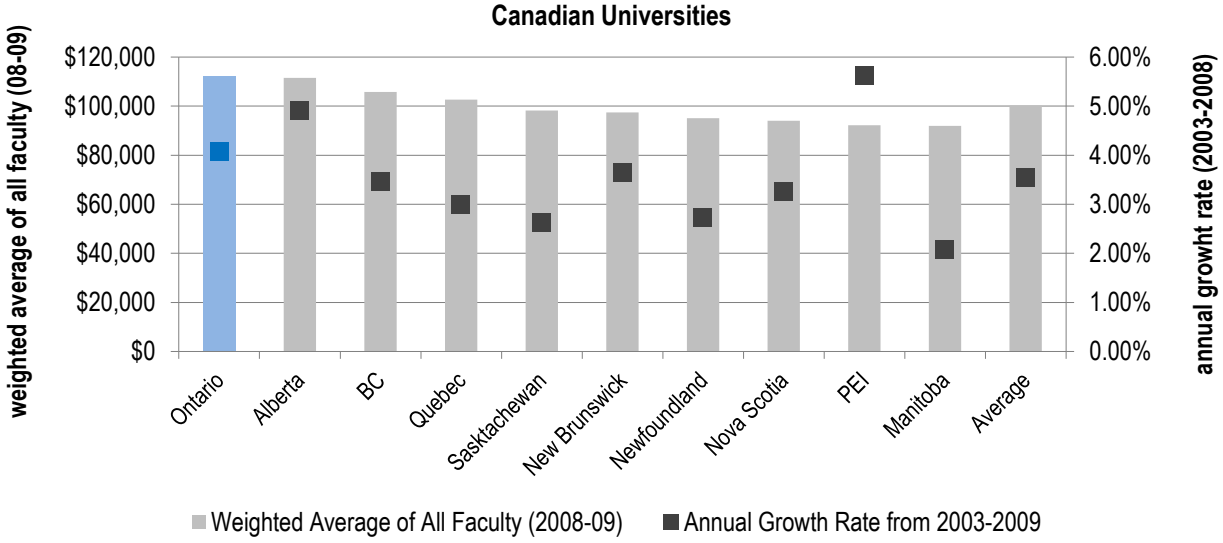



The argument that increased expenditure on academic salaries has been spent on existing faculty, rather than in expanding the number of faculty positions, is also supported by data on the growth in faculty salaries in Ontario. The average salary for full-time faculty in Ontario in the most recent year for which data is available (2008/09) was $112,222 (see Figure 18[46]). The average for full, associate and assistant professors was $139,540, $112,231 and $86,842, respectively. This was the highest average salary level in Canada. From 2003/04 to 2008/09, faculty salaries increased at an average of 4.1 per cent with the most well-compensated faculty – full professors – experiencing the greatest increases (see Table 3[47]). It should again be noted that this table represents overall increases and not the results of specific contract negotiations which have in recent years yielded lower average increases. Undoubtedly, academic faculty are a highly skilled, valuable labour pool, whose abilities are critical in providing a high quality education to students. Nevertheless, it should be acknowledged that over the last few years, full-time faculty experienced annual salary increases that were approximately double the rate of inflation.

**Table 3: Growth Rate in Median Salaries of All Full-time Teaching Staff at Ontario Universities, 2003-2009**

| | All Ranks Combined | Full Professors | Associate Professors | Assistant Professors |
|---|---|---|---|---|
| 2003/04 to 2004/05 | 3.24% | 4.64% | 3.88% | -0.08% |
| 2004/05 to 2005/06 | 3.83% | 4.52% | 4.70% | 5.34% |
| 2005/06 to 2006/07 | 3.88% | 4.69% | 4.32% | 5.00% |
| 2006/07 to 2007/08 | 4.38% | 4.70% | 4.22% | 4.29% |
| 2007/08 to 2008/09 | 5.00% | 4.45% | 3.83% | 3.16% |
| **Average Growth Rate from 2003-09** | **4.07%** | **4.60%** | **4.19%** | **3.53%** |

**Figure 18: Average Salaries and Annual Salary Increases for Full-time Teaching Staff at Canadian Universities**




### How do Ontario faculty salaries compare with earnings in the private sector?

To obtain a PhD, one must forego significant income for a long period of time and many rightly argue that these individuals should be well compensated as a result. A question often raised then, with regards to the salaries of professors, is what the comparative rate of compensation is for an individual with a PhD working in the private sector. Some argue that PhDs have the opportunity to earn far more in the private sector, while others contend that private sector demand for PhDs is low and there is not a significant earnings premium. Leaving aside the question of whether a direct comparison between the private and public sector is the best way to judge a fair wage, evidence suggests that the earnings premium of a PhD in the private sector is largely dependent on the discipline. For example, Statistics Canada data indicates that PhDs in science and engineering working in the private sector earn roughly the same income over the course of their career as someone in the public sector.[48] The earning potential of PhDs in the humanities and some social sciences, however, is arguably lower in the private sector than in the public sector. Two years after graduation, employed humanities PhDs earned $8,000 less than the average for all PhDs.[49] Data shows that humanities PhDs are less likely to work in the private sector than engineering and science PhDs, and more than twice as likely to be unemployed or employed part-time.[50] That said, the current information publicly available about the labour market prospects of PhD graduates is limited, and points to the need to conduct more research in this area, particularly as the number of doctoral students accepted by post-secondary institutions has increased by roughly 40 per cent in the last five years.[51]

## Explanations for Faculty Salary Growth

Several different explanations have been proposed to explain the continued growth in faculty salaries. One theory holds that shortages of academic faculty in the 1990s and subsequent competition among institutions for qualified individuals to fill teaching and research positions was the driving force for salary increases. During the 1990s and early 2000s Ontario university enrolment expanded substantially, with 2006 university enrolment levels 58 per cent above 1996 levels.[52] It is argued that competition for faculty led to increased pay rates during this period. In recent years, however, the supply of PhDs has risen, while demand for teaching faculty has dropped in most disciplines (in part due to recent hiring freezes at many institutions). One would then expect that if high demand was the cause of substantial salary increases in the past, faculty wages would stagnate in the coming years. One possible reason that they have continued to increase, despite lowered demand, is that salary arbitration negotiations are in large part based on previous decisions on compensation levels, and as a result the likelihood of lowering the rate of increase is reduced.[53]

Another theory is that the unionization of academic faculty has kept salaries and benefits high. There is limited information on this topic available in the Ontario context, but several studies from the United States have found that unionization has had no effect on compensation relative to non-unionized faculty. A literature review of existing studies on unionization and faculty salaries determined that "these studies suggest that, at best, faculty unions increase their members' average salaries by a very small percentage and some find that faculty unions have had no effect."[54] This is supported by the reality in Ontario, where in fact non-unionized faculty at McMaster University, the University of Toronto and the University of Waterloo have higher average salaries than the unionized faculty members at the other 17 institutions. This could be explained in part by the fact that, while faculty at the three universities are not unionized, they do negotiate collectively with their administrations, and it is argued that there is pressure to keep wages high for competition and quality reasons. There is little information on differences in pension and benefit costs for unionized and non-unionized academic faculty, though as the costs for benefit packages have increased it is possible that the benefit packages of unionized employees have contributed to high costs.[55] Others have argued that unions primarily provide a means for faculty to impact the workings of a university, including teaching and learning conditions, clear criteria for promotion, the use of campus space, and other issues which do not directly have a bearing on wages.[56]

One important relationship that this report has not been fully explored is the level of impact that the faculty labour market demands have placed on salary increases. Certainly an increased focus on innovation and building a knowledge economy has placed a premium on 'knowledge workers.' Little concrete and conclusive evidence points to the extent to which the demand for and supply of faculty or knowledge workers changed over the course of the decade or the impact that this has had on salary growth. While this lack of evidence does not erase the impact that faculty salary rise has had in increasing institutional expenditures, it should give pause to observers who would keenly rush to the conclusion that this salary rise has been unjust. With recent provincial and federal incentives for graduate expansion and the removal of the mandatory retirement age mid-decade, supply and demand for faculty have likely experienced considerable flux over the investigated time period. Furthermore, most Ontario public sector employees experienced salary increases throughout this time period, and it could be argued that these increases acted as a driver for negotiated settlements.

A somewhat more abstract economic argument about the increase in academic salary expenditure argues that there are limited gains for efficiency in higher education relative to other sectors. In other words, unlike industrial and manufacturing jobs which tend to experience efficiency increases over time, teaching and learning processes have remained virtually unchanged over the past 50 years. While there may be some veracity to this line of thought, it largely discounts the roles that teaching loads, technology, changing learning strategies, and larger class sizes have had on teaching in the university environment. For example, learning software and online discussion forums allow student participation to be assessed, even in classes of several hundred students. Similarly, the increasing prevalence of online learning and distance education courses also provide universities with the ability to deliver education to increasingly large student populations. While technology has undoubtedly changed teaching and learning at university institutions, it is less clear the bearing these strategies have had on per-student education costs, but seems likely that they have led to both efficiency gains and cost increases.

A final consideration around faculty salaries, not entirely captured utilizing available financial data, is the increased reliance on contractually limited, non-tenure track faculty. There is concern that due to the stagnant growth in the number of tenure-track faculty (as discussed in Figure 17), the overall experience level and age of tenure-track faculty has increased. This has resulted in a corresponding increase to the average salary level, as highly experienced faculty are overrepresented. The elimination of the mandatory retirement age in Ontario has also likely contributed to this issue. As mandatory retirement laws have been rescinded in Ontario, the proportion of full-time university teachers in Canada employed beyond 65 has more than doubled between 2001 and 2008 to 4.0 per cent.[57] This has led to concerns that the overall cost of tenured faculty is rising because the overall level of experience has risen, and younger faculty are having difficulty finding tenure track positions, instead forcing them into temporary contracts that pay relatively poorly. It is worth noting, however, that over the same time that the share of faculty over 65 increased, the percentage of faculty under 40 also increased slightly as well.[58]

## Administration

Administration costs makes up about 10 per cent of university operating costs and have largely stayed that way for the past five years. These costs include senior administrators and their offices, instructional support services, registrar's offices, and central purchasing and receiving. While the cost of administration has grown in concert with the overall budget, salaries and benefits have taken up an increasingly large proportion of these costs. Unlike faculty salaries which are bargained or negotiated collectively with administrations, salaries for senior administrators of universities are typically overseen by the Boards of Governors, who directly or indirectly approve both starting salaries and annual increases.[iv] Generally the President will provide a recommendation to the Board or one of its sub-committees regarding the salary of the Vice-Presidents or Associate Provosts, and the Vice-President Academic will provide a recommendation regarding the salaries of the deans.[59] Studies estimate that compensation growth beyond inflation for university administrators averaged 2.6 per cent per year from 1996 to 2002, but increases escalated to 5.2 per cent annually from 2002 to 2006.[60] Analysis of salary data from 2005 to 2008 supports the notion that there was a significant increase in university administrative salaries over the past decade. Figure 19[61] shows the average earnings of university Presidents and Vice-Presidents from 2005 to 2010. Over this period, the average salary of Vice-Presidents increased from $200,000 to $260,000, while the average President's salary increased from $285,000 to $355,000 per annum (excluding common taxable benefits like housing and vehicle allowances). These increases are outlined in Figure 20. Between 2005 and 2008, the average rate of increase among both presidents and vice-presidents was 7.0 per cent annually.[62] Since 2008, salary growth has slowed, in large part due to the fiscal pressures and corresponding wage freezes or restraints. As a result, overall increase per administrator from 2005 to 2010 averaged 4.5 per cent.[63] In addition to per-administrator salary increases, there is also evidence suggesting the number of senior administrators has increased over the past decade, with some studies suggesting the number of senior and other administrators has doubled from 2000 to 2009.[64]

**Figure 19: Average Salary of Ontario University Presidents and Vice-Presidents**

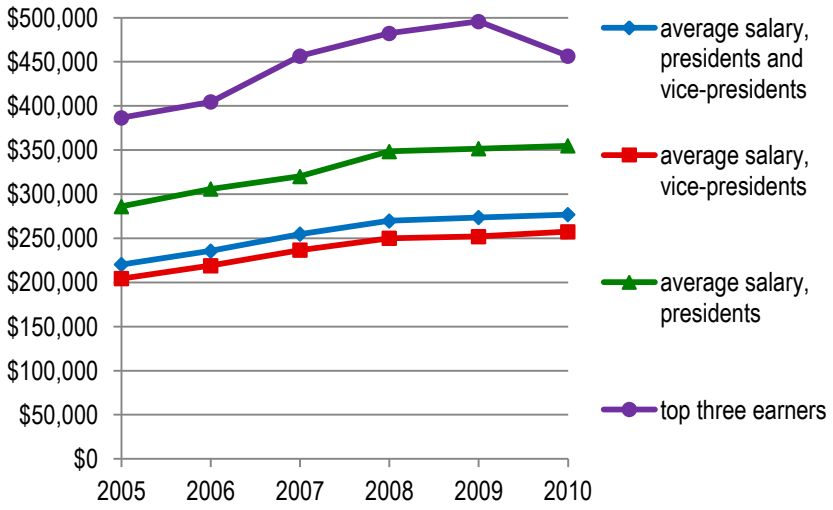
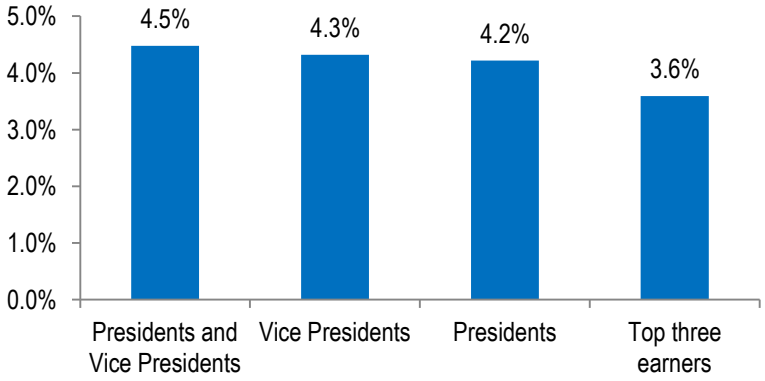



**Figure 20: Average Annual Salary Increase Among Top University Administrators (2005-2010)**




[iv] The Boards of Governors include representatives of faculty, staff and students, elected or selected by their various constituencies. However, the majority on every university Board of Governors consists of board members ostensibly chosen to reflect the wider community.

