

Compensation in Academe

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Abstract

In an era of straitened resources, salaries in academe have come under increased scrutiny. This Working Paper provides a review of faculty and staff salaries and explores some of the factors that have influenced salary levels and salary policy since 2000. Specific reference is made to the competitive nature of the 'market' for faculty and the general impact of the 'knowledge economy'.

The 2015 Working Paper series is intended to provide a relatively brief review of some key issues that affect higher education – particularly university education – in Canada. Faced with the twin realities of financial constraint and a decline in the 'traditional age' PSE cohort, universities are faced with major financial challenges. As universities, and the PSE sector as a whole, grapple with the challenges the need for more in-depth analysis of particular issues is critical. The Working Papers draw on the observations and insights gleaned from years of hands-on experience in the PSE sector and the many consulting and research projects completed by Snowdon & Associates. All of the Working Papers will use excerpts from previous reports, updated, augmented and modified as necessary. The first Working Paper – "Cost pressures and cost theories" – sets the stage for working papers that examine key issues such as "Compensation in Academe" (April) "Understanding Research Costs" (May, 2015) and "Faculty Workloads and the Innovation Agenda" (May 2015). The intent is to complete the series over the summer 2015 with commentary and observations about ways to deal with the complex set of challenges that face higher education institutions. Comments and questions about the Working Papers are welcome. Ken.SnowdonandAssociates@gmail.com.

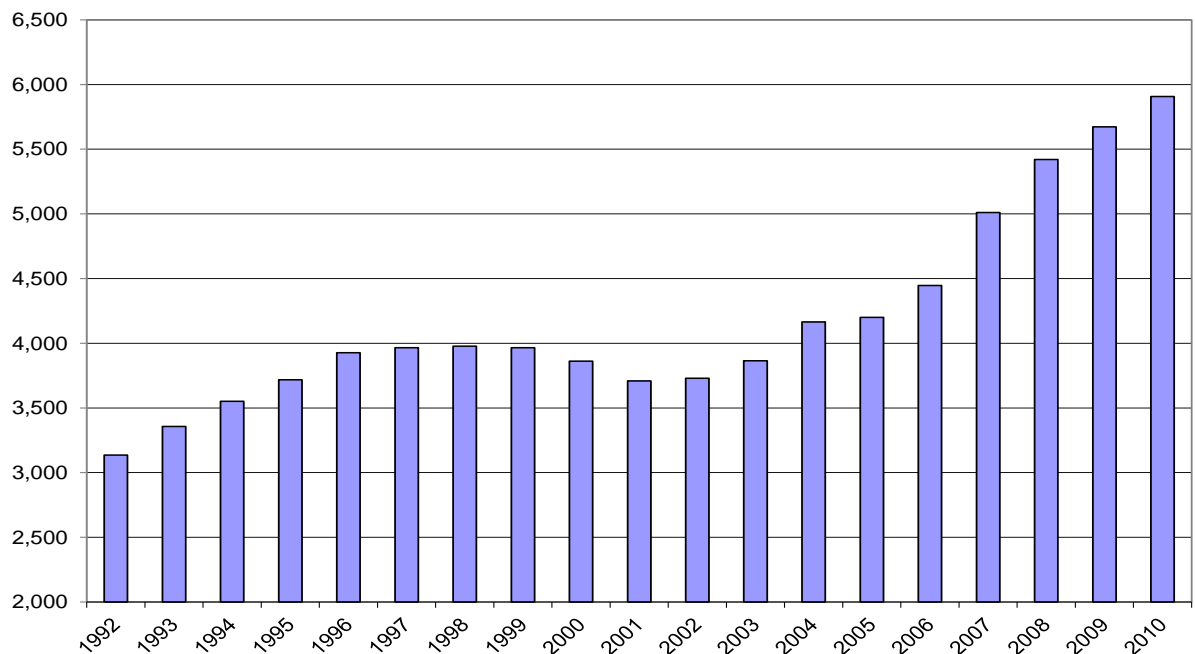
Introduction

Given that approximately 75%¹ of Operating expenditures are allocated to salaries and benefits, cost pressures in those expenditure categories will have a marked impact on institutional finances. This working paper examines salary expenditures in academe and deals with both academic salaries (faculty) and staff in an attempt to develop a better understanding of the associated cost pressures.²

