



Canada's Universities: Cost Pressures, Business Models, and Financial Sustainability

Update 2018

Abstract

Canada's Universities: Cost Pressures, Business Models, and Financial Sustainability was based on financial data through to 2012-13. This 'update' is intended to take stock of the current financial state of the university sector by highlighting key developments in the interim including the increasing reliance on international enrolment and associated tuition revenue. The report also draws attention to provincial differences in funding and policy that influence universities and their ability to cope with financial constraints and cut-backs. Generally, Canada's universities are better off today than one might have expected given the number and severity of challenges confronting the sector in 2012-13. But there are serious financial stresses in some institutions where demographic realities are resulting in enrolment challenges, provincial economic circumstances are affecting government grant levels, and questions are being raised about academic sustainability. While making adjustments to the 'business model' Canada's universities are still faced with major challenges and increasing risk as they head towards the third decade of the new Millennium.

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Introduction

Canada's Universities: Cost Pressures, Business Models and Financial Sustainability (prepared in 2014 and published on-line by CAUBO in March 2015) was based on financial data through to 2012-13. This 'update' is intended to take stock of the current financial state of the university sector using the original report as a reference point and identifying/highlighting key developments in the interim using various sources of information. I am grateful to members of the CAUBO Board and Faculty Bargaining Services Management Committee who took the time for an interview and provided their insights into what has transpired over the past several years and what may be on the horizon. In addition, I am indebted to other individuals in the university sector who took the time to have in-depth conversations about their institutional circumstances. Thank you!

The update begins with a brief 'recap' of the original paper and then acknowledges the importance of provincial policies and politics on the higher education landscape. From there, it provides an 'update' of the national data that was used in the original report and sprinkles some provincial data and findings to illustrate the provincial differences in policy approach and public finance. The paper then turns to some observations about the 'business model' and how it is evolving, and that leads to a final section that focuses on some of the challenges that will continue to test the financial sustainability of Canada's universities.

'Recap'

The original report identified several factors that combined to form what was referred to as the 'Perfect Storm' and led many finance officers, and others, to question the financial sustainability of the existing business model. Each of those factors – income constraint, demographics, structural deficits associated with research and salary increases, pension deficits, and a growing backlog of deferred maintenance – was examined in some detail to determine the impact on university finances. Although the data indicated that university operating revenue on a **per full-time student** basis had 'more or less' kept pace with inflation in the new millennium at the national level, it was clear that it had peaked around 2007-08. As a result, some of the more pressing structural challenges (i.e. the impacts of the innovation agenda on teaching loads, salary increases) were masked for part of the decade. The financial crisis of 2008-09 and its negative impact on endowments, investments, pensions and public finance brought an additional set of financial realities that ultimately laid bare the financial pressures facing Canadian universities and resulted in the 'Perfect Storm'.

The original report also noted that higher expectations regarding universities' roles as social and economic catalysts had led to expanded mandates that for the most part, were either not funded or not funded properly thus adding to the financial burden. Another finding from the original report was that some of the financial pressure may well have been self-inflicted. For example, shortfalls in fund-raising for some capital projects gave rise to draws on Operating funds to fill the gap. And the pursuit of research in the interests of the 'innovation agenda' led to a series of added cost pressures that posed a major threat to financial sustainability.

At the same time, however, it was clear that institutions had engaged (and continue to engage) in various cost reduction / cost containment strategies to mitigate the twin impacts of income constraint and particular cost pressures. Energy conservation, bulk purchasing and the expansion of purchasing consortia resulted in cost-savings that translated directly to the bottom line. Investments in digital libraries resulted in considerable savings and, arguably, much better access to collections and on-line library resources. And some institutions had attempted to diversify their revenue base somewhat by ‘ramping up’ fund-raising, changing ancillary services policy to help directly support Operating activities, and encouraging more entrepreneurial activity on campus.

Figure 1. The ‘Perfect Storm’: Factors Influencing Financial Sustainability



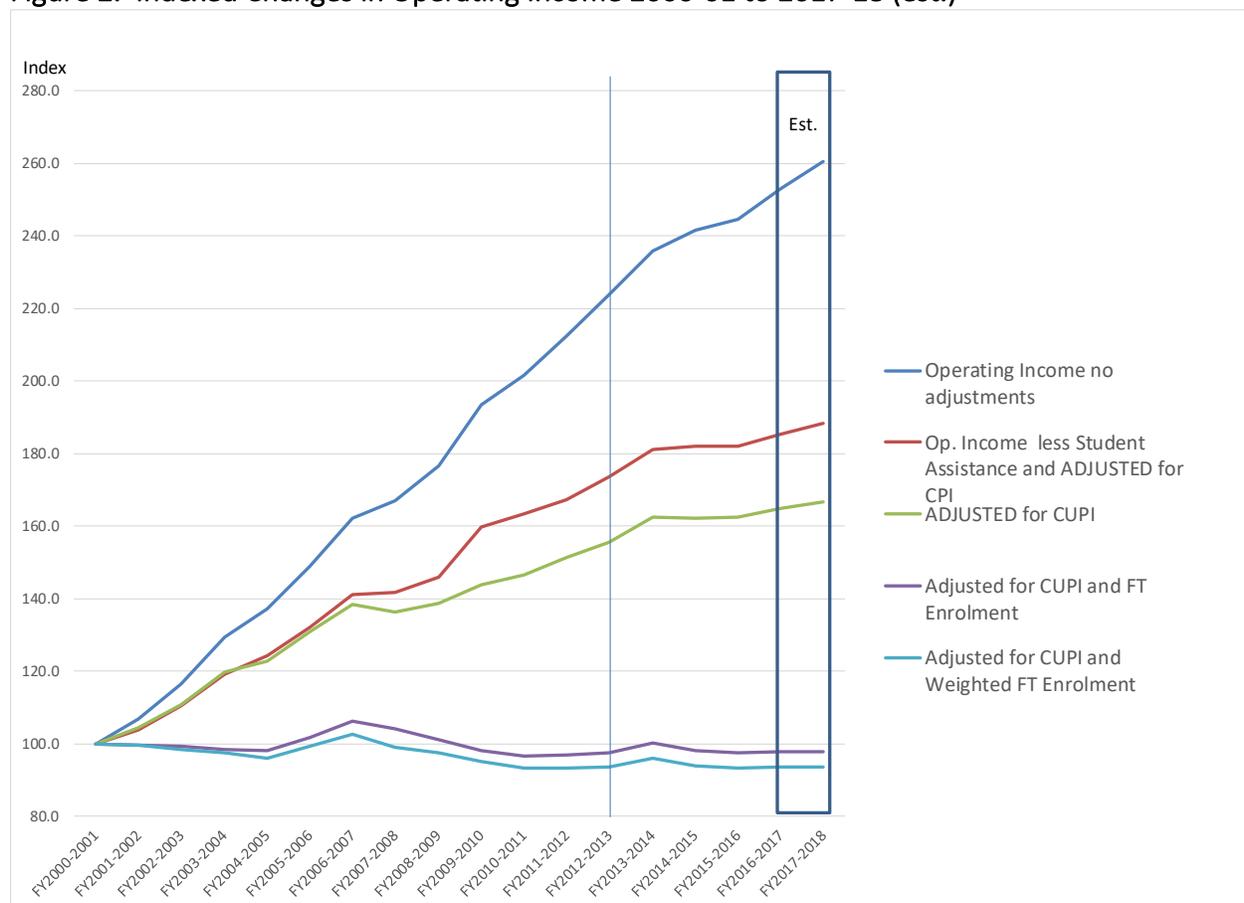
Nevertheless, as the latter half of the second decade of the new millennium loomed, the sense of financial uncertainty had not abated. Government constraint seemed to be ever-present and prospects for government relief were generally quite dim in light of a weak economy, particularly in provinces struggling with the impact of lower oil prices and its negative effect on economic growth.¹ The ‘structural deficits’ associated with salary increases and research were still present. Many institutions continued to struggle with pension deficits. Some institutions experienced declines in enrolment (and associated tuition income) while others were coping with an influx of additional students – domestic and international. The liability associated with deferred maintenance continued to grow. So what happened?

¹ The ‘oil rollercoaster’ saw prices peak in mid-2008 and then drop by two-thirds to about \$50 / barrel during the recession. After more than doubling from that low, prices dropped even further from mid-2014 to January 2016 almost touching the \$30 / barrel mark. Since that time prices have more than doubled but are still less than one-half of the June 2008 peak. (West Texas Intermediate) <http://www.macrotrends.net/1369/crude-oil-price-history-chart>

Update: Income restraint

Figure 2 updates the main chart from the original report. The addition of three more years of actual data along with estimates for a further two years provides a somewhat different picture than many anticipated back in 2012-13. At the national level, absolute funding levels continued to increase, and after adjusting for student assistance, inflation and enrolment, part of the period was characterized by real increases in funding per student. Adjusting the income per FT student by a “Canadian University Price Index” (CUPI) – an index that attempts to capture the labour intensive nature of higher education – Operating funding has been essentially ‘flat’ since 2012-13; that is on a per FT student basis changes in operating funding have on average and calculated at the national level, kept pace with higher education inflation. But, that ‘national’ finding varies dramatically by province and even by institution within a specific province.

Figure 2. Indexed Changes in Operating Income 2000-01 to 2017-18 (est.)



“What we see in higher education depends on where we look.”

(Glen Jones, Higher Education in Canada: Different Systems, Different Perspectives, 1997)

Glen Jones’ observation about Canadian higher education was grounded in one of Canada’s basic realities; higher education is the responsibility of the provinces. The earlier study focused on providing a ‘national’ overview of the state of university finances in Canada. Yet, as those

working in the higher education well know the national view is not necessarily all that applicable. While the federal government plays a role in funding higher education through transfer payments to the provinces, research support, infrastructure funding, and student aid, the key income determinants of institutional financial health – provincial operating grants and tuition – are established at the provincial level. Certainly the federal presence has grown markedly over the past two decades and has served to reinforce a differentiated role for a set of research intensive institutions. When attempting to assess the on-going financial sustainability of higher education institutions however, the bottom line remains heavily dependent on the provincial purse and provincial policies.