## Explanations for Growth in Administration Salaries

There are several possible explanations for an increase in the number of senior administrators at Ontario's universities and their compensation level. One hypothesis is that increases in compensation and numbers of senior administrators and administrative staff reflect a relative increase in the importance of these roles. Fundraising, government relations, marketing, branding and strategic planning have all become increasingly important, particularly in the current atmosphere of fiscal restraint. Somewhat ironically, expenditure on positions geared toward increasing institutional efficiency, soliciting private donations, and professional marketing have increased.[65] The added complexity and size of institutions and greater accountability demands on the part of the government have also necessitated increased professional staff. Some analyses that have attempted to control for university expansion have dismissed this explanation, arguing that controlling for expansion and also fiscal uncertainty, both of which were greatest in the 1990s before administrative salaries began to increase significantly, reveals no connection between pay scale and these factors.[66]

Another argument that has been made for the increase in salaries is that the increasing complexity of the roles of senior administrators have made it more difficult for the Board of Governors to determine appropriate compensation, and this has given senior academic administrators the opportunity to exercise more control over salary rates.[67]

## Pensions and Benefits

Benefit expenditures account for roughly a fifth of the expenditure on salaries in the general operating fund and about 12 per cent of the total operating budget (see Figure 21).[68] This proportion has stayed relatively consistent over the last five years.

Since 1987-88, total expenditure on university benefits has risen approximately 147 per cent.[69] Over the past five years, the portion of the general operating expenditure devoted to benefits has been increasing at approximately 12.5 per cent annually for a cumulative increase of 55.7 per cent over the last five years (see Figure 23[70]). This is despite the fact that, as outlined earlier, the number of academic rank faculty has not grown considerably over the time period.

Figure 22 shows the rate of salary expenditure change expressed as a proportion of the total operating expenditure change since 2004/05. If a specific expenditure increased at exactly the same rate as total expenditures from 2004/05 to 2009/10, then the value for overall increase would be zero. As demonstrated, total salary increased at 15 per cent above the rate of overall expenditure change, while benefits grew by 45 per cent above overall expenditures.

**Figure 21: Distribution of Salary Expenditure in Operating Fund, 2009/10**

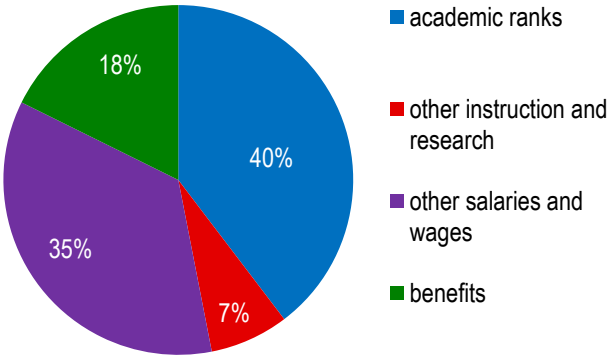
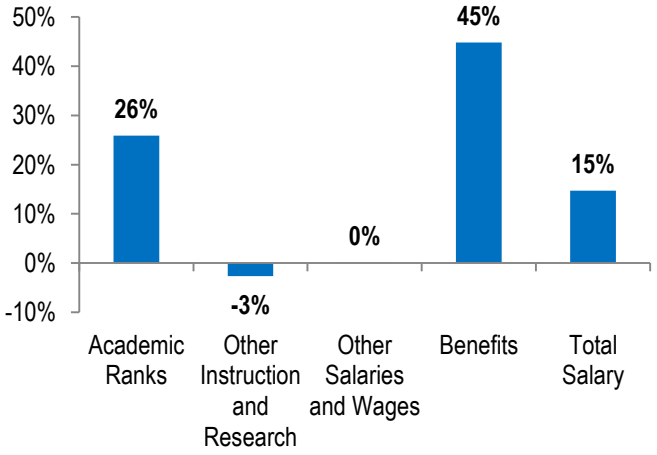


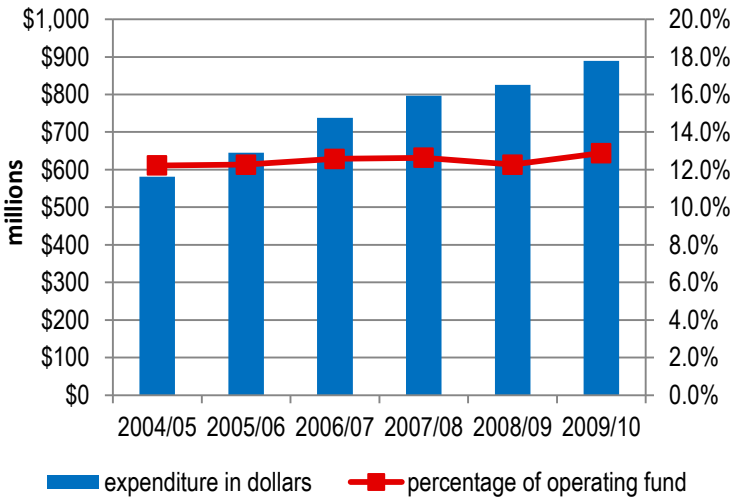

**Figure 22: Salary Expenditure Changes from 2004/05 to 2009/10 Relative to Total Expenditure Change**



## Explanation for Growth in Benefits

While some evidence suggests that health plan premiums have been increasing over the past of the years, the bulk of the increase has generally been attributed to pension costs. There are three types of pension plans a university can offer employees: Defined Benefits Plans, Defined Contributions Plans and Hybrid Plans. A Defined Benefits (DB) Plan guarantees employees a certain level of benefits, based on earnings and years of contribution to the plan, regardless of pension fund performance in the market: the employer assumes the risk. A Defined Contribution (DC) Plan provides benefits commensurate with employee and employer contributions and market performance: the payment is dependent on how the pension fund chosen performs and the employee assumes the risk. A hybrid plan has holdings in both DB and DC plans and employees can choose whichever yields the greatest pension at the time of retirement and/or each subsequent year.

**Figure 23: General Operating Fund Expenditure on Benefits from 2004/05 to 2009/10**




Most universities either have a DB (nine, covering 44,000 employees) or hybrid plan (eight, covering 24,000 employees), with only three universities having a DC plan for employees in place. DB and hybrid plans tend to be more expensive and more risky for employers, because regardless of pension fund value or market performance, they are still responsible for paying out a set amount of benefits; at the same time, these plans provide the most security for employees.

Pension plans fall into deficit when there is a difference between their value and payment obligations. During the late 1980s and 1990s, strong market performance and high interest rates generally helped pension plans generate a surplus. In recent years, several trends in the university sector have contributed to a pension shortfall including:

- Lower rates of employee contribution than in many other public sectors;
- Contribution holidays that eroded the surplus that accumulated during the 1990s;
- The use of pension surplus in the 1990s to compensate for operating funding shortfalls;
- Legal limits on the amount of surplus that can be held in contingency to meet future pension needs;[v]
- Higher pension benefits than expected due to inflation, salary increases, and longevity of retirees;
- The elimination of mandatory retirement in 2006; and
- Poor market performances in 2007 and 2008 with negative returns where pension funds shrank.

Estimates of the current pension deficit in the university sector are quite severe. The "going concern deficit" is the difference between the plan's value and the plan's liabilities if the plan were to continue into the future, calculated using actuarial assumptions about the market value of the plan's assets at the future valuation date. Pension regulations provide institutions 15 years to eliminate going concern deficits. "Solvency deficit" is the difference between the plan liabilities and the market value of if the plan were to completely close at a specific valuation date. The Council of Ontario Universities (COU) has estimated that as of July 1st 2009, going concern deficits were $2.83 billion and solvency deficits were $2.27 billion for Ontario university pension funds.[71] While institutions usually have to

v. The Federal Government sets limits on the amount of surplus that could be retained in a registered pension plan (roughly 10% of liabilities).

eliminate solvency deficits from pension plans within five years, the provincial government introduced solvency relief measures in the 2010 Budget, contingent on university submitting acceptable repayment plans.

The pension-funding crisis has significant implications for university budgets because additional funds needed to eliminate the deficit will come from the operating budget. The COU puts it bluntly stating, "With tight operating budgets and little capacity to generate additional revenue, the outcome is very direct—any additional pension costs divert spending from educating students."[72] Projections for the proportion of operating grant funding needed to eliminate the pension shortfall sit at 18 per cent and 11 per cent, depending on the whether or not solvency relief in the form of a longer amortization period is offered. Given that this report's calculations put benefits at 12 per cent of the operating budget, this estimate seems reasonable. Overall, this indicates that until the deficit is met, pension costs will likely decrease the operating budget resources available to meet other needs.

**Table 4: Estimated Annual Special Pension Payments for Ontario Universities With and Without Solvency Relief (July 1, 2009)[73]**

| | Going Concern (millions) | Solvency (millions) | Total (millions) | Percentage of operating grants |
|---|---|---|---|---|
| Last filed valuation | $33 | $8 | $41 | |
| No solvency relief | $298 | $257 | $555 | 18% |
| Solvency Relief (10 year amortization) | $298 | $51 | $349 | 11% |

An alternate means of addressing ongoing deficiencies in the pension fund is renegotiating employee contributions. Typically, university employees have contributed an average of 5.5 per cent of their salaries to pension plans. Institutions argue that this is roughly 1 to 2 per cent less of their salary than other public sector unionized employees contributing closer to 8 per cent on average. Institutions currently pay roughly two-thirds of the premium, as opposed to other public sector unions where the ratio is closer to 1:1.[74] It has been suggested that renegotiating employee contributions could ensure the long-term stability of the pension fund while reducing pressure on the operating budget. In and of itself however, this would not be sufficient to deal with the current shortfall. Another possibility would be attempting to pool the 148 different pension funds that universities have to reduce investment management fees by commingling assets. However, the complexity and diversity of funds, as well as the different governance mechanisms at different universities would make the negotiation of a consolidation very difficult. Finally, the implementation of regulations limiting or prohibiting both contribution holidays and the use of pension funds in times of good market performance to compensate for operating budget shortfalls could go a long way towards ensuring that university pension funds remain solvent in the future.