Academic Salaries

'Academic Salaries' represent about 30% of operating expenditures – the single largest expenditure item in university budgets. The annual increase in faculty salaries is a key source of cost pressure. There is no question that salary levels for full-time faculty have increased markedly since the latter part of the 1990s. Fuelled by the general increase in student demand and the 'innovation agenda' the demand for faculty increased from the latter part of the 1990s onwards just at a time when the supply of doctoral graduates was in decline. Basic supply and demand principles came into play.

Figure 1: Doctoral degrees granted – Canada (1992-2010)



Starting salaries were 'bid up' resulting in salary compression problems. Institutions responded with market adjustments and/or anomaly funds. Before long the increase in starting salaries translated into major salary pressures fuelled by several other factors.

¹ Approximately 30% for faculty salaries, 27% for staff salaries, 5% part-time faculty and student instructors/assistants salaries, and 13% for benefits (CAUBO, 2012-13).

² Much of the information and analyses associated with this 'working paper' is based on the author's work on various projects and a long-standing interest in PSE 'costs' and 'cost drivers'. The 'working paper' represents excerpts from various reports.

For related information visit <http://www.snowdonandassociates.ca/presentations.htm>

- The introduction of the Canada Research Chairs (CRC) program resulted in added demand for new faculty and contributed to salary escalation at both ends of the faculty spectrum – adding to salary compression problems at the junior end and salary ‘gap’ problems at the upper end.
- The CRC program also resulted in a number of interventions by institutions to retain and recognize mid-career and senior faculty; interventions that had a ‘ripple-effect’ in the institution affecting salary levels and teaching loads.
- In some disciplines such as Law and Business, tuition deregulation, very strong competition in academe and elsewhere, and world-class aspirations combined to influence salary levels.
- Early on in the ‘innovation agenda’ special funding was provided by the Alberta government to improve the climate for faculty recruitment and retention through increased salaries.³
- Some have argued that the Public Sector Salary Disclosure Act in Ontario (1996) had an inflationary impact on faculty salaries.⁴ Beginning in April 1997 salary data was made public for all individuals paid \$100,000 or more employed in public sector organizations including universities.
- Expectations of ‘catch-up’ to account for wage restraints in the mid-1990s.

The increase in salary levels for faculty in the period from the late 1990s through to the latter half of the next decade was, in fact, similar to increases for other individuals in the “knowledge economy”. Looking back over a quarter century of earnings (1980-2005) Statistics Canada⁵ reported that

- Earnings of full-time full year earners rose for those at the top of the earnings distribution, stagnated for those in the middle and declined for those at the bottom.
- The more rapid growth at the top of the earnings distribution has led to an increase in the proportion of high earners over the past quarter century. In 1980, 3.4% of full-time full-year earners received \$100,000 or more. By 2005, this proportion had almost doubled to 6.5%.
- Likewise, about 2.2% of full-time full year earners received \$150,000 or more in 2005, up from 1.0% in 1980.
- The majority of these high earners were highly educated. Even though they represented no more than a quarter of full-time full year earners, individuals with a university degree accounted for 57.0% of those who received at least \$100,000 in 2005, and 65.3% of those who earned at least \$150,000.

It can be argued that from the late 1990s through to about 2006-07 or so, the increase in salary levels reflected a premium attributed to knowledge workers in general and a tight labour market for faculty. In the 2006 Census the salaries of faculty with earned doctorates, on average, mapped closely with individuals with doctorates in other parts of the labour force – public and private. The 2011 Household Survey suggests that in the intervening years (2005-2010) faculty experienced gains in their relative position at all age levels. Some part of that relative gain may be due to a less robust market outside academe. Nevertheless, the end result appears to be a relative improvement in faculty salaries.