And provincial governments have adopted quite different approaches to dealing with the higher education sector in the context of their own funding challenges and their own political philosophies. The fact that there have been nine wholesale changes in provincial governing parties since 2012,² has created a policy environment in ‘flux’ in many provinces. So, as we turn to the provincial arena, keep in mind that what transpired in the aftermath of the financial meltdown over the past several years may, or may not, be a good predictor what is to follow.³

Figure 3 illustrates the percentage changes in each of the main revenue components (grants, tuition, and grants + tuition) and indicates that Newfoundland, Prince Edward Island, and institutions in Nova Scotia, New Brunswick, Alberta and British Columbia, on average, experienced changes in income (grants + tuition) of less than 15% from 2010-11 to 2015-16. Four of those provinces (Prince Edward Island, Nova Scotia, New Brunswick and Alberta) experienced income changes of less than 10% and New Brunswick institutions, on average, had less than a 5% increase in combined grant and tuition income. A more detailed look at the Atlantic universities indicates a clear level of ‘income constraint’ characterized by actual reductions in operating grants at some point in that period, enrolment declines at a number of institutions and constraints on tuition. In Alberta, the combination of grant and tuition constraints served to limit the overall increase in income with Alberta’s universities experiencing an actual decrease in grants in 2014.

In contrast, Ontario registered a total grant plus tuition increase of over 25%, much of it related to tuition generated from both increased enrolment (~11% total, 6% domestic and 70% international) and increased levels of tuition fees, but also due to operating grants for domestic enrolment increases (+6%).⁴ Tuition policy in Ontario was characterized by regulated tuition for domestic students (5% maximum per year through 2012-13 and then 3% since) with added flexibility for second degree programs and new professional programs. Tuition for international

² Since 2012, governments have changed political ‘stripes’ in nine provinces - Newfoundland 2015, Nova Scotia 2013, New Brunswick 2014, Quebec 2012, 2014, Manitoba 2016, Alberta 2015, British Columbia 2017 and most recently Ontario 2018.

³ The data sources underpinning the analysis at the provincial level are similar to the national data – financial and enrolment information from Statistics Canada. However, the provincial information does not contain estimates for 2016-17 and 2017-18. The provincial data focuses solely on grant and tuition revenue – which constitutes roughly 90% of total Operating revenue.

⁴ ‘Core’ government grants to institutions were actually reduced over the period. However, as part of its push for ‘access and affordability’, the province increased student assistance to post-secondary education by 40% and encouraged growth by providing Operating grants for increased domestic enrolment. The growth incentive was replaced with a ‘corridor’ concept in 2017/18 and future funding commitments for growth and/or inflation are yet to be determined.

students is not regulated. Over the period (2010-11 to 2015-16) revenue from international tuition (tuition increases plus increases in international enrolment) tripled while tuition revenue from domestic students increased by 40%.

Figure 3: Tuition & Grant Revenue by Province (Percentage Change: 2010-11 to 2015-16)

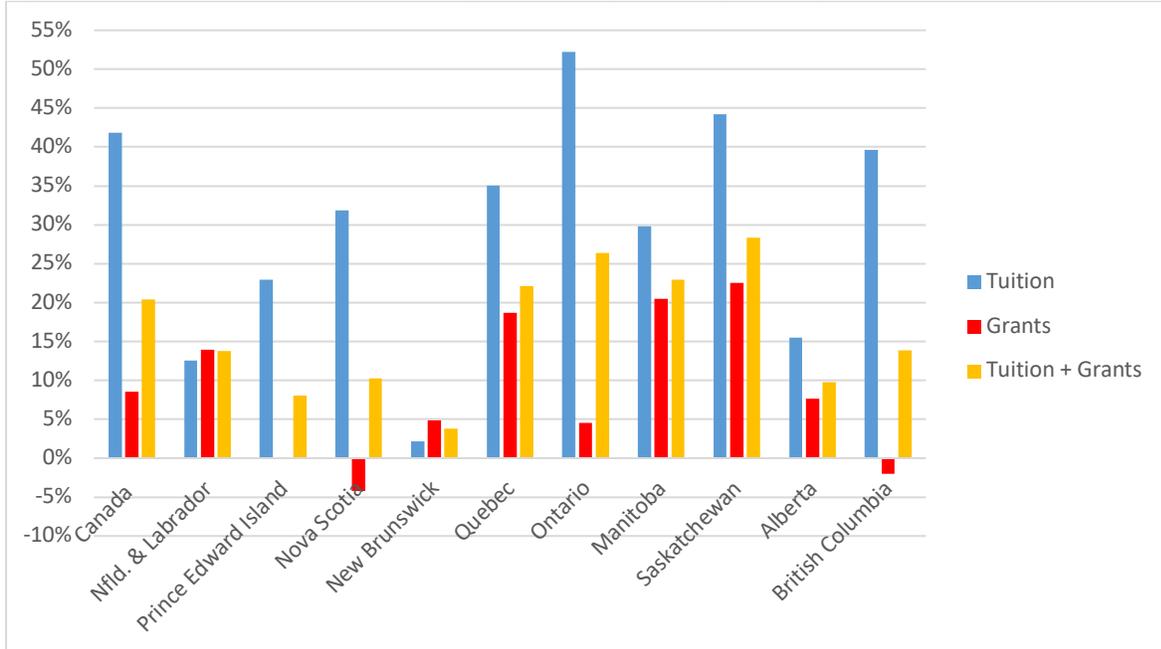


Figure 4: Tuition & Grant Revenue per FT Student (Percentage Change: 2010-11 to 2015-16)

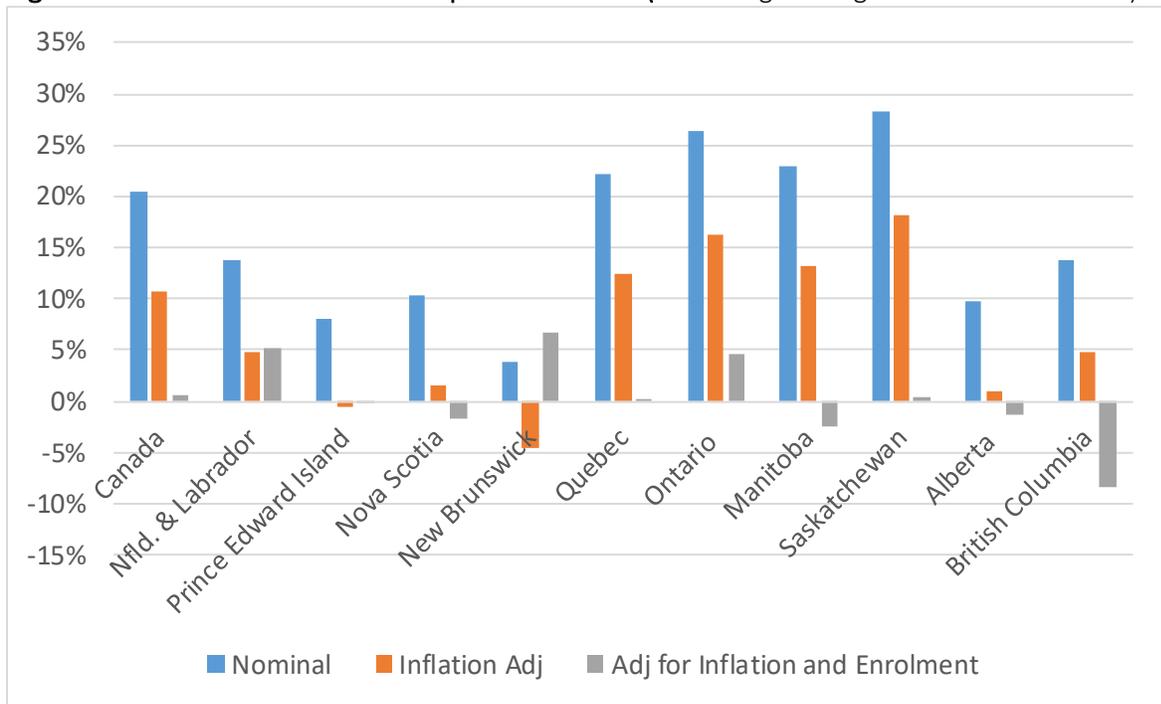


Figure 4 takes the data in Figure 3 and adjusts for inflation (CPI) and enrolment. The end result is an even more sobering picture of the differences in the higher education landscape across Canada. Funding per FT student declined in British Columbia, Alberta, Manitoba and Nova Scotia, held its own in Saskatchewan, Quebec and Prince Edward Island, and actually increased a bit in Newfoundland, New Brunswick and Ontario. Readers should note, however, that the Newfoundland situation has changed rather dramatically in the past year or two (with a change in government) and the New Brunswick 'increase' per FT student is more the product of significant enrolment declines than increased grants or tuition.

While Figures 3 and 4 help illustrate the change in income from the start and endpoints of the period and the differences by province, the emphasis on change actually masks the financial realities in between. In Newfoundland, Memorial University experienced an absolute reduction in operating grants in 2015-16 and further cuts since. The operating grant to the University of Prince Edward Island was reduced significantly in 2012-13 and three years later had still not recovered to its pre-cut level. Operating grants to Universities in Nova Scotia were reduced throughout the period. Grants were essentially frozen in New Brunswick from 2012 onwards. In Quebec, successive governments levied grant reductions (accompanied with promises of future re-investment). In Ontario the core operating grant was actually reduced but grant funding was provided for approved domestic enrolment growth. Manitoba and Saskatchewan were spared absolute reductions over the period to 2015 but, more recently, have been subject to reductions in Operating grants. Alberta universities experienced major cuts in 2013-14 and B.C. universities were subject to grant reductions of various sorts for much of the period from 2010 onwards.

What is clear throughout the period is that the financial situation was exacerbated by changes in government, changes in provincial fiscal circumstances, and changes in grant and tuition policy (often as a result of changes in government). Those changes left institutions in a state of flux for much of the period – an operational state that was hardly conducive to encouraging long-term planning and may help account for the relatively high degree of enthusiasm associated with any semblance of government action/policy that promised, or promises, to provide greater predictability (e.g., Memorandum of Understandings in Nova Scotia and New Brunswick, Strategic Mandate Agreements in Ontario, Economic Mandates in B.C.).