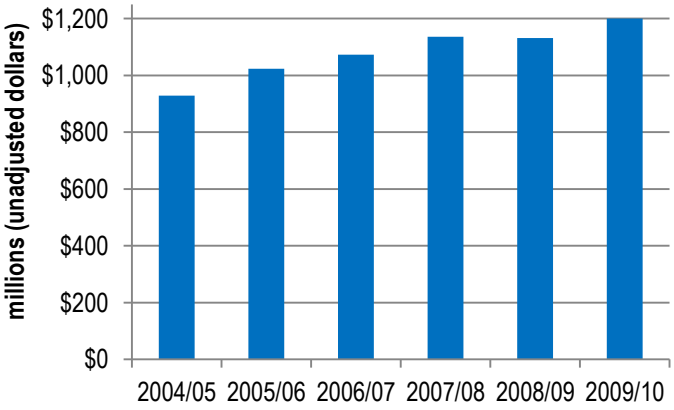
## Research

After reducing transfer payments to provinces for post-secondary education in the mid-1990s, the federal government decided to direct funding into research initiatives at Canadian universities, creating the Canada Foundation for Innovation, the Canada Research Chairs and expanding the federal granting agencies. The infusion of federal money for research incentivized institutions to emphasize research in their strategic plans and spending.[75] In just five years between 1999 and 2004, federal funding for research more than doubled.[76] From 2004/05 to 2009/10, sponsored research funding at Ontario universities continued to increase, albeit more slowly, from $2.09 billion to $2.47 billion per year in total expenditure.[77] Of this, just less than half was provided through federal research funding agencies. Figure 24[78] shows that the total annual federal transfer to Ontario universities for sponsored research has increased by roughly $270 million since 2004/05. A longer term examination of research funding has found that it has increased its share of total university budgets from 14 per cent to 19 per cent in Ontario, while the proportion of the total budget

consumed by operating expenses has decreased from 82 per cent to 75 per cent, indicating that proportionally more resources are being devoted to research and fewer to the day-to-day operations of the university.[79]

Primarily through federal granting programs, there has been recent emphasis on attracting competitive research funding. While this new revenue does not appear in university operating budgets, this increased funding has been hypothesized to have implications on university operating budgets in several ways:

**Figure 24: Total Federal Research Funding for Ontario universities, 2004/05 to 2009/10**




- The indirect costs of research posed severe strains on operating funds;
- The limited recognition of the increased direct costs of research (faculty time, grant applications, reporting requirements) associated with such a major increase in research effort has exacerbated the financial situation;
- Matching requirements of some federal funding, including the Canadian Foundation for Innovation, have placed a funding burden on the province and institutions, diverting resources from other operational areas in this time of strained finances.[80]

To some degree, the perception exists that universities have attempted to compensate for decreased operating funding by increasing research revenue. The truth of this perception is dubious due to the facts that research grants rarely cover the full costs of research. Additionally, faculty must divert time away from instruction to engage in this research, resulting in decreases to the average teaching load per full-time professor.[81] Unfunded institutional costs of sponsored research have been estimated by the Association of Universities and Colleges of Canada (AUCC) to be $1.7 billion nationally. While a federal Indirect Costs Program (ICP) exists to help mitigate the unfunded costs of research, some estimate that ICP funding only covers one half the estimated indirect costs of conducting research.[82] One study estimates that for every dollar in federal granting council research money, there are 40 cents of indirect costs.[83] Furthermore, this discounts the direct costs associated with lost faculty time. Raising faculty awareness of research funding opportunities, providing grant writing support and hiring staff to assist with research applications has consumed "extraordinary amounts of resources" from administrators and academics.[84] There is concern that since the growth of research funds is less than the increase in resources spent seeking research funding, it is an inefficient use of university time and money.[85] While there have certainly been broader benefits of increased capacity for knowledge production and innovation, it can be seen that research has contributed to cost inflation more than it has increased institutional revenue.

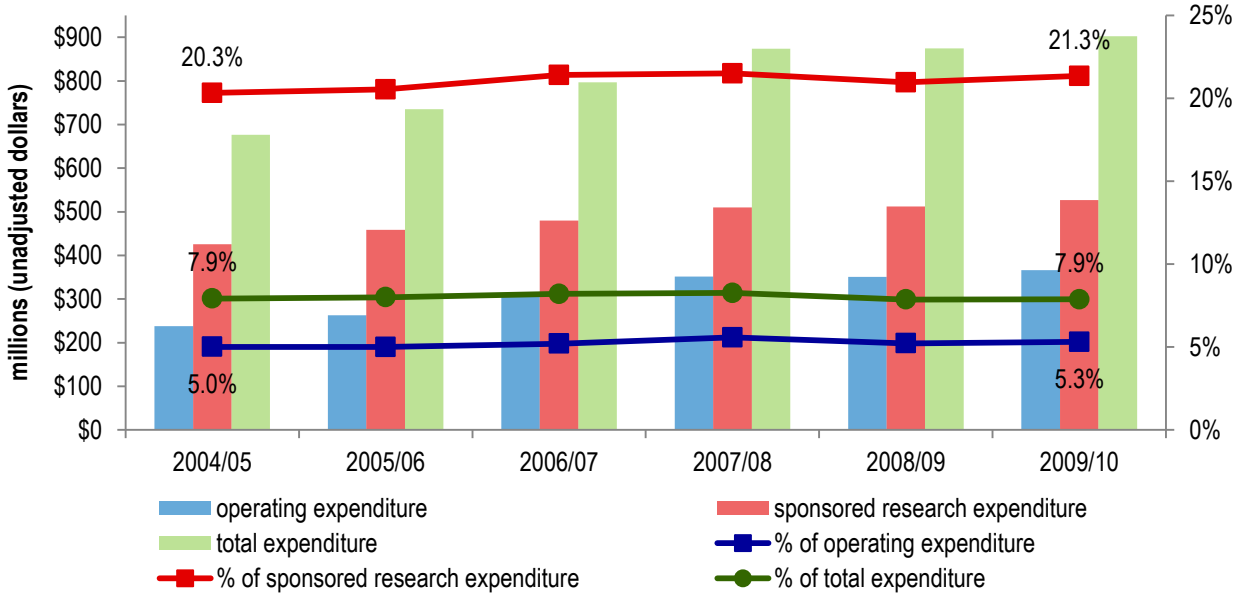
## Graduate Expansion

Related to increased expenditure on research are concerns about the cost pressures associated with graduate expansion. The number of graduate students has increased from 30,200 in 2004/05 to 51,000 in 2009/10, an increase of 68 per cent. This increase is more than five times faster than the rate of growth in undergraduate enrolment, which increased from 327,000 to 368,000 over the same time period. This increase raises a number of key questions. Many graduate students receive financial support through their institutions, either through an internal scholarship, an external scholarship which has institutional matching requirements, or a paid teaching/research assistant position. Some would argue that the increase in number of graduate students has not been matched by an increase in institutional funding for students, meaning fewer graduate students, especially those in one year Master's programs and professional degrees, receive support from the institution. However, if the increase in graduate

enrolment has been matched by a commensurate increase in funding for graduate students, and particularly if this funding has come from operating revenue, this could represent a significant cost pressure for institutions.

Figure 25[86] examines salary expenditure on other instruction and research from 2004/05 to 2009/10. This is the salary category in which the teaching, research and laboratory assistant positions often held by graduate students are reported. As a proportion of the total budget, overall expenditure on other instruction and research has increased by 1 per cent, from 20.3 per cent to 21.3 per cent. The proportion of this expenditure from the operating budget has increased more modestly, from 5.0 per cent to 5.3 per cent. Overall, increases in salary expenditure on teaching, research and laboratory assistants (33 per cent growth) have not matched the growth in graduate students.

**Figure 25: Other Instruction and Research Salary Expenditures from 2004/05 to 2009/10**

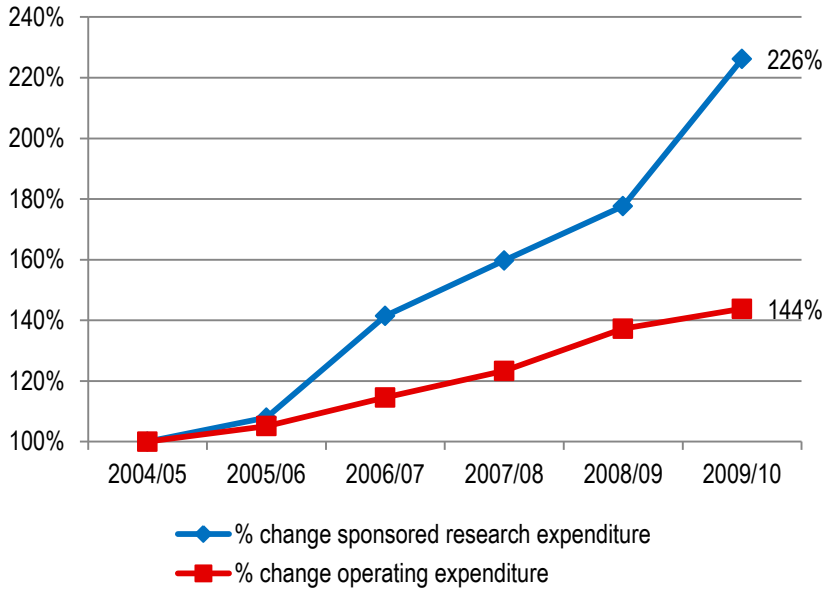



Another important question, with respect to graduate expansion, is to what extent expenditure on scholarships and bursaries has increased in recent years. The Ontario government funds 2,000 annual Ontario Graduate Scholarships (OGS) per year, covering two-thirds of the $5,000 per term cost of each scholarship, with institutions expected to cover the remaining third. In addition, the federal research granting agencies – the Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering and Research Council (NSERC), and Canadian Institute of Health Research (CHIR) – provide many types of support to graduate students, such as scholarships and research support to graduate students. In 2009/10, NSERC alone disbursed over $300 million in Ontario. While some of these awards are fully funded by the granting agencies, many also have institutional matching criteria. Figure 26[87] compares expenditure on scholarships and bursaries through the sponsored research and operating budgets. Expenditure on scholarships and bursaries in the operating budget has increased by 144 per cent since 2004/05, while over the same time frame, expenditure on scholarships and bursaries in the sponsored research fund has increased by 226 per cent. This suggests that a while a portion of scholarship costs from graduate expansion has been borne by the operating budget, an increase in graduate scholarships has more substantively shaped the sponsored research expenditure.

## Student Financial Assistance

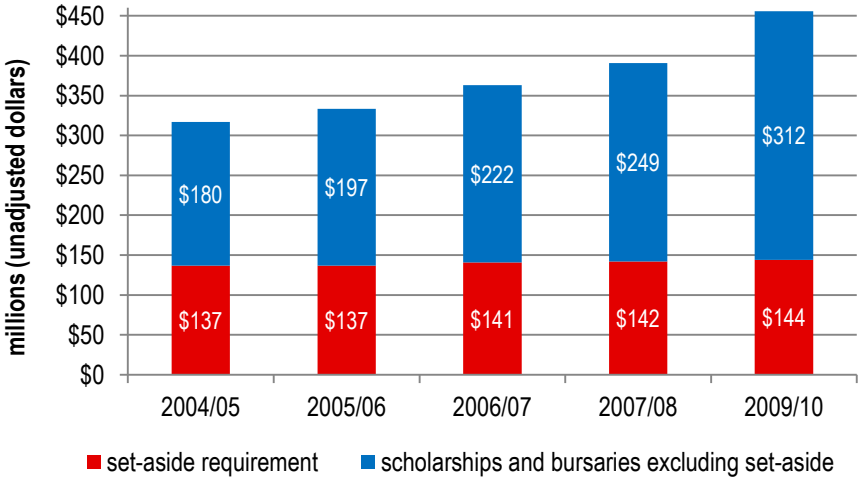
Beyond graduate expansion, student financial assistance in general is another area of expenditure that has been hypothesized to inflate university costs. The Ontario government established a set-aside policy in 1996/97, requiring that a percentage of revenue derived from tuition increases be set aside for locally-delivered financial assistance for students with financial need unmet by the Ontario Student Assistance Program (OSAP). This percentage was set at 10 per cent for 1996-97, and was increased to 30 per cent in 1997-98 onwards. From 2005/06 to 2009/10, the set-aside levels were frozen except for adjustments as a result of enrolment changes. However, as of 2010-11, the government has reinstated the requirement of a 10 per cent set-aside. This money goes toward fulfilling the Student Access Guarantee, which requires institutions to provide assistance for unmet tuition and book costs through work-study programs, bursaries, scholarships and private loans.[88] Approximately 60,000 students received funds through the Student Access Guarantee in 2009/10 for a total of $115.3 million or an average per-recipient value of $1,921.[89]

**Figure 26: Comparision of Spending on Scholarships and Bursaries from Operating and Sponsored Resarch Funds**




Some institutions have expressed concern that the mandated tuition set-aside puts strain on operating resources, gives them less flexibility in using funds and has driven up institutional expenditures. Figure 27[90] shows the expenditure on student financial assistance from the operating fund split into the set-aside requirement and non-required funding. This demonstrates that institutional obligations to student financial assistance through the tuition set-aside have remained relatively constant over the past five years, with increases at or close to zero, despite a substantial increase in enrolment during this period. Non-set-aside financial assistance, however, has been increasing substantially, at an average of 12.5 per cent per year. Overall, student aid expenditures increased on a per-student basis from $900 to $1,090. However, as a percentage of the operating budget, student aid stayed stable over the last five years around 6.6 per cent.

**Figure 27: Expenditure on Financial Assistance from the Operating Fund from 2004/05 to 2009/10**



This indicates that while increasing amounts of institutional resources are being devoted to financial assistance, this change is not driven by the mandatory tuition set-aside. There is evidence that this increase is instead being driven by the increased use of merit-based scholarships as a recruitment tool to attract students.