³ Alberta Learning, “Report of the Working Group on Faculty Attraction and Retention”, Alberta, May 2002

⁴ Gomez, R., and Wald, S., “When public-sector salaries become public knowledge: Academic salaries and Ontario’s Public Sector Salary Disclosure Act”, Canadian Public Administration, Volume 53, No.1 March 2010, (107–126).

⁵ Statistics Canada, *Earnings and Incomes of Canadians Over the Past Quarter Century*, 2006 Census, Minister of Industry, Ottawa, 2008.

It is worth noting that, on average, faculty are in the top 5% of wage earners in the country and many full professors and senior administrators would be near or over the threshold of the top 1% of wage earners. For reference purposes, Statistics Canada reported that in the National Household Survey (2011) the *threshold* level (2010 reported incomes) for the top 10% was \$80,400, the top 5% \$102,300 and the top 1% \$191,100.

In sum, the significant increase in salary levels that characterized the period from the latter part of the 1990s through to a major part of the next decade could be explained by market factors – both internal to academe and external. The salary adjustments were facilitated by the general availability of funding in the period prior to the economic downturn in 2008.

As the decade drew to a close, however, internal markets had changed somewhat. By the middle of the decade the number of doctoral graduates surpassed the previous peaks of the mid-1990s promising a respite on the supply side of the equation, delayed a bit by the need for post-doctoral experience but, perhaps, reflected in the somewhat lower rate of salary escalation outside academe. The extension of the abolition of mandatory retirement across the country⁶ dampened demand in some provinces as some faculty decided to continue working beyond age 65.⁷ Demand was also affected by a slowing in the rate of enrolment growth in some provinces and the deteriorating financial situation. The impact on recruitment was telling; the absolute number of Assistant Professors declined in 2008-09 versus the previous year and according to Statistics Canada the numbers declined in 2010-11 relative to the previous year.⁸

The financial crisis in 2008/09 changed the financial situation markedly and exacerbated the ‘pension problem’ in a number of institutions. The ‘pension abyss’⁹ had a number of impacts of its own – putting added pressure on institutional finances, adding a major new issue to the bargaining table in some instances, and affecting individual’s retirement planning.

By 2011 Across-the-Board (ATB) increases started to reflect austerity and provincial legislated wage restraint in some jurisdictions. According to data compiled by Faculty Bargaining Services (FBS) the average ATB increase declined by over one full percentage point relative to the 2009 and 2010 period – more in line with CPI inflation. Nevertheless, the addition of Progress-Through-the-Ranks (PTR) costs, in the absence of sufficient turnover to finance PTR, pushes the annual increase requirement into a range that outpaces whatever CPI related inflation provisions may be provided in

⁶ Manitoba (1983) and Quebec (1982) had abolished mandatory retirement previously.

⁷ CAUT Almanac, 2013-14 “...the proportion of full-time university teachers ...employed beyond the common retirement age of 65 more than quadrupled between 2001 and 2011 to 5.1%...” p.6

⁸ Statistics Canada, *Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities*, 2010-11 Final Report, Culture Tourism and the Centre for Education Statistics: Research Papers 2011. Data from the OCAV-DE in Ontario tells a similar story; the number of Assistant Professors has declined each year from 2008-09.

⁹ James Bradshaw, “Universities facing service cuts to climb out of ‘pension abyss’”, *Globe and Mail*, November 28, 2010.

operating grants and/or tuition increases. The result, of course, is a constant pressure that is then exacerbated by additional cost requirements such as a need for greater pension contributions. Further, there is evidence that changes in salary *policy* and the potentially unintended consequences of changes in policy (e.g., anomaly adjustments, starting salaries, progress-through-the-ranks regimes, equity adjustments, and market adjustments) have on-going cost implications that only point in one direction and, again, add to the financial pressure.