Update – PSE enrolment and demographics

Turning to demographics and enrolment the post-2012 period provided a major surprise: many institutions were anticipating a very tough enrolment environment in the face of projected declines in the size of the domestic post-secondary age cohort. As it turned out, the real story, for many institutions was somewhat different. Full-time university enrolment continued to increase (~12% from 2010-11 to 2017-18 to over 1 million full-time students) – fueled by increases in domestic enrolment in five provinces and increases in international enrolments in all provinces except New Brunswick. Domestic enrolment declined in the Atlantic region as a whole but was offset with international students (except in New Brunswick). In all other provinces except Alberta, full-time domestic enrolment continued to increase and international

enrolments increased markedly.⁵ Figure 4 simply highlights the differences in enrolment change across the country from 2010 onwards – above average increases in Ontario, Manitoba, Saskatchewan, and B.C., close to the average in Quebec, and well below the average elsewhere with New Brunswick registering a decrease of over 10%.

Figure 5: Change in Full-time Enrolment 2010-11 to 2017-18 (est.)

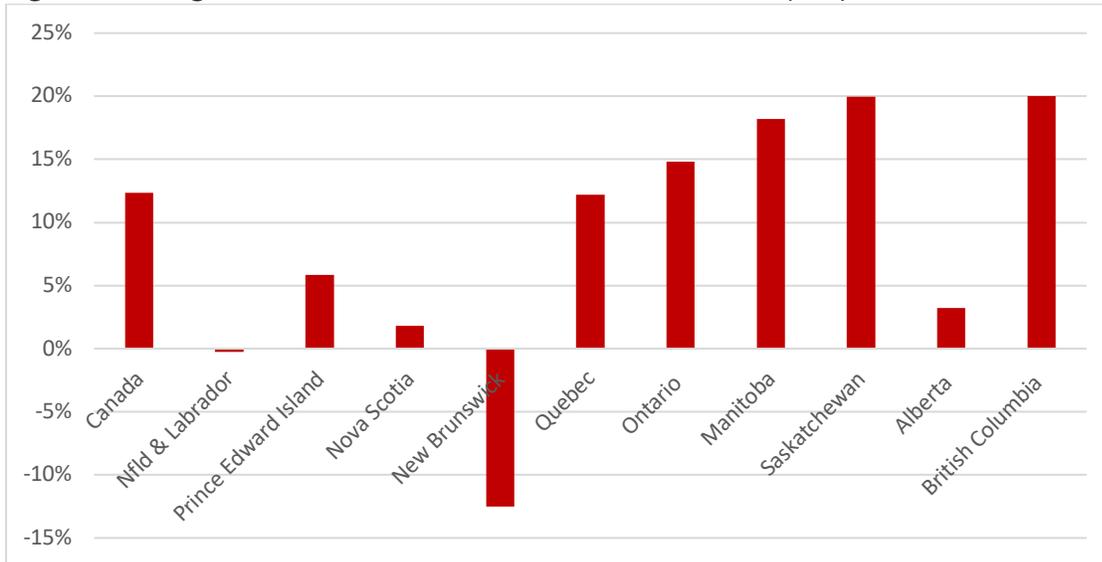
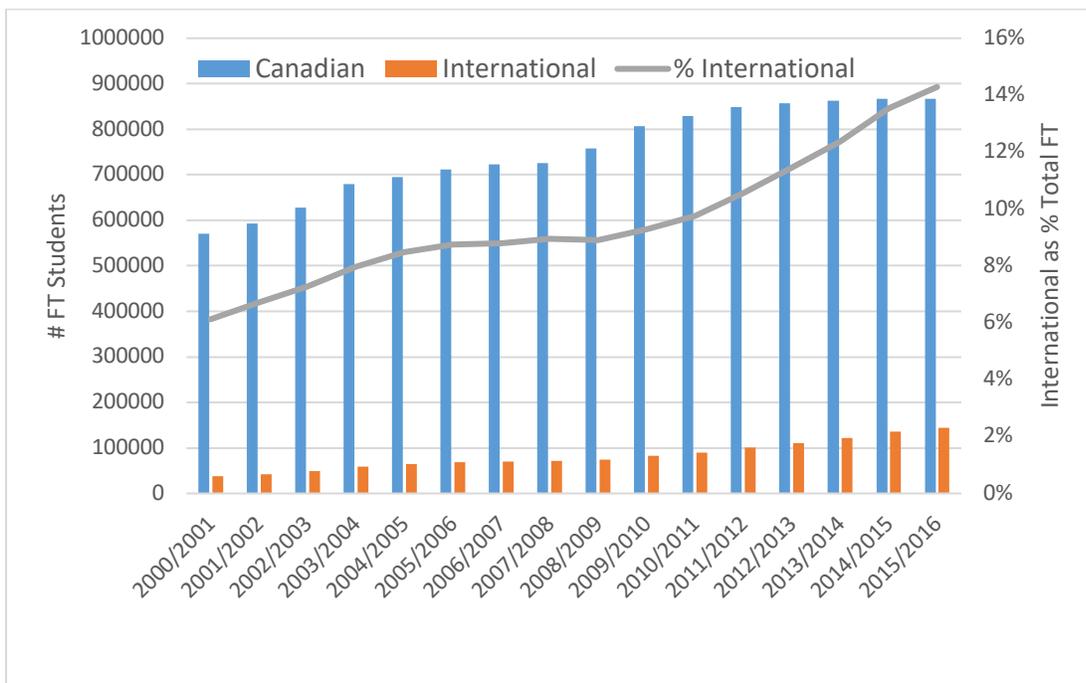


Figure 6: Full-time Canadian and International Students 2000-01 to 2015-16



⁵ Although not central to this 'update' it is interesting to note that total college enrolment from 2010-11 to 2015-16 remained essentially flat, nationally. A decline in domestic enrolment of about 5% (25,000 full-time students) was offset by a doubling of international enrolment.

Figure 6 highlights the growth in international students since 2000-01. Many institutions expanded international enrolments as part of their ‘internationalization efforts’ but also to take advantage of the fact that in most provinces governments leave tuition setting for international students (and the revenue) to the universities. The result has provided some much needed financial relief, particularly since 2010, but at the same time exposed institutions to unanticipated costs such as the additional services required to accommodate large numbers of international students⁶ and greater risks (i.e., the possibility that changes in foreign government policy or policy changes in Canada at the federal or provincial level may impact the flow of prospective students).

Update: Structural Deficit – Research

This financial pressure point continues to be a problem and shows up in many ways; through the unfunded ‘backfill’ costs of shifting workload from teaching to research, lack of funding for the full indirect costs of research, capital costs of research, start-up grants, and funding support for graduate students. While the costs of research are clearly a pressure point, it seems to be more of a challenge at institutions that are in the process of increasing their level of research intensity – that is trying *to build the infrastructure* to support a robust research presence rather than *maintaining and sustaining* the existing infrastructure. Moreover, while the research function ultimately requires the provision of subsidies from the teaching function (in terms of sources and uses of funds) the fact is that research funds enrich the learning environment particularly in those discipline areas that are the major recipients of such funds.

Update: Structural pressure – academic salaries and need for more faculty

Over the period a number of provinces introduced various measures to contain salaries in the public sector and those measures often applied to, or spilled over onto, the universities. Coupled with relatively low inflation over the period many institutions were able to keep the year over year increases in salaries in line with their revenue increases. But salary restraint is likely not a long-term sustainable approach; signs of recruitment and retention problems in some urban areas already loom as a challenge.

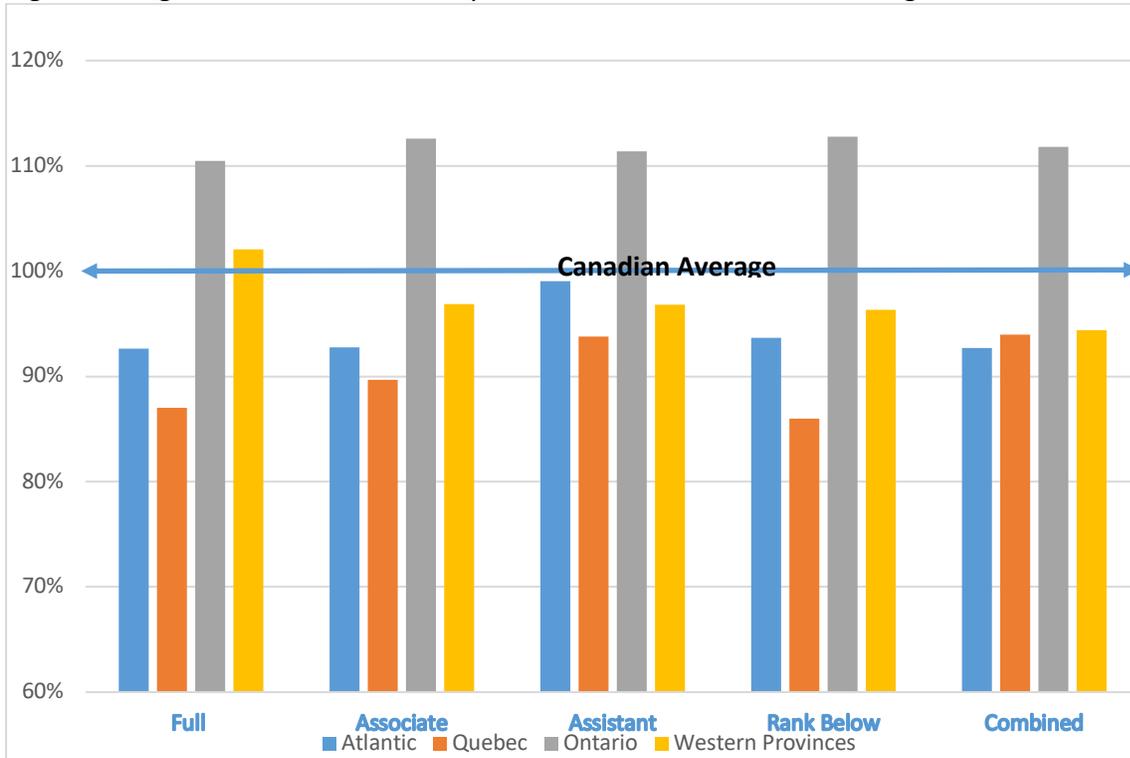
Since faculty salary increases are often seen as the major contributor to the financial sustainability challenge, the following few pages provide an update of the faculty salary situation.⁷ To set context, it is important to note that actual salary levels vary by province – as illustrated in Figure 7; in general, higher in Ontario (~10%-12 above the Canadian average). And, they differ by type/size of institution (Figure 8) – lower in smaller liberal arts/science institutions and higher in full service institutions with professional programs and medical schools. They also