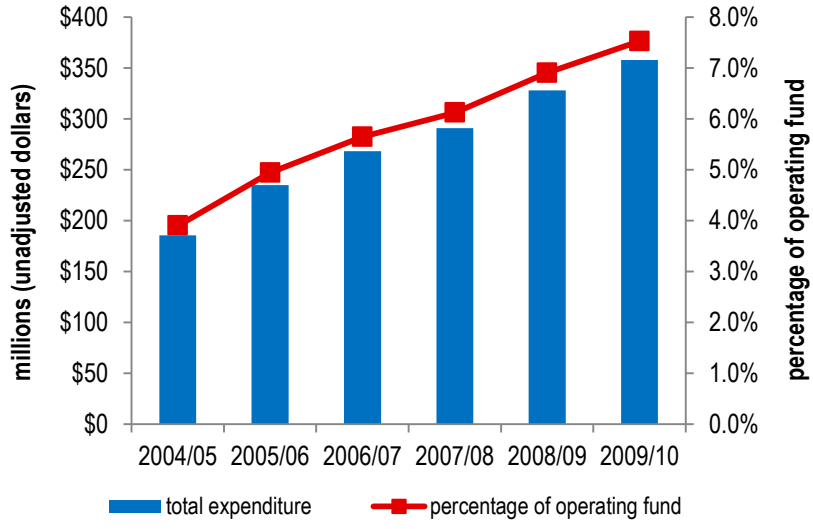
In 2009/10, 59 per cent of Ontario students beginning university studies received an entrance scholarship worth a median of $2,000, 85 per cent of which were automatic awards, half of which were renewable. The percentage of students receiving entrance scholarships and the proportion of these scholarships which were automatic and renewable was much higher in Ontario than the rest of Canada.[91] In contrast, only 15 per cent of Ontario's first-year students received institutional needs-based aid, worth a median of $1,250.[92] The majority of the funding for entrance awards in Ontario comes from operating budgets, which account for 73 per cent of support. Endowments count for another 16 per cent, while other sources, mostly one-time donations, make up the final 10 per cent of funding.[93] The prevalence of merit awards has increased in recent years, and increasingly responsibility for distributing these awards has not resided with the financial aid office, but rather with the university admissions office, reflecting the use of merit-based incentives as a strategic tool to attract target groups of students to a particular institution.[94] The effectiveness of merit awards in increasing accessibility also has been called into question, given that these awards tend to disproportionally benefit higher-income students.

Student aid costs have risen in concert with the rest of operating budget costs, but it can certainly be said that student financial assistance has been a contributor to institutional cost inflation. As outlined in Figure 14, 6 per cent of the per-student increase in expenditures went back to students through financial aid. However, this contribution over the last five years has largely not been the result of the tuition set-aside, but rather through voluntary scholarship and bursary investments by institutions themselves.

## Student Support Services

Student support services include financial aid offices, the deans of students' offices, counselling services, career guidance and placement services, athletics, health services, grants to student organizations, day care centres, and other student social, cultural, musical or dramatic programs. Student support programs are important because they can improve persistence, graduation rates, student health and general well-being.[95] Evidence suggests that expenditures on student support services have increased recently. As seen in Figure 28, student services (minus financial assistance) have increased in expenditure by over 90 per cent and grown as a percentage of the budget from less than 4% to over 7%. Figure 29[96] shows that the expenditure per FFTE on student support services has increased from $519 in 2004/05 to $855 in 2009/10.

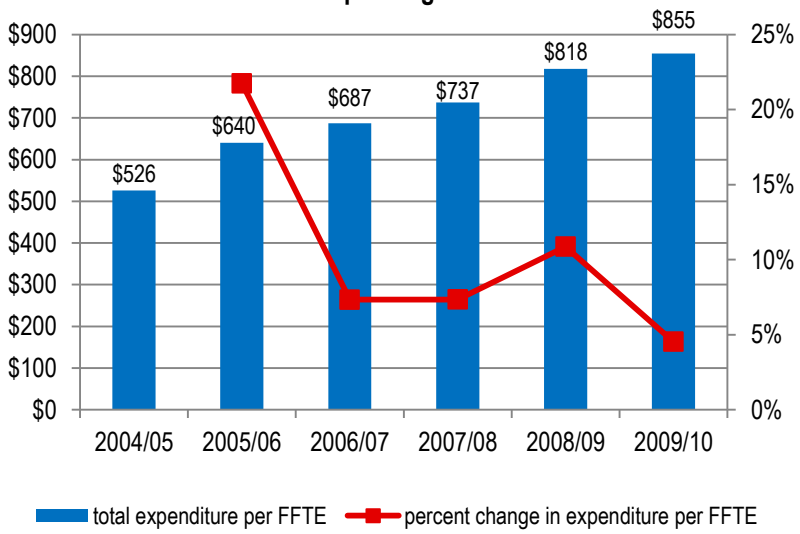
**Figure 28: Student Services General Operating Fund Expenditure from 2004/05 to 2009/10**




About two thirds of this cost is salary expenditure for support staff. There is no doubt that increased reliance and emphasis on support services have in large part driven this increase. Some have hypothesized that this is due to the increased success of students with disabilities in the K-12 system who are now more commonly able to access university.[97] Over 7 per cent of students self-identify as disabled, a number that may not include many

individuals struggling with mental illnesses who also require additional support.[98] Recent emphasis on access to post-secondary education for traditionally underrepresented groups may also have result in an increase in uptake of support services.[99]

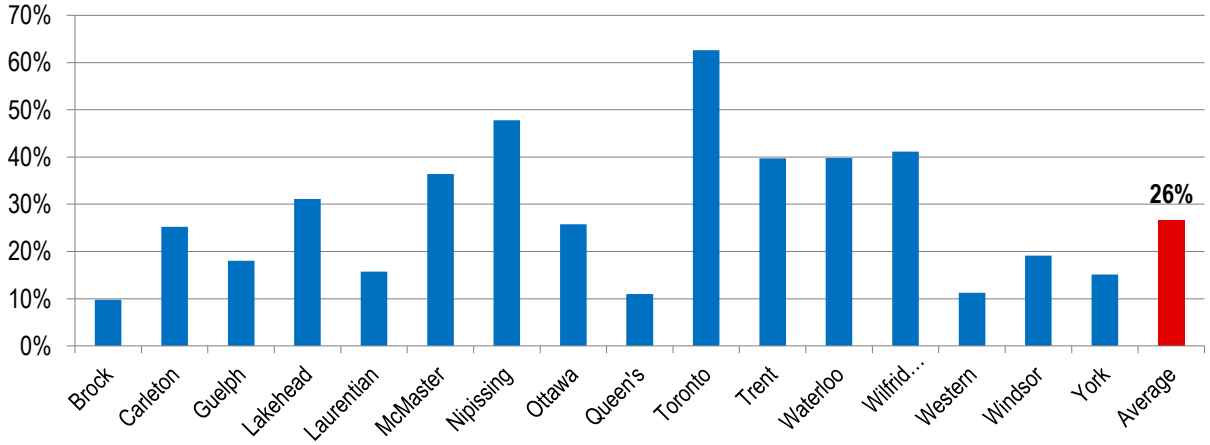
**Figure 29: Expenditure per FFTE on Student Services from the Operating Fund**




Student support services are funded through a combination of enveloped government funding, institutional operating resources, user fees and compulsory ancillary fees. Earmarked government funding increased over the time period for students with disabilities services by approximately $3 million, while approximately $10 million in funding was added for Aboriginal student services – accounting for close to 8 per cent of the total increase in funding for support services.[100] It is important to note though that to a significant degree, costs associated with student support services were directly or indirectly funded by students through ancillary fees. If student fees have come to play a greater role in funding these services, student services do not place the kind of pressure on operating budgets that other cost-drivers do. CAUBO data does not capture the extent to which fees fund support services, but it is possible to provide a rough estimate. By multiplying the 2009/10 student service fees by the number of fee-paying students in a given year, then comparing that to the CAUBO reported student service expenditure, it can be seen in Figure 30 that Ontario institutions vary widely in their reliance on student fees to fund student support services.

On average, institutions rely on student fees to cover at least one-quarter of their student service expenditures. However, more work must be done to determine whether student contributions have increased or decreased. Changes in CAUBO reporting guidelines over time have been found to compromise the comparability of data surrounding ancillary fees, making the publically available financial data an unreliable source through which to examine ancillary fee funding of student services.[101] Until such an analysis can be conducted, it is difficult to accurately assess the extent to which student services have driven cost pressures on operating budgets.

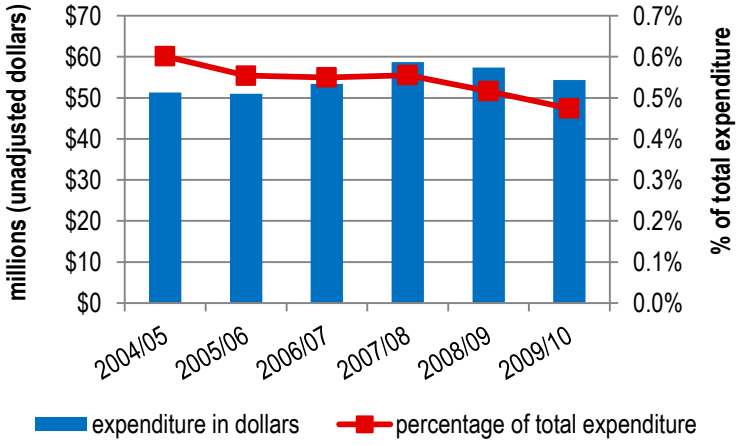
**Figure 30: Estimated Percentage of Institutional Student Services Expenditure Funded by Student Ancillary Fees, 2009/10**



## Information Technology

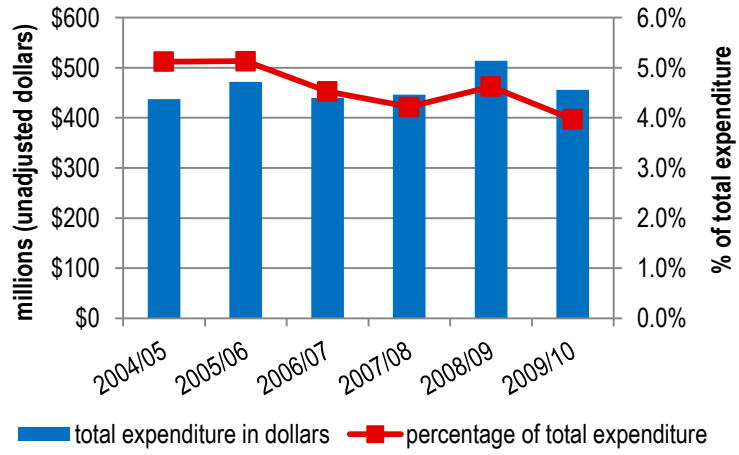
Some have reasoned that increasing information technology costs, including hardware, software and personnel in an increasingly digitized learning environment, have contributed to the cost pressures faced by universities in recent years. Figure 31[102] examines total expenditure on computing and communications. This encompasses institution-wide communications including computing services to support research and administration, telephone service, switchboard, and related personnel. It is worth noting that this does not include information technology expenses incurred by individual departments or faculty members, which can be significant but are not accurately captured with available data. Contrary to the popular conception, institution-wide communications costs have stayed relatively stable and have been steadily declining as a percent of total expenditure, accounting for just 0.47 per cent of expenditure in 2009/10, down from 0.6 per cent in 2004/05.

**Figure 31: Total Expenditure on Computing and Communications, 2004/05 to 2009/10**




Furniture and equipment includes laboratory equipment, software packages, copying and duplicating and maintenance equipment. An examination of these costs from 2004/05 to 2009/10 (Figure 32[103]) shows that as a proportion of total expenditure furniture and equipment costs have declined from just over 5 per cent of the total expenditure, to just under 4 per cent. While the dispersed nature of the expenditure reporting for information technology expenses may make it difficult to discern clear trends, an analysis of communications and computing and furniture and equipment expenses does not reveal increased expenditures in these categories in the last five years. It must be recognized however, that this expenditure-side analysis may not fully capture the demand for information technology. In fact, evidence suggests that, while per-unit costs associated with information technology may be declining, demand is increasing, particularly for wireless computing.

**Figure 32: Total Expenditure on Furniture and Equipment Purchase, 2004/05 to 2009/10**




## Libraries

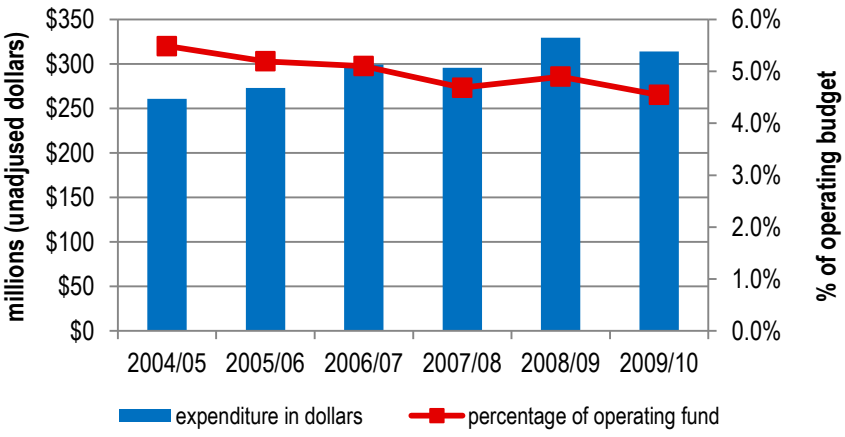
Another proposed explanation for cost inflation in the university sector is that increased costs with textbooks, library digitization, library equipment and online portal development costs are increasing above inflation. An American study comparing post-secondary textbook prices over twenty years found that their cost has risen at twice the rate of

inflation, averaging 6 per cent per year.[104] Price increases have generally been attributed to new features including websites, online content, and instructional supplements.[105]

In Canada, costs of textbooks grew at about 10 times the pace of overall inflation last year, according to Statistics Canada data provided to *The Globe and Mail*.[106] While total consumer prices rose just 0.3 per cent in 2009, school textbooks and supplies rose 3.5 per cent. Publishers say they have increased their investments in the development of supplements to meet the demands of a changing post-secondary market, and that instructors and students are both requesting more supplements. In addition, revision cycles have also become shorter for many academic books, with the current cycle at 3 to 4 years for a new edition, as opposed to the 4 to 5 year standard used a decade ago.[107]

According to CAUBO data, spending on libraries has risen by 20 per cent over the past five years, fluctuating somewhat year to year. Disaggregating these expenses by salaries and library acquisitions, both components have risen similarly with neither contributing more to the increases. However, spending on libraries actually has declined over the past five years as a percentage of total operating expenditures, from 5.5 to 4.5 per cent of the operating fund (see Figure 33[108]). On a per-student basis, spending has barely increased from $740 to $750. While there have been some increases in salary for full-time academic librarians (see Table 5[109]), these have been significantly lower than the salary increases for academics faculty and senior administrators discussed earlier.