International comparisons

Salaries for Canadian faculty are often reported to be among the highest in the world.¹⁰ Full-time faculty are faring reasonably well and have improved their relative position. But are Canadian faculty really the highest paid in the world? The assertion about Canada's relative standing originated from a study by the Center for International Higher Education at Boston College in the United States. A detailed look at the methodology uncovered a number of shortcomings that essentially rendered the comparisons relatively meaningless but the story garnered headlines. For a more detailed review of the Boston College methodology please see Appendix A.

The need to pay attention to international salaries is driven by an argument about the global market for faculty and the need to raise Canada's profile internationally. But there is also an element of 'Buying the Best'.¹¹ Accordingly, it is instructive to examine faculty salaries in the United States as a benchmark for the situation in Canada. The following table provides salary information by rank for public and private doctoral institutions in select U.S. states. The U.S. states were selected by virtue of their inclusion in various reports of the Ontario Institute for Competitiveness and Prosperity.

The table focuses on doctoral institutions¹² in the United States and uses the most recent data (2012-13) from the province of Ontario as the comparator. The United States information is based on reported 9 month full-time salaries; in some disciplines (e.g., business, health sciences, engineering, natural sciences) the salaries would be supplemented for some faculty. It is recognized that Ontario salaries are among the highest in Canada, along with Alberta and Saskatchewan and therefore the Ontario 'average' is not representative of salary levels in many other provinces. Based on a study using 2008-09 Statistics Canada (UCASS) salary data the Ontario salary levels averaged close to 10% above the national norm excluding Ontario.¹³ In Ontario the majority of institutions would qualify as 'doctoral' and that group represents roughly 90% of the total faculty in the province. Comparisons using other Carnegie categories could be constructed to help shed more light on the topic of Canada's relative salary position but the intent here is to simply provide an overview of the relative position. To provide

¹⁰ Dehaas, J., "The world's highest paid professors – a surprisingly good deal", Maclean's April 12, 2012 and "Canadian profs: the world's highest paid", March 22, 2012

<http://www.macleans.ca/education/uniandcollege/the-worlds-highest-paid-professors-a-surprisingly-good-deal/>
<http://www.macleans.ca/education/uniandcollege/canadian-profs-the-worlds-highest-paid/>

¹¹ Clotfelter, C. *Buying the Best: Cost Escalation in Elite Higher Education*, Princeton University Press, 1996

¹² Carnegie Classifications – see <http://classifications.carnegiefoundation.org/>

¹³ Council of Ontario Universities, "Academic Salaries – Just the Facts", Working Paper, 2012.

an idea of the importance of institutional 'type' to academic salaries in the U.S. the following table also references Master's universities – essentially regional state universities.

Table 1: Average Salaries for Full-time Faculty

(2012-13, Doctoral universities, Public and Not-for-Profit, by Jurisdiction, 9 month contracts in the U.S.)

	Public			Not-for-profit		
	Full Professor	Associate Professor	Assistant Professor	Full Professor	Associate Professor	Assistant Professor
New Jersey	149,954	101,586	84,216	168,282	93,263	83,238
California	133,774	88,431	78,816	149,596	98,747	83,434
New York	131,739	92,390	75,936	154,224	97,771	76,699
North Carolina	121,494	81,350	73,287	153,421	92,067	75,803
Massachusetts	128,755	95,589	79,441	164,211	101,382	89,452
Georgia	108,683	76,338	67,156	131,154	83,769	68,201
Texas	121,559	82,550	72,471	128,717	88,657	78,612
Illinois	119,673	81,910	71,242	156,477	92,054	81,195
Michigan	121,176	83,719	71,537	108,093	76,237	67,060
Pennsylvania	129,129	89,431	69,118	141,050	91,529	78,783
Virginia	124,185	83,458	70,256	115,063	83,141	47,527
Indiana	118,452	82,566	70,584	128,663	81,038	70,103
Florida	109,330	78,003	69,303	122,128	82,423	71,548
Ohio	111,772	80,397	68,950	109,255	74,460	63,394
Simple Average	\$ 123,548	\$ 85,551	\$ 73,022	\$ 160,861	\$ 103,045	\$ 86,254
United States	\$117,049	\$81,407	\$69,963	\$143,814	\$90,498	\$74,218
AAUP Survey Table 4 2012 (Master's Institutions - U.S.)	\$123,393 \$87,291	\$84,275 \$70,474	\$73,212 \$60,248	\$167,118 \$86,657	\$104,016 \$69,624	\$90,622 \$58,181
Ontario 2012-13	\$ 161,319	\$ 128,576	\$ 105,374	\$ 161,319	\$ 128,576	\$ 105,374
Ontario Adjusted for PPP**	\$ 130,096	\$ 103,690	\$ 84,979	\$ 130,096	\$ 103,690	\$ 84,979
Ontario Adjusted by 10%	117,086	93,321	76,481	117,086	93,321	76,481