⁶ “The BAC has heard feedback that certain Faculties are experiencing the need for supports and services related to the increasing proportion of international students in classes. With the declining local and Canadian demographics, the ability of Faculties and central services to attract and support international students will continue to be a critical component of Dalhousie’s recruitment and enrolment management strategy.” Budget Advisory Committee, *Report LIV, Operating Budget Plan for 2017-18*, Dalhousie University, March 24, 2017. <http://www.governing.com/columns/potomac-chronicle/gov-public-universities-mission.html>

⁷ More detailed information about faculty salaries and related issues is available in Working Paper #6 at SnowdonandAssociates.ca

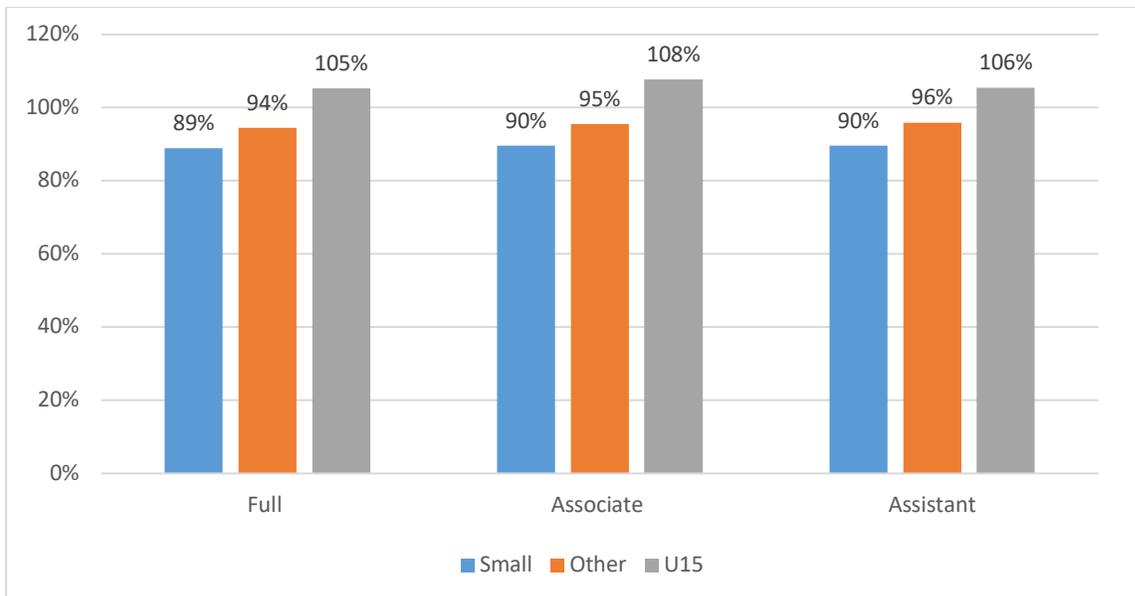
differ by discipline (e.g., higher in law, business and engineering and lower in visual arts, cultural studies and English).

Figure 7: Regional Median Salaries by Rank Relative to Canadian Average 2016-17



Source: Statistics Canada, UCASS, Table 4

Figure 8: Average Salaries by Institutional Type Relative to Canadian Average
(Excludes faculty with senior administrative duties)



Source: Statistics Canada, UCASS 407-0123, 59 Institutions with at least 100 full-time faculty

Have salary increases been out-of-line? Compared to the academic market in the United States the increases in average salaries for full-time faculty in Canadian universities have been fairly similar to increases in the U.S. in both public and non-profit universities. Inflation over the period from 2010 to 2016 was very similar (10.1% in the U.S. and 10.6% in Canada).

Figure 9: Increase in Average Salary by Rank: United States and Canada (2010 to 2016)

	2010	2016	% change
U.S. Public			
Full	\$ 112,647	\$ 128,503	14%
Associate	\$ 78,804	\$ 89,321	13%
Assistant	\$ 67,236	\$ 77,687	16%
U.S. Non-profit			
Full	\$ 133,973	\$ 156,716	17%
Associate	\$ 86,108	\$ 97,477	13%
Assistant	\$ 72,242	\$ 82,831	15%
Canada			
Full	\$ 140,500	\$ 161,750	15%
Associate	\$ 111,075	\$ 128,250	15%
Assistant	\$ 90,900	\$ 103,675	14%

Are current salary levels too high? A look at faculty salary levels by rank over time relative to the Canadian population as a whole (Census data) suggests that median faculty salary levels have increased in real terms and have been sufficient to maintain the relative position. Based on the median salary, Assistant Professors are around the 90th percentile and have gained a bit in relative terms since the mid-1980s, Associate Professors are around the 95th percentile and Full Professors are in the 97th-98th percentile (details are available in Working Paper #6).

Census data also allows for a comparison of faculty salaries with other highly educated individuals in the labour market. Data from the 2016 Census (2015 wages) indicates that salary levels for full-time faculty are somewhat higher than the employment incomes of PhDs outside academe -19% higher at the junior end, about 5% higher in mid-career and 13% higher at the senior level. The Census data is 2015 (which means the salary information contains a combination of 2014-15 faculty salary rates as well as 2015-16 rates) while UCASS numbers are from Fall 2016 (2016-17 salary levels). Accordingly the UCASS figures have been adjusted by 5%.

Figure 10: UCASS (Faculty) Salary levels compared to Incomes of PhD's Outside Academe

	Age-Group		
	35-44	45-54	55-64
UCASS Avg. 2016	\$ 112,400	\$ 134,100	\$ 149,000
Adjusted (-5%)	\$ 106,800	\$ 127,400	\$ 141,600
Other PhD's	\$ 89,600	\$ 121,300	\$ 125,400
Adjusted to Other	119%	105%	113%

Source; UCASS, 2016-17, Table 5 and Census 2016 98-400-X2016254

The data from the Census includes all individuals with PhDs and employed full-time at the time of the Census. Accordingly it includes full-time faculty and staff in universities with PhDs (e.g., post-doctoral scholars, research scientists) as well as individuals employed outside academe in the public sector, broader public sector, and private sector. Readers should keep in mind that there are differences in faculty salary levels by discipline and Census data indicates that there are similar differences by occupation and by other factors such as the geographic location of PhD study. No attempt has been made to adjust for those factors.

As an observation, institutions have spent considerable effort on the revenue side of the business model and some parts of the expenditure side (consortia procurement agreements, utility savings, operational efficiencies in service delivery etc.) but it is not evident that there has been much thought given to reviewing or revamping compensation models for faculty – either in terms of linking more closely to workload (40/40/20), re-thinking PTR in the aftermath of the abolition of mandatory retirement, or recalibrating in light of the market outside academe.

Student to faculty ratios have continued to deteriorate over the period with universities relying on larger class sizes and sessional/adjunct appointments and/or teaching only faculty. The national student to faculty ratio⁸ has increased by 25% since 2000-01 and 10% since 2010-11 and now sits at roughly 23:1. While there was a major increase in the number of full-time faculty from 2000-2010 there has been very limited growth since then (1.5%) despite the significant increase in enrolment. And if one focuses solely on the number of full-time Full, Associate, and Assistant Professors – that is those members of the professoriate who are expected to provide the full range of workload (teaching, research and service) – the ratio is even worse (>25:1) and has deteriorated further (>30%). The number of Assistant Professors actually declined by over 15% since 2010 due to straitened financial circumstances and a decrease in attrition associated with the abolition of mandatory retirement.

Update: Pensions

Considerable headway has been made to address what was not long ago referred to as the “pension abyss”. Over the past several years institutions have funnelled hundreds of millions dollars of additional payments into their pension funds and the pension funds have benefitted from better investment returns. As a result ‘going concern’ deficits have been reduced markedly, but many institutions continue to face ‘solvency’ deficits and are seeking solvency relief as they attempt to plan for transition to new sustainable pension arrangements. Establishing such arrangements is a multi-step, multi partner endeavour and will continue to be a challenge over the next 5 year period.

Update - Deferred Maintenance

Between investments from the Knowledge Infrastructure Program (KIP) and Strategic Infrastructure Program (SIF), institutional initiatives, and provincial government initiatives, some headway has been made in addressing the deferred maintenance challenge but, like so many issues, it depends where you look. To the extent institutions were able to take advantage of KIP

⁸ Full-time students to full-time faculty.

and SIF, there have been relative improvements in deferred maintenance. And it appears that more recently, in some provinces (e.g., Quebec, Ontario) there is the prospect of additional on-going provincial investments in facilities maintenance. At the same time it is evident from discussions with finance officers across the country that deferred maintenance has ‘moved up’ the priority list in many institutions.

Nevertheless, it is clear that annual investment in facilities is falling far short of the 1.5%-2% of Current Replacement Value that is the identified requirement. And it is equally clear that addressing the problem is going to require co-operation and collaboration of both levels of government and the universities.

Themes and Adapting the Business Model

Several themes run through this Update. First and foremost is the importance of recognizing the differences in provincial higher education across the country; the size, structure, policies, funding approaches, and provincial funding circumstances. Accordingly, each province has its own unique set of factors that need to be considered when assessing the financial state of universities and the options that an institution might consider to improve its financial situation. For example, policies regarding deficits, borrowings, land/building acquisition and/or disposal, tuition, and accounting standards differ from province to province; institutions must work within the provincial parameters.