**Figure 33: Library Operating Fund Expenditures from 2004/05 to 2009/10**




Similarly, our analysis does not find an upward trend in computing and communications or materials and maintenance, which are categories in which many information technology costs are reported, although there was a significant degree of volatility in these categories. While the lack of a trend does not necessarily means that library and technology costs have not inflated in recent years, it indicates that the increased per-FFTE expenditure in the university sector in recent years has not been used to fund these areas.

**Table 5: Annual Salaries for Full-Time Academic Librarians at Canadian Universities, 2001 to 2007**

| | 2001 | 2003 | 2005 | 2007 |
|---|---|---|---|---|
| **Salary** | $73,375 | $74,636 | $76,585 | $80,616 |
| **Percent Increase** | n/a | 1.72% | 2.61% | 5.26% |

## Utilities and Capital

A final hypothesized driver of cost inflation in the university sector has been the need to expand the physical space on campuses to serve a growing student body. When considering physical plant costs as a whole, which encompasses costs relating to building renovation, as well as capital costs reported in the operating fund, expenditures as a percentage of the general operating fund have actually decreased slightly since 2004/05 hovering around 10 per cent (see Figure 34[110]). Overall, physical plant costs rose by 44 per cent from 2004/05 to 2009/10, increasing from just over $1,300 per student to just under $1,600.

Utility costs have remained relatively flat (see Figure 35[111]), with the exception of a price jump between 2004/06 and 2005/06 due to changes in the Ontario Energy Board's pricing policies that occurred on January 1st 2006. Since that increase, university utility costs have actually increased below general inflation despite increases in the cost of electricity and overall space on campus. This is likely a good indication that energy efficiency and sustainability measures that have put in place on many campuses are having a positive effect. Over the five years, per-student costs of utilities increased by just $13.

Spending on renovations and alterations is a smaller piece of physical plant costs, accounting for $140 per student. Spending in this area fluctuated somewhat over the past five years falling in 2009/10 below 2004/05 levels in terms of proportion of operating spending. Current figures indicate that the university sector has a backlog of deferred maintenance, totalling just under $2 billion. The university system has some $19.3 billion (Current Replacement Value – CRV) in building assets. The industry standard for annual maintenance of buildings is 1.5 per cent of CRV. Funding for maintenance should, therefore, be in the order of approximately $290 million annually. However, Ontario universities typically received only $27 million annually from government, which represents 0.16 per cent of the CRV. In 2009/10, the allocation was reduced to $17.3 million, which represents 0.10 per cent of the CRV. In addition, providing adequate deferred maintenance support would avoid the need for universities to divert scarce operating dollars from educating students and accommodating enrolment growth,

**Figure 34: Physical Plant Operating Fund Expenditures, 2004/05 to 2009/10**

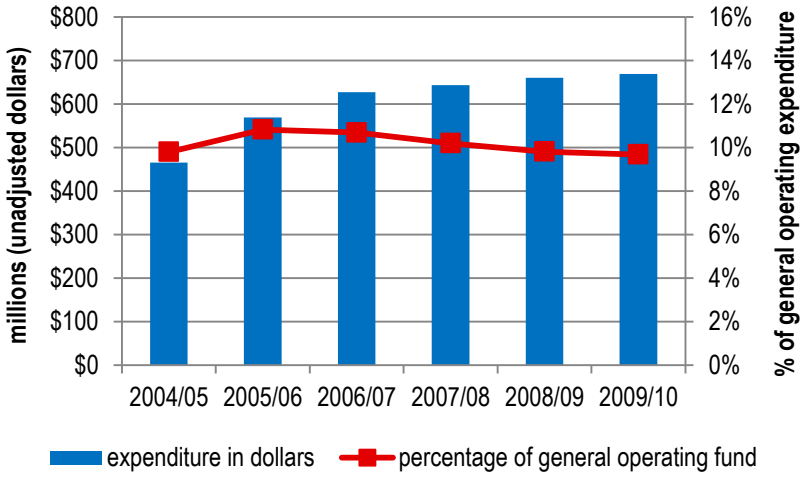



**Figure 35: Operating Fund Expenditure on Utilites, 2004/05 to 2009/10**

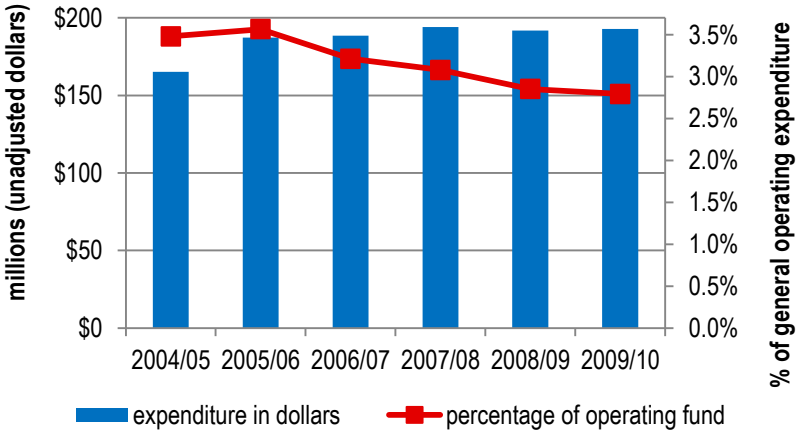
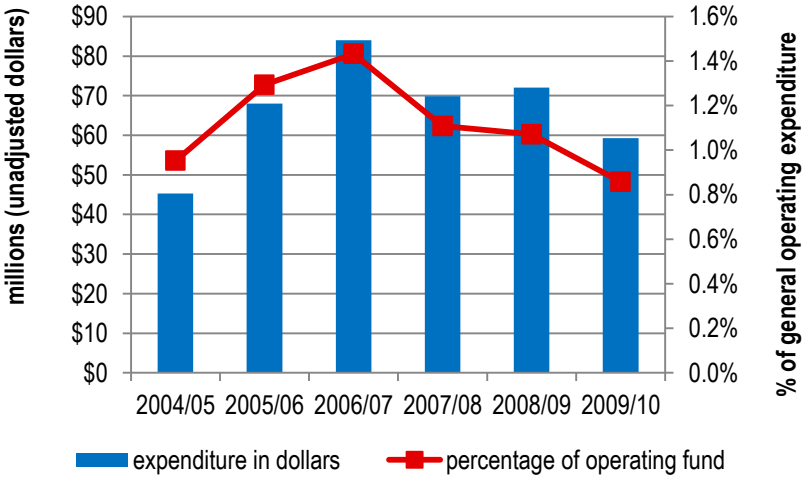


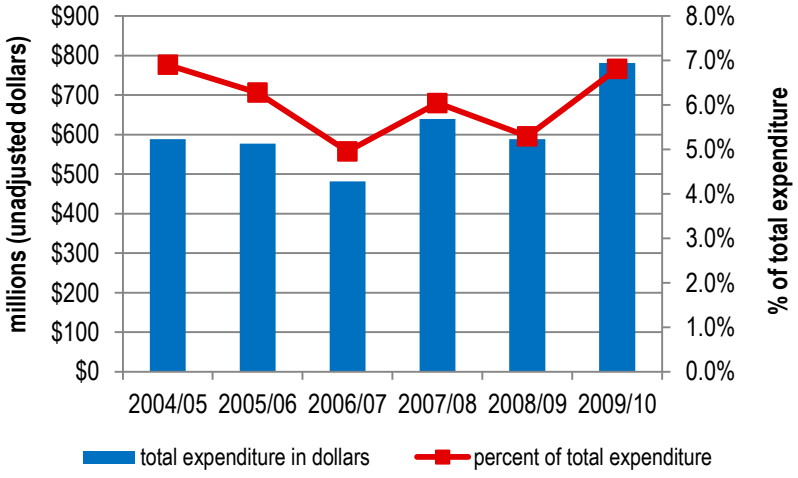

**Figure 36: Operating fund expenditure on Renovations and Alterations, 2004/05 to 2009/10**



towards supporting their aging infrastructure.

Spending on new buildings has been a consistent priority over the past decade of enrolment growth, accounting for typically 7 per cent of total university spending. Spending on buildings increased from $1,670 per student in 2004/05 to $1,870 in 2009/10, though spending increased significantly in that year as a result of economic stimulus funding from the government.

**Figure 37: Total Expenditure on Buildings, 2004/04 to 2009/10**



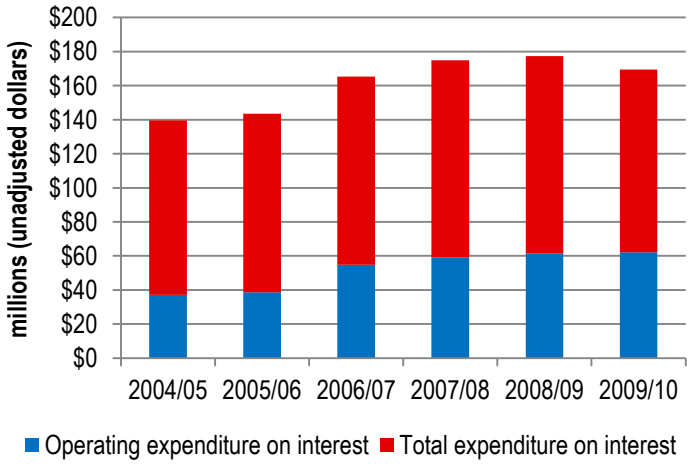

When examining capital expenditures over the past decade in Ontario, compared with those in other provinces, Ontario ranks fourth in capital expenditure per FFTE, indicating that the province falls in the middle of the pack in terms of infrastructure investment.[112] However, there are concerns among many in the university sector that recent enrolment growth has strained the university system's operating space. The Council of Ontario Universities (COU) estimates that Ontario universities are operating with only three quarters of the total necessary physical space.[113]

Overall, it is clear that physical plant costs for new and existing buildings are a cost pressure, though these costs have risen in concert with the overall budget and have by and large not consumed a greater proportion of spending over the past five years.

## Debt Servicing

Another concern often, raised with respect to expenditure pressures, is the use of operating funding to service debt incurred in the past. In 2000, the Ontario government launched the *Superbuild* initiative, where it provided $742 million in capital funds to universities contingent on matching each dollar of funding with a dollar of funding raised from the private sector. A number of institutions were unable to meet the private fundraising requirements, and consequently have been paying off the interest on debt accrued from capital projects financed through *Superbuild* as they continue to seek private donors. As Figure 38[114] shows, institutions have been spending some funds on interest payments: in 2004/05 Ontario universities collectively spent $139 million dollars on interest, and this amount increased modestly to $169 million in 2009/10. During the same time frame, the portion of these funds derived from the operating budget increased as well, from 27 per cent to 37 per cent, for a total of approximately $62 million in 2009/10. The drop in cost was undoubtedly in part due to falling interest rates over this time period.

**Figure 38: Expenditure on Interest Payments for Debt Servicing at Ontario Universities**



While this does represent a substantial expense and a questionable from a utility perspective, expenditure on interest constitutes less than 1 per cent of the operating budget. Consequently, in terms of system-wide inflationary pressures on university costs, one could argue that expenditure on interest and debt servicing has been a relatively minor player – though one that could increase in magnitude as interest rates increase.