Sources: U.S. Doctoral universities and Master's universities, United States, National Center for Education Statistics (NCES) Table 316.5, Integrated Postsecondary Education Data System (IPEDS), Spring 2013, Human Resources component, Salaries section.
 Association of American University Professors (AAUP), The Annual Report on the Economic Status of the Profession 2012-13, Survey Report Table 4. (<http://www.aaup.org/sites/default/files/files/aaup-survey-table-04a.pdf>)
 Ontario, National Faculty Data Pool (NFDP), *ad hoc* report, Excl. faculty with senior administrative duties.

The data illustrate a few key points:

- the range of salaries by state reflects major differences across the United States – a phenomenon similar to the range in salaries across the provinces in Canada;
- there is a marked difference between average salary levels in the Public institutions and the Not-for-profit (private) institutions;
- once adjustments are made for purchasing power Ontario's average salaries by rank appear to be higher relative to the public institutions in the United States but, on balance, lower than the private institutions;
- discounting the Ontario figures by 10% (the national norm excluding Ontario) the average salaries are close to faculty salaries in the public institutions in the United States;
- Associate Professor salaries, in general, tend to be relatively higher in Canada. That reality may be related to a tendency in the United States for greater merit differentiation and different policies/practices regarding Progress-Through-the-Ranks increments for long-term Associate Professors; and

- Salaries at Master's 'type' institutions in the U.S. are considerably lower than Doctoral 'type' institutions reflecting differences in program 'mix' (more professional programs and graduate programs at Doctoral universities) and the relative differences in research activity and funding support for research.

The information suggests that, on average, Canadian faculty salary levels are similar to U.S. salary levels but it is important to reiterate that the U.S. salary information understates the salary for some faculty, particularly faculty members in professional schools and in disciplines that attract significant research funding.

In sum, the cost pressure associated with faculty salaries is real and for part of the period since 2000 was very much related to competitive pressures for faculty – hiring and retaining the best in a tight market. The fact that faculty in Canada appear to have improved their relative position between 2006 and 2011 suggests that some of the *external* competitive factors had abated somewhat and the relative improvement was due to that factor as well as internal factors within the higher education community – competition among institutions, the 'lag' associated with multi-year collective agreements, salary parity provisions in collective agreements, and the consequence of internal salary policy changes.¹⁴ More recently, the ATB provisions have been more in line with inflation although once PTR is factored in the overall increase outpaces CPI 'inflation' increases in revenue.

The 'rates' part of the academic salaries equation tells part of the story about cost pressure but there is also a 'numbers' part; that is the unrelenting demand for more faculty – to meet increased enrolment demands, generate sponsored research, improve the student to faculty ratio, develop new programs and areas of expertise, and strengthen existing areas of expertise. The knowledge 'explosion' regularly creates new areas of discovery without necessarily shedding old areas. The inevitable trade-off of 'rates versus numbers' has meant that the student to faculty ratio has increased nationally and in virtually every province. Moreover full-time faculty, on average, are spending more time on research now than they were before the 'innovation agenda'. Universities have adapted somewhat by employing more teaching-only faculty, adjunct /sessional, and allowing larger class sizes. But the impact on the quality of the learning experience and learning environment, along with a more demanding student body,¹⁵ has spawned a new and/or expanded set of Academic Support and Student Services – one element to consider as we turn to an examination of Staff Salaries.