Second, and related to the preceding point, is the increasing presence and intervention of government in a host of areas where legislative and regulatory controls affect the business of higher education and financial sustainability in many ways. Over the past several years many provinces have taken steps to contain public sector compensation through legislation, moral suasion, financial stringency, and public release of public sector salaries. Details differ by province but the end result has been the same, a slowing down of the rate of increase in salary increases, and outright salary ‘freezes’ for some employee groups in some provinces. That reality has helped the financial situation in the short-term. Whether it will carry through in the long-term however, is difficult to predict but as Don Drummond observed in his report on Ontario Public Services, “history shows that wage freezes are often followed by wage catch-up periods.”⁹ At the other end of the spectrum are the added costs associated with a host of government initiatives, some associated specifically with higher education (i.e., student assistance) and others aimed at society as a whole (e.g., pay equity and other labour initiatives) that have added to the cost pressure.

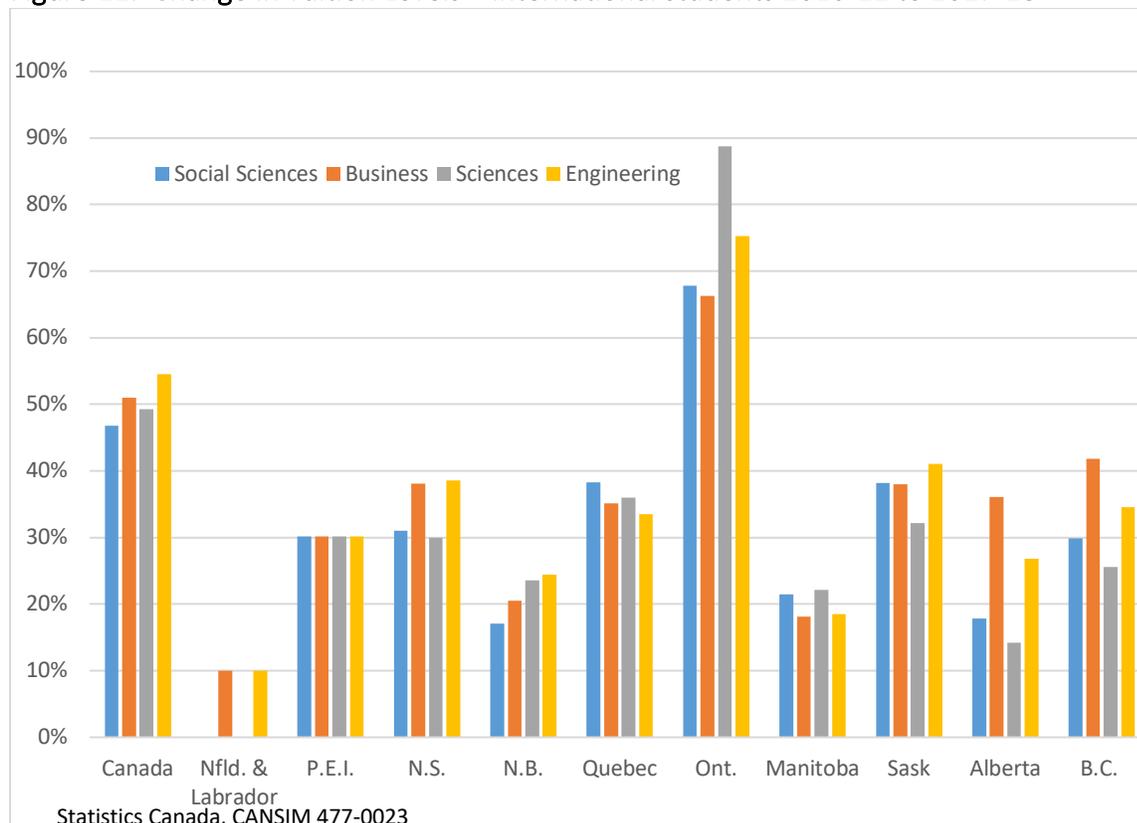
Third, from a business model perspective, it is fair to say that, universities have responded to many of the challenges outlined in the earlier report and made progress on a number of them. In general, universities have embraced the idea of **expanding markets** and maintaining/increasing enrolment via the recruitment of international and non-traditional students (i.e., first generation, indigenous etc), transfer students, post-baccalaureate students and improving retention. At the same time many institutions have introduced new programs and expanded new delivery

⁹ Commission on the Reform of Ontario’s Public Services, Public Services for Ontarians: A Path to Sustainability and Excellence, (Drummond Commission) Queen’s Printer for Ontario, 2012. p.367

mechanisms and locales (on-line, multi-campus) in an effort to provide services to these new ‘markets’ as well as continue to serve existing markets. And a number of institutions have embraced the idea of growth and reaped the benefits of economies of scale. For many institutions in Ontario, for example, enrolment growth has been accompanied by greater than average revenue (international students) or average revenue (domestic students) with marginal related expenditure. The financial benefit plays out in a number of ways including having the financial ability to tackle the pressing problems of pension deficits, deferred maintenance, and maintaining collective agreement commitments and also having the financial wherewithal to set aside reserve funds.¹⁰ The costs, of course, are larger class sizes and increased student to faculty ratios and a growing concern about the quality of the learning experience.

And it appears that greater attention is being paid to **re-thinking ‘pricing’** – particularly for international students. While regulatory requirements generally govern tuition policy and practices for domestic students, the international student ‘market’ has taken on a different pricing dimension. For example, over the past several years tuition for international students has increased markedly in Ontario as indicated in Figure 11. Tuition levels for international

Figure 11: Change in Tuition Levels – international students 2010-11 to 2017-18



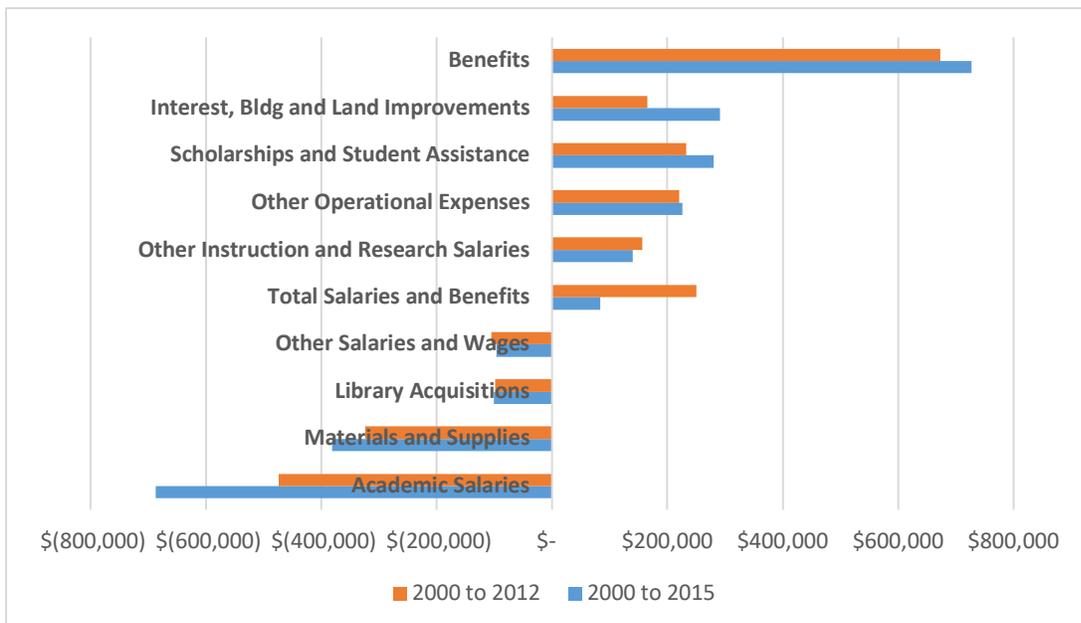
¹⁰ See, for example, University of Guelph 2017-2018 Budget Plan Prepared for the Board of Governors April 21, 2017, Executive Summary, p.1 <https://www.uoguelph.ca/finance/sites/uoguelph.ca/finance/files/public/2017-2018-Budget-Plan%20FINAL-s.pdf>

students in undergraduate Social Science programs range from \$8,800 in Newfoundland & Labrador to an average of over \$28,500 in Ontario with a Canadian average of about \$23,100. In some institutions 2018 tuition for undergraduate international students has been set at over \$40,000.

In terms of **processes/policies/resources that affect the business model**, the increased number of institutions adopting some form of Responsibility Centred Management or activity based resource allocation model is generally seen as a positive development and has helped heighten awareness of service costs, the importance of cost containment, revenue generation, and the linkage between enrolment and university funding. Universities have also continued to invest in various cost-efficiency initiatives from purchasing consortia, to energy savings, to new administrative systems and software. And it is worthwhile noting that greater attention has been paid to financial management in general – better reporting, improved policies, and more interest in the development and utilization of financial indicators.