## Can Greater Differentiation Help Address Cost Inflation?

In late 2010, the Higher Education Quality of Ontario released a report on the subject of differentiation in the university sector, claiming that "…increasing the differentiation of the postsecondary system brings the following benefits: higher quality teaching and research programs, more student choice with easier inter-institution transfer and mobility, greater institutional accountability, a more globally competitive system, [and] a more financially sustainable system."[115] More recently, the government announced an intention to pursue some elements of differentiated mandates for institutions through a new five-year plan entitled *Putting Students First.* Without knowing how exactly this differentiation will be pursued, or what exact relationship it will have to the public funding formula, it is difficult to assess what effect differentiation will have on university cost inflation, if any. Proponents of differentiation argue that increased differentiation is a partial solution for massive resource constraints, can reduce existing duplication from the system, allow for better tools to achieve public goals, and put the government in a better position to begin to address issues of quality in the system. From the institutional perspective, differentiation allows for institutions to focus on the areas of greatest interest and performance, dedicating more resources to these causes, and provide higher quality experiences both inside and outside the classroom.[116]

In a differentiated system the role of envelope funding would be, at least in part, altered to achieve strategic mandates. Rather than all institutions competing for the same pool of available resources, envelope funding could be targeted differently from institution to institution, based on their strategic goals. If progress were made toward the strategic mandates, then specific funds would be made available to the institutions. An example of how this could work in practice would be the process suggested by HEQCO whereby institutional autonomy is respected, but governments are simultaneously afforded the opportunity to help shape strategic direction and ensure the overall health of the system.[117] Under this process, the universities are the first to bring forward a proposed strategic mandate; they then undergo review and negotiation with the Ministry of Training, Colleges and Universities around their strategic mandate, followed by signing off of binding multi-year accountability agreements, and finally the establishment of an annual review process that is tied to access to envelope funding.

It is possible to conceptualize some benefits to financial sustainability if a process of differentiating university missions were to be undertaken. It is hypothesized that a central planning mechanism would help universities control cost inflation by encouraging institutions to reconsider and focus their expenditures to their differentiated missions. In effect, the differentiated missions could provide boundaries to certain types of expenditure at certain institutions, reducing duplication. For example, research priorities at every institution could be focused to particular strengths. In any case, decreased pressure on institutions to compete for research dollars across the board could perhaps allow for some downsizing in the apparatuses set up to pursue research grants and graduate spaces. Currently, most universities have a full-time research administration department usually headed by an executive.[118]

There are distinct limits to the effect differentiation could have on cost inflation, however. While differentiation could be a vehicle for reducing duplication, many of the operating expenses described in this report would continue to inflate regardless of the content of an institutional mission statement. For example, academic and administrative salaries would be largely unaffected by a shift towards a more differentiated system, and as the student population grows, the need for increased student support services would continue. It can be said that differentiation has some potential to address some minor cost pressures, but is unlikely to be a silver bullet. Many of the trends revealed in this expenditure-side analysis stem from issues common to all institutions, unlikely to be solved by a slight shift in focus of institutions.

## Conclusions

OUSA was created in 1992 ensure the affordability, accessibility, accountability and quality of undergraduate education in Ontario. It could be argued that recent progress has been made in each of these areas. However, in the face of frozen per-student government funding, provincial deficits and increasing tuition, the scope of debate in Ontario higher education must expand. Rapid university cost inflation affects every one of OUSA's pillars and makes education an increasingly unsustainable endeavour. It will eventually either rob future students of a quality university experience or an accessible and affordable one.

This should not be construed as a statement that current university funding is adequate, or that all rising costs are unjustified. Many of the components of cost inflation examined in this report are understandable. More, well-maintained infrastructure will be required to house the growing number of students seeking higher education; greater numbers of well-trained, fairly-compensated faculty will be required to educate them; new learning technologies, library and student service resources, and student financial aid will be required to support them throughout their undergraduate career. These goals are shared by students, stakeholders and all Ontarians; these should be supported with greater public investment.

However, for public investment to be truly impactful, the sector will have to optimize resources. In the current fiscal climate, the current rate of cost inflation across institutions will be passed onto students in the form of increasing tuition fees and larger class sizes. This is not to say that professors or administrators are overpaid, undeserving of competitive compensation. However, in a context where Canada's post-secondary expenditure leads the world, yet still struggles to invest adequately in quality for students, more should be done to bring inflating costs under control and ensure quality is maintained. The Ontario government and Ontario universities will need to explore ways to improve the cost-efficiency of the post-secondary education system.

Students believe that continued investment in post-secondary education, guided by a more concerted effort on using these new resources to improve the quality of the learning experience, will serve to enhance quality substantially. Already, many viable strategies have been proposed for improving quality with limited resources. Strategies such as changing tenure and promotion incentives to better balance teaching and research; creating teaching chair positions; enhancing pedagogy training and instructional support services; increasing teaching loads for some teaching-focused (not teaching-only) faculty; incorporating more experiential learning and research in the undergraduate curriculum; and eliminating unnecessary barriers to credit transfer would all be helpful if implemented properly.

OUSA hopes this report will initiate a much-needed dialogue on costs in the Ontario university sector. This will unlikely be an easy discussion, but it is absolutely necessary. In the current climate, students view cost inflation and tuition increases as inextricably linked and are rightly concerned that continued tuition increases at the current rate will put the accessibility of our system at risk. TD Economics estimates that the cost of an undergraduate education in ten years will be over $92,000 for a student living away from home, a full $15,000 more than last year in constant dollars.[119] This massive increase in private investment is not a sustainable path for students, their families or the Province. Increased government investment is a critical piece of a sustainable way forward. But before that will become a reality, the sector will have to demonstrate an ability to contain costs in a fair and progressive manner.

# Appendix A: Definition of Funds and Terms in CAUBO Data

**Adapted from Guidelines: Financial Information of Universities and Colleges Canadian Association of University Business Officers (CAUBO) 2009/2010**

**1. Terminology:**

**1.a. General operating fund** is an unrestricted fund that accounts for the institution's primary operating activities of instruction and research (other than sponsored research), academic support services, library, student services, administrative services, plant maintenance, external relations and other day to day operating expenses. Fund income includes provincial grants, student tuition and other fees, and any other unrestricted income from private sources.

**1.b. Sponsored research fund** is a restricted fund to support research paid either in the form of a grant or by means of a contract from a source external to the institution. Income sources include government (the federal Indirect Costs of Research, Canada Foundation for Innovation, and Canada Research Chairs funding), private industry and donors. In this paper, "sponsored research" refers to both entities consolidated and entities not consolidated. Entities consolidated are those included in the consolidated financial statements of the institution, while entities not consolidated refers to those that report in separate financial statements, like hospital-based research funding.

**1.c. Salaries and wages** includes salary payments, severance payments, and vacation pay to all employees of an institution.

**1.d. Academic ranks** includes salary payments to both full and part time staff members who hold an academic rank and are engaged in instruction and research (deans, professors, associate professors, assistant professors and lecturers)

**1.e. Other instruction and research** includes salary payments to both full and part time individuals without academic rank who are engaged in instruction and research activities including instructors, tutors, markers, laboratory demonstrators, teaching assistants, research assistants, invigilators, clinical assistants, postdoctoral fellows.

**1.f. Other salaries and wages** include payments to all full and part time non-instructional (support) staff including technicians, clerical, managerial, janitorial, and maintenance. Other salaries and wages also includes payments to individuals who hold an academic rank but are engaged in activities other than instruction and including the president, vice presidents, and professional librarians.

**1.g. Benefits** include pension costs paid out to retirees, pension contributions to current employees, life and salary continuance insurance, health and dental plans, workers' compensation, employment insurance and other costs of employee benefit programs.

**1.h. Library acquisitions** include all material and electronic purchases of books, periodicals and other reference materials for the institution's main, branch and faculty or departmental libraries.

**1.j. Printing and duplicating** includes expenditures that are consumed in the fiscal year like printing, duplicating, photocopying, reproductions, illustrations, publishing and related supplies.

**1.k. Materials and supplies** includes expenditures that are consumed in the fiscal year like sports supplies, stationery, computer, other office supplies and supplies for teaching and laboratories.

**1.l. Communications** includes telephone, data communications, mailing and courier.

**1.m. Utilities** include expenditures for items such as electricity, water, natural gas, fuel and sewer.

**1.n. Renovations and alterations** includes expenditures for renovations and alterations to existing infrastructure.

**1.o. Scholarships, bursaries and prizes** includes payments to students such as fee remission, prizes and awards.

**1.p. Interest** includes all interest expenditures to service debts of the institution but not repayment of principle.

**1.q. Furniture and equipment purchase** includes laboratory equipment (but not consumables), computing equipment and software, administrative equipment and furnishings (including carpets and drapery), copying and duplicating equipment, and maintenance equipment.

**1.r. Equipment rental and maintenance** includes all rental and maintenance expenditures for furniture and equipment including laboratory equipment (other than consumables), administrative equipment and furnishings (including carpets and drapery), copying and duplicating equipment, computing equipment, maintenance equipment and telephone equipment.

**1.s. Buildings, land and land improvements** include all expenditures that are construction costs such as utilities, land acquisition, landscaping, sewers, tunnels, roads and any additional fees and planning costs.

**2. Functional Categories:**

**2.a. General operating expenditures by function** is organized by operational or functional areas, within the general operating fund, that represent the major areas of institutional activity.

**2.b. Instruction and non-sponsored research function** includes all direct costs of faculties, academic departments (including salaries of deans and their offices), graduate school, summer school, and other academic functions

**2.c. Non-credit instruction function** includes lectures, courses, continuing education and similar activities that are not recognized by the institution for the purpose of granting credit.

**2.d. Library function i**ncludes the institution's archives and other activities related to the institution's main, branch and faculty or departmental libraries including materials and salary and wage costs.

**2.e. Computing and communications function** includes only the activities of centralized computing and communication facilities: computer related activities and resources that have been organized under the management of a central administration including the costs of telephone equipment rental, service, acquisition and switchboard, related personnel and other costs.

**2.f. Administration and general function** includes expenditures on academic support and other support services such as the vice presidents and president and their offices, faculty and instructional support services, research administration, registrar 's offices, admissions, course calendars, student records, convocations, co-op program administration, central shops for instruction and research, distance education support, instructional technology, class scheduling, administrative planning and information costs, costs of the board and senate secretariat, and costs associated with central purchasing and receiving stores.

**2.g. Student services function** includes the cost of non-teaching and non-administrative services provided to students by the institution such as the dean of students and the dean's office, counselling and chaplaincy services, career guidance and placement services, intramural and intercollegiate athletics, student health services, student accommodation services**,** student financial aid administration, grants to student organizations, student day care centres, and any other student services. While the CAUBO student services function includes bursaries, scholarships and prizes, in this paper these payments are put into a separate functional category.

These services may be provided from general operating fund income in whole, or in part by a specific fee included in the student incidental fee structure but only when the institution and not a student controlled and administered body utilizes the fees.

**2.h. Physical plant function** includes expenditures related to the physical facilities of the institution such as the physical plant office, space planning, maintenance, custodial services, utilities, vehicle operations, security and traffic, repairs and furnishings, renovations and alterations, mail delivery services, long-term space and property rental, and municipal taxes. Physical plant also includes fire, boiler and pressure vessel, and property insurance.

**2.i. External relations** includes all activities provided by an institution in support of ongoing external relations such as fundraising, development, alumni, public relations and public information or external communications. The related administrative costs from the office of the vice-president(s), or equivalent, responsible for one or more of these activities are included here.

# Appendix B: Data Sources

**Table B1: FFTE Count, Provincial Grants, Tuition Revenue, Other Fee Revenue, and Total Operating Revenue[vi]**

| Year | Total FFTE Count[vii] | Provincial Grants ($000s) | Tuition Revenue ($ 000s) | Fee Revenue ($000s) | Total Operating Revenue ($000s) |
|---|---|---|---|---|---|
| **1979/80** | 188,845 | $792,073 | $142,318 | $9,275 | $993,731 |
| **1980/81** | 195,265 | $848,101 | $167,727 | $10,521 | $1,068,079 |
| **1981/82** | 205,113 | $933,721 | $201,007 | $11,516 | $1,196,196 |
| **1982/83** | 216,413 | $1,054,966 | $247,808 | $15,565 | $1,374,020 |
| **1983/84** | 223,095 | $1,139,688 | $276,102 | $17,358 | $1,481,070 |
| **1984/85** | 224,265 | $1,200,936 | $293,327 | $18,153 | $1,565,618 |
| **1985/86** | 222,747 | $1,267,364 | $307,678 | $21,634 | $1,653,195 |
| **1986/87** | 223,568 | $1,362,154 | $320,732 | $23,650 | $1,763,043 |
| **1987/88** | 229,929 | $1,471,686 | $343,728 | $22,240 | $1,897,216 |
| **1988/89** | 238,854 | $1,578,943 | $379,690 | $25,324 | $2,049,206 |
| **1989/90** | 246,836 | $1,701,135 | $421,021 | $27,639 | $2,231,315 |
| **1990/91** | 256,625 | $1,846,748 | $474,561 | $32,645 | $2,441,620 |
| **1991/92** | 267,178 | $1,978,009 | $532,429 | $39,238 | $2,645,756 |
| **1992/93** | 270,999 | $2,035,670 | $596,665 | $44,626 | $2,783,415 |
| **1993/94** | 268,134 | $1,909,078 | $630,966 | $64,984 | $2,705,358 |
| **1994/95** | 262,730 | $1,876,473 | $677,179 | $74,938 | $2,734,147 |
| **1995/96** | 260,818 | $1,871,327 | $744,393 | $73,072 | $2,809,655 |
| **1996/97** | 254,490 | $1,610,753 | $858,691 | $82,872 | $2,672,304 |
| **1997/98** | 254,468 | $1,603,625 | $951,247 | $90,549 | $2,754,248 |
| **1998/99** | 256,367 | $1,642,218 | $1,078,794 | $123,540 | $2,940,176 |
| **1999/00** | 263,114 | $1,710,501 | $1,259,906 | $148,620 | $3,243,787 |
| **2000/01** | 269,145 | $1,798,444 | $1,364,714 | $149,437 | $3,456,361 |
| **2001/02** | 282,662 | $1,857,847 | $1,512,794 | $161,962 | $3,642,975 |
| **2002/03** | 306,142 | $2,012,599 | $1,713,315 | $186,467 | $3,982,624 |
| **2003/04** | 340,674 | $2,283,616 | $1,970,638 | $222,876 | $4,602,962 |
| **2004/05** | 357,578 | $2,474,805 | $2,076,414 | $256,255 | $4,986,721 |
| **2005/06** | 372,992 | $2,798,758 | $2,178,125 | $281,297 | $5,444,189 |
| **2006/07** | 390,710 | $3,115,938 | $2,309,875 | $321,677 | $5,995,198 |
| **2007/08** | 394,595 | $3,104,607 | $2,440,409 | $345,155 | $6,189,736 |
| **2008/09** | 401,315 | $3,099,027 | $2,596,206 | $376,799 | $6,360,792 |
| **2009/10** | 418,656 | $3,232,209 | $2,870,603 | $390,089 | $7,036,399 |

[vi] Adapted from Snowdon & Associates. (2009) Revisiting Ontario College and University Revenue Data.
Toronto: Higher Education Quality Council of Ontario. The expenditures are based on Council of Finance Officers (COFO) reports from Ontario Universities.