Staff Salaries

Staff salaries constitute over 27% of Operating expenditures - the second largest expenditure category after Academic salaries. Since 2000 the expenditure on Staff

¹⁴ Another possible explanation is the change in Census methodology between the 2006 Census and the 2011 Household Survey. While the 2011 dataset appears robust enough for comparison purposes, no attempt has been made to statistically test or examine the two datasets in detail.

¹⁵ The 'more demanding student body' is both a function of the entitlement/accountability associated with paying higher tuition, in some provinces, increased demands generated by parents, and the consequence of media rankings that pay attention to university 'learning environments' (Maclean's, Globe & Mail).

Salaries has increased by 114% (number of staff + salary increases). A more detailed review of staff salaries by function points to specific areas of above average increase that may reflect 'cost pressures' – both demand for more staff and demand for higher salaries. Specifically, as evidenced in the following table, expenditure on staff salaries increased by more than the average in Non-credit instruction, Computing, Administration and External relations, and Student services. Combining Non-Credit with the category Instruction & non-sponsored research brings the total increase in the 'academic area' below the average. The above average increase in Non-credit instruction is not unexpected given institutional attempts to generate new revenue streams; at least some of the increase is likely related to non-credit executive and professional development programs in Schools of Business and other professional areas.

The increase in Computing is perhaps explained by the ubiquitous nature of information technology in general and, more specifically, the introduction of enterprise administrative systems during the timespan. While such systems may have improved efficiency and/or improved functionality, the required expertise and resource to maintain and operate such systems has been an on-going concern in many institutions; specific expertise carries a price tag.

Table 2: Staff Salary Expenditures (\$000) by Function 2000-01 to 2012-13
(Staff Salaries = Other Salaries and Wages)

Function	2000-01		2012-13	
Instruction & non-sp research	\$ 886,569		\$ 1,749,651	97%
Non-Credit	\$ 66,718		\$ 158,417	137%
S/T Instruction & non-sp research	\$ 953,287		\$ 1,908,068	100%
Library	\$ 250,199		\$ 364,710	46%
Computing	\$ 182,951		\$ 426,594	133%
Administration	\$ 617,161		\$ 1,264,986	105%
External relations	\$ -		\$ 253,920	-
S/T Administration & Ext. relations	\$ 617,161		\$ 1,518,906	146%
Student services	\$ 202,308		\$ 582,705	188%
Physical plant	\$ 326,959		\$ 628,446	92%
Total CAUBO Institutions	\$ 2,532,865		\$ 5,429,429	114%

For purposes of this analysis the functions of Administration and External relations have been combined. The functional category External relations was introduced as a separate CAUBO reporting function in 2003-04. In prior years the activities were included in 'Administration and general'. The increase in the combined functions suggests an increase driven by activity and not simply salary pressure – although the acknowledged areas of growth – external relations, advancement/alumni affairs, research administration, and academic support tend to require more professional staff with commensurate salary expectations in a reasonably competitive market. It is also

worthwhile pointing out that some part of the increased salary bill is related to the addition of senior academic administrators who generally receive compensation increases similar to faculty and have their academic salary supplemented with an administrative stipend.

The significant increase in salary expenditures in the Student services is consistent with the introduction and / or expansion of services. Some part of that expansion is simply related to the overall increase in enrolment but it is also evident that institutions have had to 'staff up' to deal with

- the impact of larger class sizes and less faculty/student engagement,
- the arrival of the Millennials (and 'helicopter' parents),
- increased numbers of students with disabilities and students requiring accommodation,
- increased numbers of students from under-represented groups, and
- greater emphasis on student mobility.

Many staff associated with the service increases would be in professional categories thus adding to the growth in the salary mass and adding additional salary pressure in line with other 'knowledge workers'. While it is clear that the Student services function has experienced considerable growth since 2000 the extent of its contribution to the general 'cost pressure' in the Operating fund is more of an open question. Clearly some portion of the demand for new services or expanded services is funded from general operating revenues – predominantly operating grants and tuition, and sometimes earmarked by government. But 'Other fees' have increased markedly over the period and some part of the increase is related to the support of specific student services.