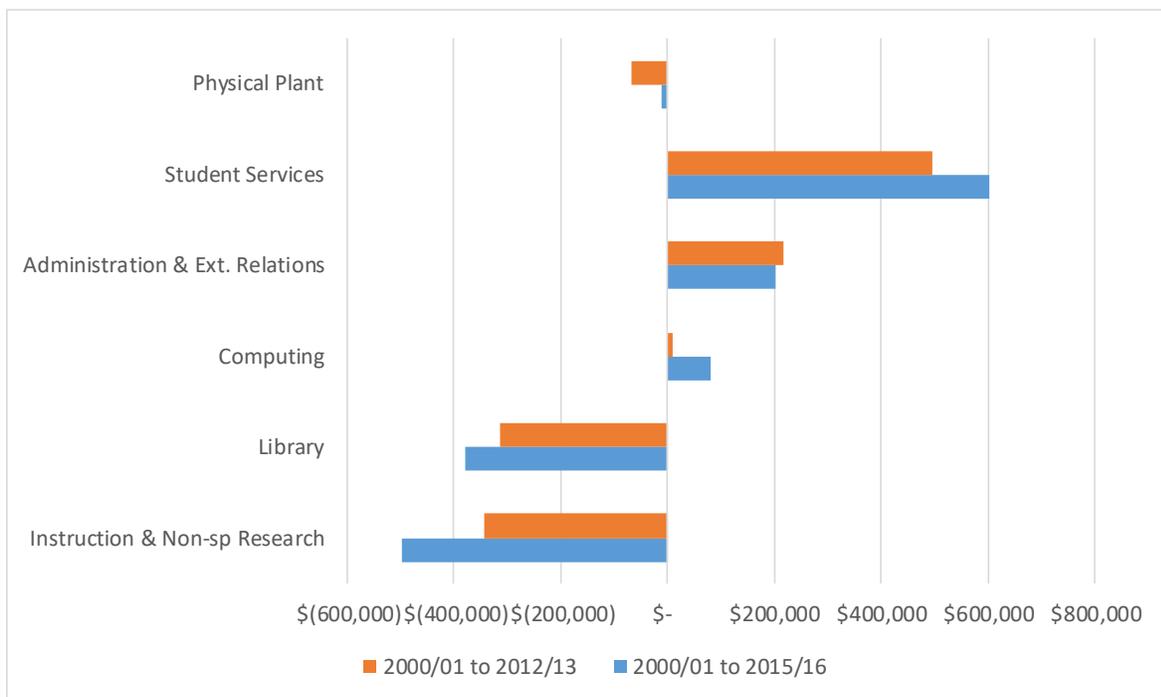
For the most part, the shifts in expenditure by TYPE and FUNCTION (Figure 12) that were noted in the original report, continued to be part of the on-going adaptation to a changing environment. The great ‘pension’ challenge has resulted in significant expenditures and a major ‘shift’ in resources from salary expenditures (largely ‘numbers’ of faculty) to the compensation ‘benefits’ line. Deferred maintenance challenges along with investments in building improvements and new construction have resulted in a ‘shift’ of Operating resources to finance capital. And student assistance continues to account for an increasing share of the Operating ‘pie’.

Figure 12: Expenditure Constraint, Expenditure Shifts (Expense by TYPE)



By function (Figure 13), Student Services continued to expand over the period and the financial data indicates that Computing expenditures and Physical Plant expenditures increased in relative terms as well since 2012-13.

Figure 13: Expenditure Constraint, Expenditure Shifts (Expense by FUNCTION)



A large portion of the preceding ‘shifts’ has come at the relative expense of Instruction and Non-sponsored Research – a reality that at some point necessarily leads to questions that extend beyond **financial** sustainability. The **‘value added’ proposition of higher education** generally was given added impetus by various reports that continue to highlight the economic value of a degree¹¹ in Canada. And, international students appear to be using their own sense of ‘value-added’ and settling on Canadian institutions for a variety of reasons. Whether institutions have, in fact, added more or less ‘value’ to their learning environments over the past several years is well beyond the scope of this paper but the question does need to be asked. While, in general, the university sector should be applauded for the many steps that have been taken to change and enhance key parts of the ‘business model’ the fact remains that a number of institutions have struggled and continue to struggle in the face of the many challenges noted in this report, particularly in regions experiencing economic and demographic challenges. And, in many institutions, more teaching-only faculty and part-time faculty have been employed to deal with increasing enrolments rather than adding full-time faculty. Even in a province where the financial situation appears to have seen some relative improvement since 2012-13 officials from the Higher Education Quality Council of Ontario find themselves acknowledging that

¹¹ See, for example, ‘Summary of Lifetime Earnings’ prepared by BC Stats from National Household Survey data <https://www2.gov.bc.ca/assets/gov/education/post-secondary-education/data-research/lifetime-earnings.pdf> and Statistics Canada, ‘Does education pay? A comparison of earnings by level of education in Canada and its provinces and territories’, Census in Brief, based on the 2016 Census.

“A much less obvious but more likely (and already evident) consequence of unsustainability within publicly funded, higher-education systems is that institutions make decisions that slowly erode the quality of the academic and student experience; that is, to maintain financial sustainability, academic sustainability is put at risk.”¹²

Challenges

Looking to the future – say the next five years or so – it is reasonably clear that Canadian universities will continue to experience challenges. Demographic realities will continue to weigh heavily in some regions such as Atlantic Canada and Northern Ontario. Greater research intensiveness carries continuing concerns about funding the research enterprise, both faculty time and indirect costs. Finding the funding for compensation increases, and the likely push for ‘catch-up’ where salaries have been frozen or constrained, will test the sector in the next five years. While a number of institutions have made headway on deferred maintenance and pension issues there is still lots of work to be done.

While provincial finances have improved in some provinces in the past year or two, servicing provincial debt will consume an increasing share of government resources and one suspects that coping with increased health care costs will test provincial finance ministers in the next several years. And some provinces have witnessed first-hand the impact of multiple and longer term downturns in resource based economies. The prospects for increased public investment directly to universities is not high in many provinces. However, we will likely continue to see increases in direct support to students through government student assistance.

Will there be more government intervention on public sector salaries? Probably. The apparent success of the Economic Mandates approach in British Columbia may give rise to other provinces adopting a similar approach in the years to come. Reconciling the state of public finance with the principles of collective bargaining and bargaining demands will be an increasingly contentious public sector and broader public sector issue.

Finally, perhaps one of the greatest challenges is in the international arena where reputation is critical and geo-political events can change overnight. CBC’s Ira Basen’s “Foreign Exchange” explored the risks of relying on international enrolment, the problems associated with foreign governments changing their policies, and of a few Canadian universities overpromising and under-delivering.¹³ A more recent story reiterated the ‘cash cow’ argument about international students and pointed to on-campus and off-campus problems.¹⁴ And the Globe and Mail’s investigation of Chinese investments in Canadian research could be the tip of an iceberg regarding the cost/benefits of internationalization.¹⁵

¹² Harvey P. Weingarten and Martin Hicks “Performance of the Ontario (Canada) Higher Education System: Measuring Only What Matters.” in Remus Pricopie, Ligia , Adrian Curaj Editors, Hans de Wit, Jamil Salmi, Sjur Bergan, Ellen Hazelkorn, Liviu Matei, Co-Editors, European Higher Education Area: the Impact of Past and Future Policies, 2018, (Draft) p.522

http://fohe-bprc.forhe.ro/wp-content/uploads/2014/09/FOHE-BPRC3_Publication_Draft.pdf

¹³ <http://www.cbc.ca/radio/thesundayedition/ira-basen-documentary-foreign-exchange-1.3857185>

¹⁴ <http://www.cbc.ca/news/canada/windsor/international-student-recruiter-institution-exploitation-1.4668831>

¹⁵ <https://www.theglobeandmail.com/canada/article-how-canadian-money-and-research-are-helping-china-become-a-global/>

Concluding comments

While there are challenges ahead, one thing is very clear. As a ‘business sector’ in Canada, universities have much to celebrate – things turned out somewhat better for many universities than predicted 5 years ago. Today (2018), Canadian universities can rightly say that the university sector is more accessible and made significant progress in many aspects of internationalization.

Further, recent commitments from the federal government and some provincial governments must be seen as positive news in terms of funding, predictability, and differentiation (e.g. federal research, Quebec provincial budget, Memorandum of Understandings in Nova Scotia and New Brunswick, Strategic Mandates in Ontario). And as noted earlier, many institutions have improved their financial position over the period and improved their financial management as well.

Financial Sustainability will continue to be a ‘hot topic’ in the sector but I suspect that more questions about “Academic” sustainability will begin to surface. And the business model theme may well lead to more business model adjustments – mergers/ acquisitions with colleges and smaller specialized universities, more partnerships and collaborative ventures – both domestic and international with higher education institutions and the private sector.

There is no ‘quick fix’ to addressing the many challenges facing Canada’s universities. Clearly provincial and institutional circumstances play dominant roles in developing appropriate institutional strategies. Improving our understanding of the differences in provincial and institutional circumstances is a key part of developing possible solutions and options to help address those many challenges.

Much to celebrate. Much to do. Good luck, Bonne chance!

June 18, 2018

he Knowledge Infrastructure Program (KIP), introduced in Canada's Economic Action Plan was a two-year, \$2-billion economic stimulus plan to revitalize facilities at universities, cégeps and colleges across Canada. The program invested in over 500 projects at post-secondary institutions from coast to coast to coast. New buildings were constructed and existing facilities received needed upgrades. The investments improved the quality of research and development at universities, strengthened the ability of colleges and polytechnics to deliver advanced knowledge and skills training, established business incubators to support the transfer of new technologies from universities to the Canadian marketplace, improved the energy efficiency of Canada's post-secondary institutions and addressed urgent deferred maintenance projects that will allow institutions to continue to support education and research for years to come.

The Post-Secondary Institutions Strategic Investment Fund is helping realize the Innovation Agenda's vision by investing up to \$2 billion over three years in post-secondary institutions infrastructure across Canada to reinvigorate Canada's research and science base, address existing needs while contributing to Canada's long-term innovation and sustainability objectives.

<https://www.canada.ca/en/innovation-science-economic-development/programs/science-technology-partnerships/investment-fund.html>

Additionally, strong enrolment—particularly international enrolments—has helped to alleviate some of the financial pressures experienced in the past. Over a three-year period, it is proposed that international fees will be strategically positioned in comparison with other universities. Toward that end, an international undergraduate fee increase beyond the tuition cap of 2% has been incorporated into the 2013/14 budget with a portion of the increased fees allocated for additional support for international students.

- 2012 A compensation freeze is implemented for excluded and executive employees across the B.C. public sector
- BC The Net-Zero Bargaining Mandate (2010-2012)

<https://www2.gov.bc.ca/gov/content/employment-business/employers/public-sector-employers/public-sector-bargaining/mandates-and-agreements> 2014 Economic Stability Mandate

2012 Cooperative Gains Mandate

The 2012 Cooperative Gains Mandate applied to all public sector employers whose collective agreements expire on or after December 31, 2011.