[vii] Includes eligible and ineligible FFTEs

**Table B2: FFTE Count, Total University Expenditure, and Operating Expenditure from 2004/05 to 2009/10**[viii]

| Year | Total FFTE Count[ix] | Total University Expenditure | Total Expenditure Per FFTE | Operating Expenditure | Operating Expenditure Per FFTE |
|---|---|---|---|---|---|
| **2004/05** | 357,578 | $8,532,624,000 | $23,862 | $4,752,533,000 | $13,291 |
| **2005/06** | 372,992 | $9,195,554,000 | $24,653 | $5,257,274,000 | $14,095 |
| **2006/07** | 390,710 | $9,717,514,000 | $24,871 | $5,866,385,000 | $15,015 |
| **2007/08** | 394,595 | $10,581,709,000 | $26,817 | $6,308,081,000 | $15,986 |
| **2008/09** | 401,315 | $11,114,814,000 | $27,696 | $6,730,822,000 | $16,772 |
| **2009/10** | 418,656 | $11,466,840,000 | $27,390 | $6,905,929,000 | $16,495 |

**Table B3: Inflationary Indices: Ontario Consumer Price Index (CPI) and Ontario Higher Education Price Index (HEPI)**[x]

| Year | Ontario CPI (base year 2008) | Ontario HEPI (base year 2008) | Ontario CPI (base year 2010) |
|---|---|---|---|
| 1979-80 | 38.0 | 29.7 | 37.6 |
| 1980-81 | 42.5 | 33.1 | 42.1 |
| 1981-82 | 47.0 | 36.9 | 46.5 |
| 1982-83 | 50.0 | 40.0 | 49.5 |
| 1983-84 | 52.4 | 42.4 | 51.9 |
| 1984-85 | 54.5 | 44.9 | 54.0 |
| 1985-86 | 57.0 | 47.9 | 56.4 |
| 1986-87 | 59.8 | 51.1 | 59.2 |
| 1987-88 | 62.7 | 53.6 | 62.1 |
| 1988-89 | 66.3 | 57.0 | 65.6 |
| 1989-90 | 69.5 | 60.4 | 68.8 |
| 1990-91 | 72.7 | 63.2 | 72.0 |
| 1991-92 | 73.4 | 64.0 | 72.7 |
| 1992-93 | 74.8 | 65.0 | 74.1 |
| 1993-94 | 74.8 | 65.6 | 74.1 |
| 1994-95 | 76.6 | 67.2 | 75.8 |
| 1995-96 | 77.8 | 68.4 | 77.0 |
| 1996-97 | 79.3 | 69.8 | 78.5 |
| 1997-98 | 80.0 | 71.7 | 79.2 |
| 1998-99 | 81.6 | 73.6 | 80.8 |
| 1999-00 | 83.9 | 76.6 | 83.1 |
| 2000-01 | 86.5 | 80.1 | 85.6 |
| 2001-02 | 88.3 | 83.6 | 87.4 |
| 2002-03 | 90.6 | 86.4 | 89.7 |
| 2003-04 | 92.3 | 90.2 | 91.4 |
| 2004-05 | 94.4 | 92.7 | 93.5 |
| 2005-06 | 96.0 | 95.4 | 95.1 |
| 2006-07 | 97.8 | 97.9 | 96.8 |
| 2007-08 | 100.0 | 100.0 | 99.0 |
| 2008-09 | — | — | 97.1 |
| 2009-10 | — | — | 100.0 |

[viii] Total University Expenditure and Total Operating Expenditure are based on the Canadian Association of University Business Officers' (CAUBO's) annual reports. Data categories correspond to those described in Appendix A. Data is not adjusted for inflation, and excludes UOIT and OCAD before 2006/07.

[ix] FFTE count is based on the Common University Data Ontario (CUDO). It excludes UOIT and OCAD before 2006/07.

[x] Reproduced and updated from: Snowdon & Associates. (2009) Revisiting Ontario College and University Revenue Data - Appendix. Toronto: Higher Education Quality Council of Ontario. More information about how HEPI is calculated is available in this report.

**Table B4: Salary Expenditure within University Operating Expenditure from 2004/05 to 2009/10[xi]**

| Year | Academic Ranks | Other Instruction and Research | Other Salaries and Wages | Benefits | Total |
|---|---|---|---|---|---|
| **2004/05** | $1,371,173,000 | $238,091,000 | $1,311,525,000 | $580,761,000 | $2,429,749,000 |
| **2005/06** | $1,440,534,000 | $262,603,000 | $1,405,097,000 | $644,745,000 | $2,623,922,000 |
| **2006/07** | $1,640,395,000 | $305,046,000 | $1,532,855,000 | $737,733,000 | $2,955,442,000 |
| **2007/08** | $1,782,683,000 | $351,822,000 | $1,652,082,000 | $796,808,000 | $3,225,519,000 |
| **2008/09** | $1,917,651,000 | $351,035,000 | $1,779,152,000 | $825,858,000 | $3,412,098,000 |
| **2009/10** | $1,993,508,000 | $366,278,000 | $1,778,929,000 | $889,412,000 | $3,515,636,000 |

**Table B5: Number of Full and Part-Time Academic Faculty and Academic Salary Expenditure from the Operating Expenditure for Selected Ontario Universities[xii]**

| | 2005/06 | | 2006/07 | | 2007/08 | | 2008/09 | | 2009/10 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Faculty FTEs[xiii] | Academic Salary Expend. (millions) | Faculty FTEs | Academic Salary Expend. (millions) | Faculty FTEs | Academic Salary Expend. (millions) | Faculty FTEs | Academic Salary Expend. (millions) | Faculty FTEs | Academic Salary Expend. (millions) |
| **Brock** | 687 | $47.6 | 761 | $61.3 | 755 | $62.6 | 760 | $67.5 | 728 | $70.8 |
| **Carleton** | 905 | $69.8 | 922 | $75.8 | 977 | $82.2 | 995 | $88.1 | 1,004 | $93.2 |
| **Lakehead** | 317 | $27.9 | 330 | $30.3 | 367 | $33.3 | 373 | $35.7 | 381 | $37.1 |
| **Laurentian** | 574 | $40.3 | 608 | $43.4 | 636 | $45.5 | 639 | $49.3 | 636 | $51.0 |
| **Nipissing** | 199 | $16.2 | 199 | $18.5 | 200 | $19.6 | 218 | $21.6 | 241 | $22.9 |
| **Ottawa** | 1,485 | $99.6 | 1,559 | $107.7 | 1,612 | $121.4 | 1,552 | $146.6 | 1,595 | $152.7 |
| **Ryerson** | 859 | $59.5 | 918 | $66.8 | 955 | $75.0 | 989 | $80.9 | 999 | $84.3 |
| **Toronto** | 2,718 | $270.4 | 2,746 | 269.9 | 2,478 | $292.5 | 2,498 | $309.3 | 2,539 | $324.8 |
| **Trent** | 332 | $30.2 | 353 | $32.9 | 362 | $36.1 | 304 | $36.5 | 309 | $37.4 |
| **Waterloo** | 1,173 | $94.9 | 1,609 | $104.7 | 1,693 | $113.5 | 1,771 | $122.7 | 1,173 | $132.1 |
| **Laurier** | 527 | $46.9 | 661 | $51.7 | 660 | $54.9 | 665 | $61.9 | 693 | $64.9 |
| **York** | 2,742 | $159.1 | 2,745 | $169.2 | 2,830 | $195.1 | 2,863 | $196.4 | 2,870 | $216.4 |

[xi] Salary expenditure amounts based on the Canadian Association of University Business Officers' (CAUBO's) annual reports. Data categories correspond to those described in Appendix A. Data is not adjusted for inflation, and excludes UOIT and OCAD before 2006/07.

[xii] FTE count for academic faculty is based on the sum of full and part-time faculty reported in the CUDO data. It only includes institutions which had part-time faculty counts available for the 2005/06 to 2009/10, inclusive. Academic salary expenditure is taken from the operating expenditure reported in the CAUBO data and captures compensation for basic teaching and research responsibilities but not compensation for external research grants and awards.

[xiii] Includes faculty at any affiliated university-colleges.

**Table B6: Median Salaries of Full-time Teaching Staff at Ontario Universities, 2008/09[xiv]**

| Institution | All Ranks Combined | Full Professors | Associate Professors | Assistant Professors |
|---|---|---|---|---|
| Brock | $105,197 | $131,545 | $108,437 | $85,155 |
| Carleton | $106,708 | $132,688 | $112,353 | $85,951 |
| Guelph | $112,415 | $132,785 | $110,636 | $91,362 |
| Laurier | $100,457 | $138,021 | $105,070 | $80,246 |
| McMaster | $111,255 | $138,600 | $108,422 | $65,588 |
| Queen's | $122,135 | $134,608 | $113,090 | $101,929 |
| Waterloo | $119,320 | $143,556 | $118,052 | $90,275 |
| Western | $107,907 | $133,296 | $109,058 | – |
| Windsor | $104,907 | $141,898 | $108,761 | $86,486 |
| Lakehead | $96,207 | $122,715 | $97,519 | $79,094 |
| Laurentian | $104,853 | $140,736 | $113,253 | $85,918 |
| Trent | $110,800 | $152,119 | $108,295 | – |
| Ottawa | $101,260 | $130,515 | $104,254 | $84,110 |
| Toronto | $125,399 | $152,810 | $120,688 | $94,763 |
| York | $115,677 | $137,318 | $118,137 | $91,089 |
| RMC | $103,885 | $127,489 | $101,219 | – |
| Ryerson | $107,765 | $133,630 | $111,029 | – |
| Nipissing | $86,180 | $116,506 | $94,818 | $83,814 |
| UOIT | $99,136 | $135,000 | $105,480 | $90,000 |
| **Weighted Average** | **$112,222** | **$139,540** | **$112,231** | **$86,842** |

**Table B7: Undergraduate Ancillary Fee Contributions to University Student Services[xv]**

| Institution | 2009/10 FFTE Undergrad Enrolment | University Student Service Fees | Approximate student ancillary fees contribution | Total Funding | % Student Fees |
|---|---|---|---|---|---|
| **Brock** | 12,798 | $116.89 | $1,495,958 | $15,278,000 | 9.8% |
| **Carleton** | 16,334 | $240.24 | $3,924,080 | $15,544,000 | 25.2% |
| **Guelph** | 15,604 | $397.34 | $6,200,093 | $18,295,000 | 33.9% |
| **Lakehead** | 5,706 | $276.00 | $1,574,856 | $5,066,00 | 31.1% |
| **Laurentian** | 5,770 | $216.95 | $1,251,802 | $7,945,000 | 15.8% |
| **McMaster** | 19,538 | $393.53 | $7,688,789 | $21,122,000 | 36.4% |
| **Nipissing** | 3,727 | $373.25 | $1,391,103 | $2,912,000 | 47.8% |
| **Ottawa** | 24,691 | $237.18 | $5,856,211 | $22,705,000 | 25.8% |
| **Queen's** | 13,909 | $226.61 | $3,151,918 | $28,611,000 | 11.0% |
| **Toronto** | 50,445 | see below[xvi] | $24,921,228 | $49,642,000 | 50.2% |
| **Trent** | 5,930 | $488.57 | $2,897,220 | $7,288,000 | 39.8% |
| **Waterloo** | 22,698 | $273.30 | $6,203,363 | $15,591,000 | 39.8% |
| **Wilfrid Laurier** | 12,174 | $379.86 | $4,624,415 | $11,238,000 | 41.1% |
| **Western** | 19,886 | $275.02 | $5,469,048 | $48,549,000 | 11.3% |
| **Windsor** | 11,414 | $216.25 | $2,468,278 | $12,905,000 | 19.1% |
| **York** | 38,326 | $250.80 | $9,612,161 | $63,700,000 | 15.1% |

[xiv] Weighted averages calculated from: Statistics Canada, Education Finances, Post-Secondary Faculty and Tuition Statistics Section. (2003/04 to 2008/09). *Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities.* Ottawa.