Salary levels for many staff are often affected by local markets. In theory, institutions could rationalize the difference between salary increases for faculty and staff by virtue of the differences in those markets but it is not clear from the data if that is the case. Moreover, a variety of factors tend to push institutions to a more common ATB increase – often similar to the increase for faculty. In some cases staff in specialist positions (management, information technology, advancement / fund-raising) may be affected by professional sub-markets and 'knowledge workers', generally, experienced above inflation salary increases for much of the period in question. The 'professionalization' of the non-academic staff has undoubtedly contributed to the growth in the salary mass and a requirement to pay more attention to sub-markets. However, outside academe, salary increases began to moderate part way through the decade as a result of the impact of the global financial crisis.

Concluding Comments

The preceding information points to some plausible explanations for the general increase in salary expenditures and the more specific cost pressures associated with salary increases and an expressed need for more faculty and staff. Interestingly the 'rates' part of the equation has received greater attention than the 'numbers' part of the equation but both contribute to the cost pressure. In a knowledge economy the salary

increase pressure has emanated from competitive external markets but that has changed somewhat in the wake of the global financial crisis and subsequent economic downturn. The various measures that provincial governments have used to slow the rate of compensation increase in the Broader Public Sector may have helped change ATB expectations but, no doubt, will fuel a pent-up demand for catch-up of some sort. As noted in the *Drummond Report* “history shows that wage freezes are often followed by wage catch-up periods.”¹⁶

Before leaving the topic of ‘compensation in academe’ it is important to note that expenditure on ‘employee benefits’ – statutory and discretionary – has increased markedly since 2000 and represents the greatest ‘shift’ in expenditure over that period. Benefits expenditures increased from 10% of operating expenditures to 13.4%, reflecting an increase of over \$1.7 billion - a major portion due to increased pension contributions. More detailed data for Ontario¹⁷ indicates that pension contribution expenditures increased by almost \$550 million – close to ten-fold since 2000. In 2000-01 pension contributions represented about 20% of benefits expenditures; by 2012-13 that figure had increased to over 50%.

¹⁶ 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

¹⁷ Committee of Finance Officers – Universities of Ontario, *Financial Report of Ontario Universities*, select years, Table 13.

Appendix A: International Salary Comparisons: the Boston College Methodology

The Boston College report used average salary data based on the American Association of University Professors (AAUP) survey. The AAUP information is based on 9 month salaries for public and private institutions in the United States. The salary data is provided, by rank, by institutional category type (I Doctoral, IIA Masters, IIB Baccalaureate, III Associate, and IV Associate without rank). The methodology for the Boston College international comparison focuses on the public institution data, derives an average salary by rank by computing a simple average of the institutional categories that have academic ranks (categories I, IIA, IIB, and III), and then divides each of rank averages by 12 to arrive at a monthly salary. The methodology is subject to some criticism because of the following factors:

- the use of a simple average – that is the average salary of professors in Categories I, IIA, IIB and III is summed and then divided by four – understates the average salary given that 50% of the faculty are in Category I, where the average salary is considerably higher in each rank;
- salary levels in the private institutions and are notably higher - therefore the focus on the public universities understates the level of average salary for faculty;
- the division of the 9 month salary by 12 to reflect an annual monthly salary ignores the fact that a proportion of the faculty are actually on 11 or 12 month contracts and some faculty receive salary supplements from summer teaching and/or research; and
- the OECD produces a variety of PPP ratios including one focused on private individual consumption and that figure in 2012 was \$1.24 for Canada relative to the United States.

The Boston College comparison underscores the importance of examining international comparisons very carefully to fully understand the methodology and the implications of specific methodology decisions. Accordingly one must proceed with considerable caution in making comparisons between Canadian *average* salaries and *average* salaries from elsewhere.