- The Cooperative Gains Mandate enabled public sector employers to negotiate modest wage increases made possible by productivity increases within existing budgets
- Settlements under the Cooperative Gains Mandate were unique and differentiated between sectors and between employers in some sectors as each depended on a number of factors, particularly the ability to generate savings to fund modest compensation improvements

Principles of the 2012 mandate:

- The Province will not provide additional funding for increases to compensation negotiated in collective bargaining
- Employers are directed to work with responsible ministries and employer bargaining agents to develop Savings Plans to free up funding from within existing budgets to provide modest compensation increases
- Employers must not reduce service levels to the public in order to fund compensation increases
- Employers must not transfer the costs of existing services to the public to pay for compensation increases
- Savings Plans can include savings resulting from operational cost reductions, increased efficiency, service redesign, business gains and other initiatives, so they can propose much broader savings than under the previous [Net Zero Mandate](#)
- Identified savings are to be used to fund compensation increases that will facilitate negotiated settlements with unions through collective bargaining
- Identified savings must be real, measurable and incremental to savings identified by public service employers to meet Provincial Budget and deficit reduction targets for 2012/13 and beyond
- Employers and unions may also negotiate other savings at the bargaining table to supplement Savings Plans
- Employers are not required to negotiate a target wage increase but increases must be modest and employers must have an approved Bargaining Plan from government

- Employers must seek agreements of at least two years in length; there is no maximum term for collective agreements under the Cooperative Gains Mandate

2010 Net Zero Mandate

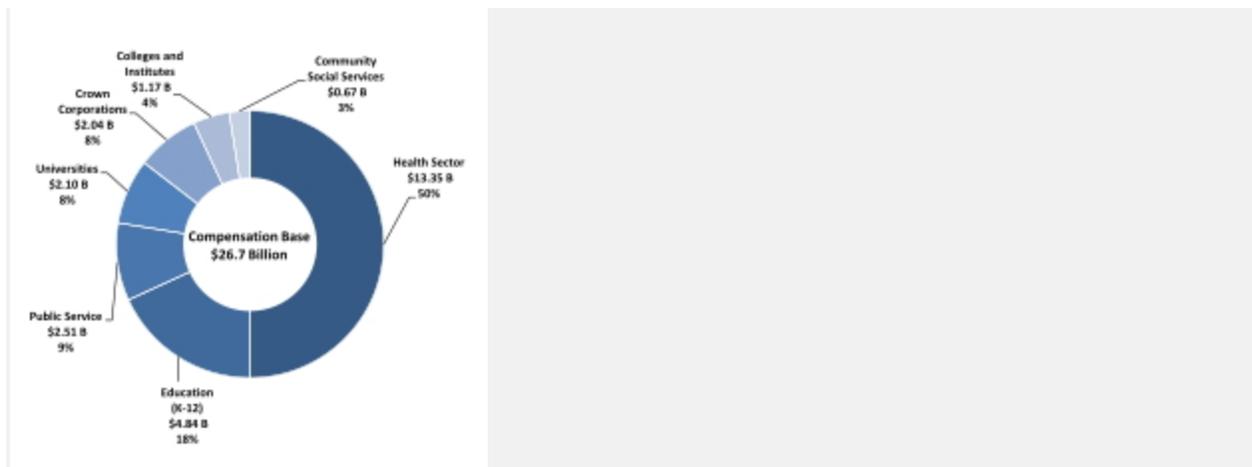
The 2010 Net Zero Mandate applied to all public sector employers whose collective agreements expired on or after December 31, 2009.

- Under the 2010 Mandate, negotiators sought to move money from one part of the collective agreement to another, so any improvements in the collective agreements have to be offset by savings in other compensation areas

Elements of the 2010 mandate:

The goal of Mandate 2010 was to achieve voluntarily negotiated collective agreements in the B.C. public sector that assist the Province in delivering public services in a cost-effective and financially prudent manner:

- A two-year term
- No net increases in total compensation costs
- Compensation trade-offs: savings found through (mutually-agreed) changes in collective agreements may be used to fund compensation increase



- [Ratified & Tentative Agreements \(PDF\)](#)

Learn about the [Public Sector Employers' Council Secretariat \(PSEC Secretariat\)](#).

Government grants

Enrolment

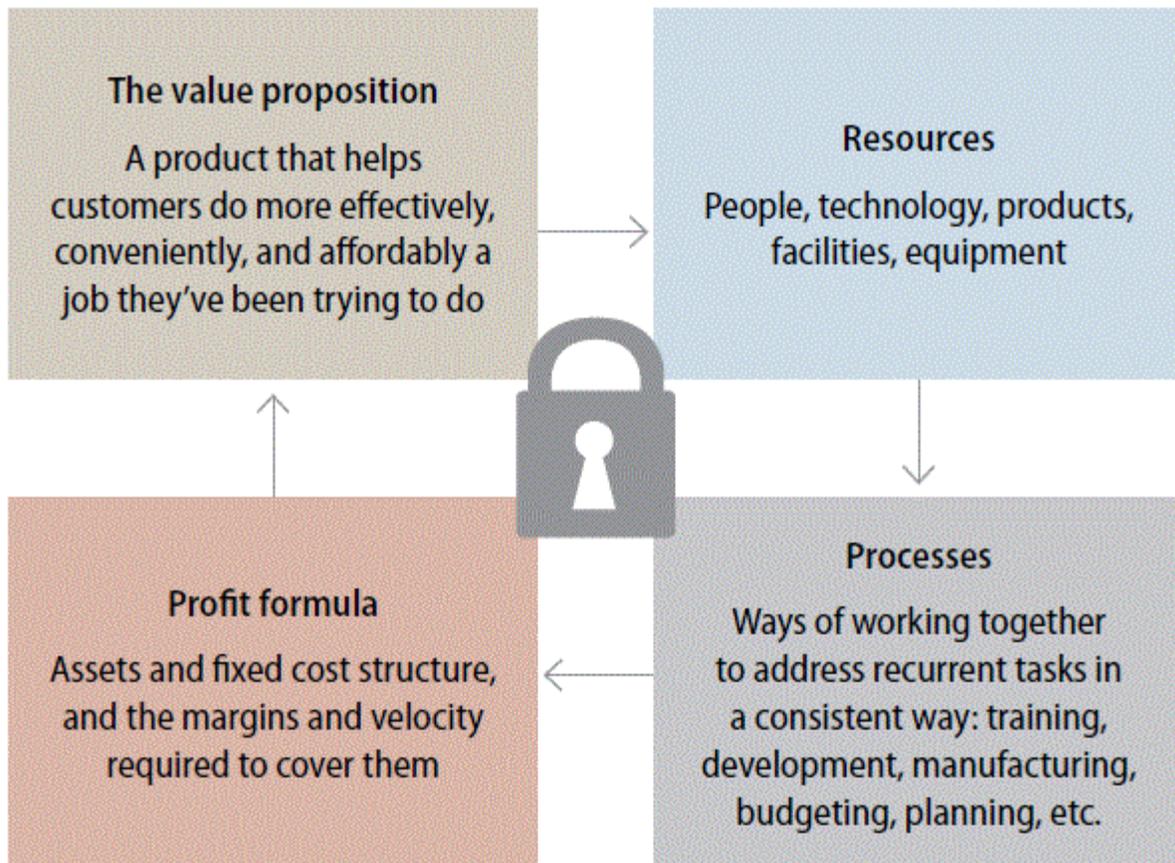
Tuition

Other income

In Newfoundland and Labrador, the lingering impact of the 2009 recession and a sharp reduction in the price of oil translated into a long period of essentially flat GDP, reductions in provincial revenue, ballooning deficits and, ultimately, a new government with a mission to balance the budget. Initially immune from the impact, more recently Memorial University has experienced absolute reductions in operating grants and facilities maintenance grants and has had to address pension funding shortfalls – all during a period of essentially flat enrolment change. Tuition has been frozen for many years but the dire state of institutional finances has resulted in the recent development of proposals to begin adjusting tuition levels for non-Newfoundland students and introducing campus-wide facility and student services fees.

Income constraint

At the national level



“Changing times in higher education viewed through the prism of the business model” Lloyd Armstrong

<http://lloydarmstrong.typepad.com/files/business-model-view-of-change.pdf>

from

Disrupting College How Disruptive Innovation Can Deliver Quality and Affordability to Postsecondary Education Clayton M. Christensen, Michael B. Horn, Louis Caldera, Louis Soares February 2011

https://cdn.americanprogress.org/wp-content/uploads/issues/2011/02/pdf/disrupting_college.pdf

I think your articles have raised some very valid points about the academy and the variety of issues associated with (using business jargon) the 'products' and value-added proposition.

I'm guessing that the national group of vp academics/provosts would be a great forum to actually examine and discuss those points as part of the topic of 'academic sustainability'. As is, I see that many institutions have attempted - with varying levels of success - to adjust some aspects of their business models, largely by seeking to expand markets (international, non-traditional enrolments), adjust prices (where possible), and attempting to sell or 'brand' a distinctive learning environment - whether it is really distinctive or not. Some have expanded product offerings (new niche programs, more professional programs) and there is lots of rhetoric about improvements in the value-added components but there is scarce evidence of any fundamental re-think of the product and the processes/operations although one could point to the use of more teaching faculty etc as a process/operations shift.

I am impressed by the steps taken by many institutions to cope with resource constraint over the past several years. And it is probably fair to say the overall level of strategic thinking and increased emphasis on integrated planning has helped some institutions cope better than others. Also, the shift in some institutions to revenue attribution (RCM) models appears to have injected a new found interest in capitalism in the academy - and stimulated a somewhat greater interest in revising or at least re-packaging 'products'. However, I think some institutions will have an increasingly tough time over the next 5 years and we will likely see greater interest in mergers/acquisitions - perhaps facilitated by government intervention. In a round about way that may help focus attention on the core issue - academic sustainability.

Business models – disruptive innovation anyone?

The update would rely on data at the **national** level – consistent with the original report. Efforts would be made to update specific sections of the original report including funding per student,

“The BAC has heard feedback that certain Faculties are experiencing the need for supports and services related to the increasing proportion of international students in classes. With the declining local and Canadian demographics, the ability of Faculties and central services to attract and support international students will continue to be a critical component of Dalhousie’s recruitment and enrolment management strategy.” Budget Advisory Committee, Report LIV, Operating Budget Plan for 2017-18, Dalhousie University, March 24, 2017.