[xv] FFTE enrolment taken from CUDO data. University Student service fees calculated by summing student service related mandatory ancillary fees for each institution. Fees for health and dental insurance were excluded. UOIT and Ryerson were excluded from the data as outliers. UOIT's service fee was $1,570.90 per student in the 2009/10 year, while Ryerson's was $31.47.

[xvi] Calculated as a weighted per-FFTE average of university student service fees at the St. George Campus, Mississauga Campus and Scarborough Campus because each of these campuses has a slightly different student service fee.

## References


1. Calculated from: Council of Ontario Universities. (2010). *Common University Data Ontario.* Toronto.
2. Snowdon & Associates. (2009). *Revisiting Ontario college and university revenue data*. Toronto: Higher Education Quality Council of Ontario.
3. Ibid.
4. Statistics Canada. (2010). *University tuition fees 2010/11*. Ottawa.
5. Snowdon & Associates, *Revisiting Ontario college and university revenue data.*
6. Government of Ontario. (2010). *Speech from the throne: Open Ontario Plan*. Toronto.
7. Adapted from: Organization for Economic Cooperation and Development. (2010). *Education at a glance 2010: OECD indicators*, Table B2.1. Paris.
8. Ibid.
9. Adapted from: Canadian Association of University Teachers. (2011). *2010-2011 CAUT almanac of post-secondary education in Canada*, Ottawa.
10. Adapted from: Statistics Canada. (2010). *Gross domestic product, expenditure-based, by province and territory*; academic years calculated by averaging the adjacent fiscal years. Ottawa: Statistics Canada. Retrieved from: http://www40.statcan.ca/l01/cst01/econ15-eng.html
11. Statistics Canada. (2011). *Consumer Price Index, historical summary (1991 to 2010).* Ottawa.
12. Snowdon & Associates, *Revisiting Ontario college and university revenue data.*
13. Ibid.
14. Total expenditure is the total amount expended in a category through all funds – the operating fund, the sponsored research fund, the capital fund, and the endowment fund.
15. Snowdon & Associates, *Revisiting Ontario college and university revenue data.*
16. Snowdon, Ken. (2010).The public funding of higher education: is it sustainable? *2010 Ontario Confederation of University Faculty Associations (OCUFA) Conference: Financing Higher Education in the Current Economic Climate.* Toronto.
17. Snowdon & Associates, *Revisiting Ontario college and university revenue data.*
18. Ibid.
19. Ibid.
20. Canadian Association of University Teachers. (2011). *2010-2011 CAUT almanac of post-secondary education in Canada.* Ottawa.
21. Essaji, Azim and Horton, Sue. (2010). Silent escalation: salaries of senior university administrators in Ontario, 1996–2006. *Higher Education*. 59: 303–322.
22. Calculated from: Snowdon & Associates, *Revisiting Ontario college and university revenue data*; and BIU data obtained from the Council of Ontario Universities.
23. Ibid.
24. Calculated from: Canadian Associations of University Business Officers. (2004/05 to 2009/10). *Financial information of universities and colleges*. Ottawa.
25. Council of Ontario Universities. (2006). *Fact sheet: financial implications of the Reaching Higher plan.* Toronto.
26. Council of Ontario Universities. (2006). *Progress report: university access, accountability and quality in the Reaching Higher plan*. Toronto.
27. Calculated from: Snowdon & Associates, *Revisiting Ontario college and university revenue data.*
28. Ontario Undergraduate Student Alliance. (2011). *Going global: supporting Ontario's international students*. Toronto.
29. Calculated from: Snowdon & Associates, *Revisiting Ontario college and university revenue data.*
30. Ibid.
31. Ibid.
32. Calculated from: Snowdon & Associates, *Revisiting Ontario college and university revenue data*. Analysis from: Canadian Associations of University Business Officers. (2004/05 to 2009/10). *Financial information of universities and colleges*. Ottawa.
33. Calculated from: Snowdon & Associates, *Revisiting Ontario college and university revenue data.*
34. Snowdon, Ken. (2010).The public funding of higher education: is it sustainable? *2010 Ontario Confederation of University Faculty Associations (OCUFA) Conference: Financing Higher Education in the Current Economic Climate.* Toronto.

35. Ibid.
36. See Appendix A for a complete list of definitions of different funds, categories and functions used in this paper.
37. Government of Ontario. (2005). *Ontario Budget 2005: Reaching Higher.* Toronto.
38. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.
39. Ibid.
40. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.
41. Canadian Associations of University Business Officers. (2010). *Guidelines: financial information of universities and colleges*. Ottawa: CAUBO. Retrieved from http://caubo.ca/fedora/repository/caubo:1419/OBJ/2009-2010%20FIUC%20Guidelines%20% 28PDF%29
42. Other instruction and research generally refers to markers, laboratory assistants, teaching assistants, and postdoctoral fellows, and is not as relevant to our discussion on faculty salaries.
43. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.
44. Louise Brown. (2011, April 18). How to make huge university classes more meaningful. *Toronto Star*.

    Ontario Confederation of University Faculty Associations. (2011). *OCUFA Briefing Note: Faculty Shortages*. Toronto.
45. Calculated from: Canadian Associations of University Business Officers. (2004/05 to 2009/10). *Financial information of universities and colleges*. Ottawa. Excludes institutions that did not have information available on part-time faculty (Western, McMaster, Windsor, Queen's, Guelph, Algoma, OCAD, UOIT).
46. Calculated from: Statistics Canada, Education Finances, Post-Secondary Faculty and Tuition Statistics Section. (2003/04 to 2008/09). *Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities.* Ottawa.
47. Ibid.
48. McKenzie, Michael. (2008). *Science and Engineering PhDs: A Canadian Portrait.* Ottawa: Statistics Canada, Science, Innovation and Electronic Information Division.
49. Desjardins, Louise and Darren King. (2011). *Expectations and Labour Market Outcomes of Doctoral Graduates from Canadian Universities*. Ottawa: Statistics Canada, Culture, Tourism and the Centre for Education Statistics Research papers.
50. Ibid.
51. Ibid.
52. Essaji, Azim and Horton, Sue. (2010). Silent escalation: salaries of senior university administrators in Ontario, 1996–2006. *Higher Education*. 59: 303–322.
53. Jaschik, Scott. (2011, April). Losing Ground on Salaries. *Inside Higher Education.* Retrieved from http://www.insidehighered.com/news/2011/04/11/data_show_another_tough_year_for_faculty_salaries
54. Berrett, Dan. (2011, March 7). More than Money. *Inside Higher Education*. Retrieved from http://www.insidehighered.com/news/2011/03/07/power_not_money_undergirds_the_fight_over_collective_bargaining
55. Ibid.
56. Hedrick, David W., Henson, Steven E., Krieg, John M., and Wassell, Charles S. (2011) Is there really a faculty union salary premium? *Industrial and Labor Relations Review,* 64(3): 1-18.
57. Canadian Association of University Teachers. (2011). *2010-2011 CAUT almanac of post-secondary education in Canada*. Ottawa.
58. Ibid.
59. Essaji, Azim and Horton, Sue. (2010). Silent escalation: salaries of senior university administrators in Ontario, 1996–2006. *Higher Education*. 59: 303–322.
60. Ibid.
61. Calculated from: Government of Ontario. (2005 to 2011). *Public Sector Salary Disclosure*. Toronto: Queen's Printer for Ontario. Calculations excluded administrators beginning or leaving a position in a given year, interim and temporary appointments. Calculations also exclude taxable benefits, like accommodation and car allowances.
62. Ibid.
63. Ibid.
64. Ontario Confederation of University Faculty Associations. (2009). *Data Check: Admin numbers and salary soaring*. Toronto.
65. Essaji, Azim and Horton, Sue. (2010). Silent escalation: salaries of senior university administrators in Ontario, 1996–2006. *Higher Education*. 59: 303–322.
66. Ibid.

67. Ibid.
68. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.
69. Council of Ontario Universities (2007). *Ontario universities resource document*. Toronto.
70. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.
71. Council of Ontario Universities. (2010). *Final report of the working group on university pension plans*. Toronto.
72. Ibid.
73. Adapted from: Council of Ontario Universities. (2010). *Final report of the working group on university pension plans*. Toronto.
74. Ibid.
75. Snowdon, Ken. (2010).The public funding of higher education: is it sustainable? *2010 Ontario Confederation of University Faculty Associations (OCUFA) Conference: Financing Higher Education in the Current Economic Climate.* Toronto.
76. Canadian Association of University Teachers. (2011). *2010-2011 CAUT almanac of post-secondary education in Canada*. Ottawa.
77. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.
78. Ibid.
79. Snowdon & Associates, *Revisiting Ontario college and university revenue data*.
80. Ibid.
81. Jones, Dennis and Wellman, Jane. (2009). *Rethinking conventional wisdom about higher ed. finance*. Washington, DC: Delta Project on Postsecondary costs, Productivity and Accountability. Retrieved from http://www.deltacostproject.org/resources/pdf/advisory_10_Myths.pdf
82. Snowdon & Associates, *Revisiting Ontario college and university revenue data*.
83. Ibid.
84. Polster, Clair. (2010). The Public Funding of Canadian Higher Education: How Corporatization Undermines Sustainability. *2010 Ontario Confederation of University Faculty Associations (OCUFA) Conference: Financing Higher Education in the Current Economic Climate.* Toronto.
85. Ibid.
86. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.
87. Ibid.
88. Ministry of Training, Colleges and Universities. (2011). *2010-2011 Student Access Guarantee (SAG) Guidelines*. Toronto: Queen's Printer for Ontario.
89. Data from the Ministry of Training, Colleges and Universities (2010).
90. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.
91. Educational Policy Institute. (2008). *Institutional Student Financial Grants in Ontario*. Toronto: Higher Education Quality Council of Ontario.
92. Adapted from: Higher Education Strategy Associates. (2010). *Canadian Student Survey.* Toronto.
93. Ibid.
94. Snowdon & Associates, *Revisiting Ontario college and university revenue data*.
95. Skorton, David. (2010, Dec. 17). We Can Do Better on College Costs. *Huffington Post*. Retrieved from http://www.huffingtonpost.com/david-j-skorton/we-can-do-better-on-colle_b_798220.html
96. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.
97. Snowdon & Associates, *Revisiting Ontario college and university revenue data*.
98. Canadian Association of University Teachers. (2011). *2010-2011 CAUT almanac of post-secondary education in Canada*. Ottawa.
99. Snowdon & Associates, *Revisiting Ontario college and university revenue data*.
100. Ministry of Training, Colleges and Universities. (2010). *Final 2010-11 operating grants to universities provided by the Ministry of Training, Colleges and Universities (MTCU)*. Toronto: Government of Ontario.
101. Snowdon & Associates. (2009) *Revisiting Ontario college and university revenue data.*
102. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.
103. Ibid.
104. United States Government Accountability Office. (2005). Report to Congressional Requesters. *Enhanced Offerings Appear to Drive Recent Price Increases.* Washington: GAO.

105. Ibid.

106. Tavia Grant. (2010, September 29). Inflation 101: Students get tough lesson on tuition, textbooks. *Globe and Mail*. Accessed at: http://www.theglobeandmail.com/report-on-business/economy/economy-lab/daily-mix/inflation-101-students-get-tough-lesson-on-tuition-textbooks/article1732436/

107. United States Government Accountability Office. (2005). Report to Congressional Requesters. *Enhanced Offerings Appear to Drive Recent Price Increases.* Washington: GAO.

108. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.

109. Ibid.

110. Ibid.

111. Ibid.

112. Council of Ontario Universities (2007). *Ontario universities resource document*. Toronto.

113. Ibid.

114. Calculated from: Canadian Associations of University Business Officers, *Financial information of universities and colleges*.

115. Clark, Ian D., Greg Moran, Michael Skolnik, and David Trick. *Academic transformation: the forces reshaping higher education in Ontario*. Montreal: McGill-Queen's UP, 2009, 7.

116. Ibid.

117. Weingarten, H.P. and Deller, F. (2010). *The Benefits of Greater Differentiation of Ontario's University Sector: Final Report*. Toronto: Higher Education Quality Council of Ontario.

118. Clark et al. 67.

119. TD Economics. (2009). *The Future Cost of a University Degree*. Toronto: TD Bank Financial Group.

# OUSA

Ontario Undergraduate Student Alliance

345-26 Soho Street
Toronto, Ontario M5T 1Z7
Phone: 416-341-9948
Fax: 416-341-0358
Email: info@ousa.ca
Web: www.ousa.ca

November 2011