<http://www.governing.com/columns/potomac-chronicle/gov-public-universities-mission.html>

In speaking about Ontario’s objective of having ‘sustainable institutions’ Weingarten and Hicks acknowledge that defining a sustainable institution extends beyond the simple goal of ensuring its revenues and expenditures are in balance.

“A much less obvious but more likely (and already evident) consequence of unsustainability within publicly funded, higher-education systems is that institutions make decisions that slowly erode the quality of the academic and student experience; that is, to maintain financial sustainability, academic sustainability is put at risk.” p.522

“Performance of the Ontario (Canada) Higher Education System: Measuring Only What Matters.” Harvey P. Weingarten and Martin Hicks in Remus Pricopie, Ligia , Adrian Curaj Editors, Hans de Wit, Jamil Salmi, Sjur Bergan, Ellen Hazelkorn, Liviu Matei, Co-Editors, **European Higher Education Area: the Impact of Past and Future Policies**, 2018 (Draft) p.522

http://fohe-bprc.forhe.ro/wp-content/uploads/2014/09/FOHE-BPRC3_Publication_Draft.pdf

The notion of academic sustainability is, or should be, of key importance for at least two reasons; first, it should engage the Provost who, in turn, often actually controls or has major responsibility for the institution’s resource allocation; and secondly it should focus attention on program sustainability in the face of enrolment challenges and minimum program resource requirements.

- Better access for underrepresented groups
- A higher quality education where students learn the knowledge and skills to succeed
- Sustainable institutions

List of measures

Revenue

Tuition – differential or increased differential for in-province versus out-of-province students (Memorial)

New or increased ancillary fees (capital, student services) (Memorial)

Increased domestic and international enrolment – “average+ revenue and marginal cost” (i.e. Western, Toronto, Queen’s, McMaster, Waterloo – others?)

Greater emphasis on professional Master’s programs – de-regulated tuition??

Expenditure

Base budget cuts

Attrition targets – reduction of salary ‘mass’

Revisiting salary ‘caps’

Waiving ‘turnover recovery’ to incent faculty to retire and leave all of the ‘turnover’ funding with the respective Faculty. (Western, Budget 2017-18)

“Turnover recovery will be waived for all new tenured/probationary faculty retirements (or exits of faculty members at age 55 or higher) signed between February 1, 2016 and June 30, 2019 – where the faculty member leaves the University by July 1, 2019.” p.19

University of Saskatchewan, Operations Forecast, Final submission to the Ministry of Advanced Education, 2018-19 (website version)

<https://www.usask.ca/ipa/documents/Operations%20Forecast%202018-19%20Final%20for%20website.pdf>

“Funding cuts imposed by the Government of Saskatchewan on the U of S in recent years have compromised our operations.” p.17

“The U of S can no longer maintain the same quantity and quality of services with the financial resources currently available.” p.21

“Status quo is no longer financially sustainable. Under the new funding levels that have been provided by the province, we are taking actions to reduce our institutional scope and size.” p. 21

“Much of the recent fiscal foundation is the result of a continued strong demand for our academic programs resulting in increased enrolments that have been absorbed without major cost increases.” University of Guelph 2017-2018 Budget Plan Prepared for the Board of Governors April 21, 2017, Executive Summary, p.1

<https://www.uoguelph.ca/finance/sites/uoguelph.ca.finance/files/public/2017-2018-Budget-Plan%20FINAL-s.pdf>

– simply underscoring the differences in demographic circumstances from region to region across the country, differences in provincial/ institutional tuition regimes and differences in the success of international recruitment efforts.

to changes unfunded changes in terms of faculty employment – more time on research (that resulted in less time on teaching) and added cost to i) replace the loss of teaching capacity through the hiring of adjuncts/sessionals/teaching-only faculty, and/or larger class sizes) ii) additional released teaching time for some faculty with higher research loads, and salary supplements that created added expense. The preceding is simply illustrative of changes that had significant financial implications where institutions had some opportunity to manage the challenge.

	Public			Not-for-profit		
	Full Professor	Associate Professor	Assistant Professor	Full Professor	Associate Professor	Assistant Professor
*United States - degree granting	\$ 116,757	\$ 83,709	\$ 72,034	\$ 126,399	\$ 84,108	\$ 69,585
Doctoral Institutions**	\$ 124,485	\$ 90,619	\$ 79,126	\$ 154,369	\$ 106,991	\$ 94,470
Masters Institutions**	\$ 94,201	\$ 76,428	\$ 66,532	\$ 98,437	\$ 78,948	\$ 68,590
Canada 2016-17	\$ 162,031	\$ 129,673	\$ 104,702	\$ 162,031	\$ 129,673	\$ 104,702
Canada Adjusted for PPP (1)	\$ 136,161	\$ 108,969	\$ 87,985	\$ 136,161	\$ 108,969	\$ 87,985
Canada U15	\$ 170,808	\$ 135,243	\$ 110,692	\$ 170,808	\$ 135,243	\$ 110,692
Adjusted for PPP (1)	\$ 143,536	\$ 113,649	\$ 93,018	\$ 143,536	\$ 113,649	\$ 93,018
Canada Excluding U15	\$ 151,124	\$ 125,306	\$ 98,496	\$ 151,124	\$ 125,306	\$ 98,496
Adjusted for PPP (1)	\$ 126,995	\$ 105,299	\$ 82,770	\$ 126,995	\$ 105,299	\$ 82,770

Canada

Statistics Canada, Number and salaries of full-time teaching staff at Canadian universities, 2016/2017

(1) Canada Adjusted for PPP is from Statistics Canada, Purchasing power parities, CANSIM 380-0058 2015

United States

*NCES, Enrollment and Employees in Postsecondary Institutions, Fall 2016; and Financial Statistics and Academic Libraries,

Fiscal Year 2016: First Look (Provisional Data), Table 7

**Association of American University Professors, (AAUP), Visualizing Change: The Annual Report on the Economic Status of the Profession, Survey Report Table 1, March - April 2017, ACADEME.

“This idea was captured most succinctly by a 2013 HEQCO Expert Panel that reviewed the Strategic Mandate Agreements (SMAs) proposed by the institutions and concluded that “the Ontario was not sustainable if the quality of the system is to be maintained.””⁵

Weingarten, H. P., Hicks, M. & Moran, G. (2016). Understanding the Sustainability of the Ontario Postsecondary System and its Institutions: A Framework. Toronto: Higher Education Quality Council of Ontario. p.9

In Ontario the *Broader Public Sector Accountability Act, 2010 (BPSAA)* was established in 2010 to improve accountability and transparency across the broader public sector (BPS). It contains controls on compensation, expenses, perquisites, business documents and procurement. *The Broader Public Sector Executive Compensation Act was introduced in 2014*, proclaimed in 2015 and regulations were implemented in 2016. BPSECA establishes compensation frameworks applicable to designated employers and designated executives by Lieutenant Governor in Council (LGIC) regulation.

Nova Scotia - Universities Accountability and Sustainability Act (2015) establishes the process fo..

HEQCO – Higher Education Quality Council of Ontario asked to develop

Pensions

“Currently the University is under temporary solvency relief legislation and is not required to make full pension plan solvency deficit payments. Discussions at the provincial and university-system level are ongoing with the objective of finding a more sustainable framework for these pension plans.” P.3

University of Guelph 2017-2018 Budget Plan Prepared for the Board of Governors April 21, 2017, Executive Summary,

Blair Littler, Vice-President, The Research Universities' Council of British Columbia

https://www.mcgill.ca/budget/files/budget/doc_university_budgetbook_2014_2015_rev20140818.pdf

included a salary freeze, a hiring freeze, and a Voluntary Retirement Plan (VRP) for administrative staff as well as a continuation of the existing academic retirement incentive program. In addition, there were a number of targeted expense reductions, and a “3 for 4” tenure-track academic replacement plan for FY2015.

Thus, the implementation of these expense reductions truly involved a shared effort. The Voluntary Retirement Program for administrative and support staff resulted in 255 staff accepting the offer. That represented an acceptance rate of close to 50%; we had initially planned for a 30% uptake on the offers. On an annualized basis these departures, once taken and paid, would result in ongoing \$17.9M in payroll reductions. The one-time pay-outs totalled \$14.6M in retirement allowances. The one-year salary freeze achieved savings of approximately \$12.0M and included academic staff, administrative staff (“M”), trades, and senior administrators. The latter, from deans up, also took a 3% pay cut. In addition, another \$6.9M was realized in the form of verified “targeted” cuts

6 month deferral of pay increases - FY2010, a further 6 months deferral in FY2011 for academic staff

In some cases provinces have opted to emphasize an austerity approach that focuses on eliminating deficits and debt reduction. In those cases the government has emphasized public sector cost containment via salary restraint measures and restraint, freezes or reductions in operating grants. As part of the Broader Public Sector, universities are expected to continue to meet public policy objectives within a constrained resource base – essentially sacrificing a little to help improve public finances with an understanding and a belief that when ‘times get better’ the province will reciprocate and increase funding accordingly. With respect to tuition, provinces adopting the restraint approach employ measures to restrain the increase in tuition (for domestic students) with particular emphasis on direct entry programs to ensure that aspect of ‘access’. Sometimes the restraint on tuition is accompanied with supplementary grants to offset the foregone tuition revenue. And in some cases institutions have been given greater latitude to increase fees for out-of-province and international students to help address the need. In lieu of the restraint agenda has been accompanied by greater efforts to And there are major differences in approach from province to province. Higher education may not be the most important sector in a given province

Administrative Service Delivery Transformation program “A portion of the additional fee increase applied to international students (25%) is designated for student support and services.” Simon Fraser (Budget and Financial Plan 2015-16, p.10) Administrative Service Delivery Transformation program

The operating grant reduction in the post-secondary sector is expected to be \$5 million, \$20 million, and \$25 million over the next three years, for a total reduction of \$50 million.

Many provinces also reduced the level of deferred maintenance funding over the period although the impact of the Knowledge Infrastructure Program (KIP) and, more recently, the Strategic Investment Fund (SIF) have helped with deferred maintenance.. IF