



# 2016-2017 Report of the Equity, Diversity and Inclusion Committee (EDIC)

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Update on Progress and Recommendations

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## Introduction

The creation of an APUO-Employer Committee on Equity, Diversity and Inclusion (EDIC) is an explicit requirement of the Collective Agreement. Clauses mandating such a committee exist in past Collective Agreements dating back at least to the early 1990s but, to the best of our knowledge, the committee has functioned over this period on, at best, a sporadic basis. Although the Committee is required to submit an Annual Report to both Presidents, a search was made and no past Annual Reports were found to be in possession of the Employer, and the most recent copy unearthed in APUO archives dates to 1999. To the best of our knowledge, EDIC produced no Annual Report between that year and today.

The lack of an active past history has meant that our committee has found itself facing considerable challenges in discharging its mandate, and has not succeeded in addressing all of the dimensions of equity, diversity, and inclusivity that committee members believe are important to ensuring that the University of Ottawa provides a workplace that respects employment equity and in which where all faculty members can thrive. While we are proud of what has, in fact, been accomplished since our first meeting in October 2016, we underscore the fact that the committee will have much to do in coming years, and the importance of the ongoing commitment of both the APUO and the Employer to ensuring that the committee can do its work.

We wish to specifically acknowledge the support of Institutional Research and Planning (IRP), and in particular the statistical analysis undertaken by Manon Desgroseilliers and Jose de Mello, which constitutes the centerpiece of this year's report. It would not have been possible for our committee to make any meaningful progress without this support, and we wish to stress how crucial this relationship is to the capacity of the committee to realize its future work plan, outlined below.

The key messages of our report can be summarized as follows: there is at present inadequate representation amongst faculty members of women, visible minorities, aboriginal persons and persons with disabilities. There is compelling evidence that, in some faculties, female faculty may face gender discrimination; there is also evidence that women experience slower professional advancement, and this may indeed be due to systemic factors. While we suspect that similar problems are faced by faculty members who are visible minorities, are aboriginal, or have disabilities, there is no mechanism in the University at present for accessing and analyzing data that can provide a clear picture – a situation that is of the most serious concern.

To correct the current situation will require that both the Employer and the APUO make equity, diversity and inclusivity a priority. We emphasize that both must consistently demonstrate their commitment to taking the actions that are necessary to achieve equity, diversity and inclusivity because the employer and the union both have responsibility for shaping the employment environment and share a moral and legal duty not to discriminate. In particular, this obligation applies regardless of whether the parties are interacting in a collaborative setting (such as our committee), or in an adversarial setting (such as the upcoming renegotiation of the Collective Agreement).

This will require that the University and APUO agree to amend the Collective Agreement, both to broaden the mandate of this Committee and their own narrow notion of employment equity (such as Article 17.1.6, which currently contains binding targets and mechanisms for appointing women into academic units, but merely hortatory language when it comes to doing likewise for visible

minorities, aboriginal persons, and persons with disabilities, and which does not provide an enforcement mechanism). It will also require a commitment of resources to address systemic problems (such as lower salaries of women relative to men) and it will require changes in working procedures (such as to ensure that women and men experience career progression at similar rates). Finally, the EDIC draws attention to the opportunities available to both the University and the APUO to promote the objectives of equity, diversity and inclusion in the process of hiring new faculty members. It is the University that determines which academic units may hire, and allows units to conduct narrower or wider searches, which crucially affects the likelihood of finding suitable candidates from the four designated groups. However, no regular appointment can proceed unless the individual is recommended for appointment by either a DTPC or the Departmental Assembly, which is largely constituted of APUO members. The APUO therefore has the opportunity to promote a more diverse and inclusive workplace by undertaking education of its members about the crucial importance of an equitable, diverse and inclusive workplace, as well as supporting (and promoting) the addition of procedures which encourage its members to actually take account of these issues when recruiting new colleagues.

## **Mandate of the EDIC**

The mandate of the EDIC is designated in the most recent collective agreement in section 17.1.6, as outlined below:

### **17.1.6.2 Equity, Diversity and Inclusion Committee (EDIC)**

There shall be a joint APUO-Employer consultative committee on equity, diversity and inclusion. Its opinion shall be sought on any contemplated employment equity, diversity and inclusion measure and procedures which affect the APUO bargaining unit.

The committee may also propose to APUO and the Employer additional specific measures and procedures for achieving employment equity, diversity and inclusion, and it shall examine in an ongoing fashion the implementation of any employment equity, diversity and inclusion measures which affect the selection and hiring of Members or which affect Members directly

The committee shall report annually on or about July 1 to the President of the University and the President of the Association on the success of these employment equity, diversity and inclusion procedures and measures and the need for revision to these, if any...

### **17.1.6.1 Designated employment equity groups in academic units**

(a) The parties to the collective agreement are committed to the principle of gender equity in matters of employment and, to that effect, agree to increase the proportion of women or men in those parts of the University community where they are under-represented, in accordance with the guidelines and procedures set out herein.

(b) The parties to the collective agreement may from time to time agree to designate as equity groups for the purpose of this provision, the following groups: Aboriginal peoples; persons with disabilities; and members of visible minorities.

We note that, at the outset of our work this year, the language in the Collective Agreement limited the purview of this Committee specifically to gender equity. Consequently, one of our first tasks was to obtain an *ad hoc* agreement between the APUO and the Employer to extend our mandate to include the other designated groups. While this was satisfactory as a temporary solution to permit our work to proceed, it is not satisfactory as a lasting solution because the Collective Agreement

continues to treat three of the four protected groups less favourably and stipulates that agreement is revocable (i.e. in force only “from time to time”).<sup>1</sup> Given the history of APUO and the University not convening this Committee and its loss to desuetude for many years, it is vital that EDIC be given a stable, perpetual mandate to do its work.

In the same vein, the Collective Agreement in Article 17.1.6.3 contains mandatory mechanisms for monitoring and making adjustments to the proportion of women and men in employment—i.e. gender equity. Strikingly, APUO and the University negotiated this provision for the benefit of women, but without providing any analogous mechanisms or formal designation under the collective agreement for visible minorities, aboriginal persons, or persons with disabilities. This approach to equity is not satisfactory, in that “equity” for some is actually discrimination, which has the result of denying visible minorities, aboriginal persons, and persons with disabilities Collective Agreement protections enjoyed by their female peers in the workplace. Further, the potential impact of Article 17.1.6.3 is blunted by the fact that violations in its application are expressly forbidden to be arbitrated, in effect immunizing equity violations from legal remedies.

## Composition

The 2016/17 committee was composed of eight (8) members, of whom four (4) are appointed by the Employer and four (4) by APUO. Both teams included women and visible minorities.

For the 2016/17 Committee, the Employer-appointed committee members were: Céline Levesque (meeting of Nov. 2, 2016; resigned); Vicky Barham (appointed as of meeting of March 7, 2017), Noémie Boivin, Serge Nadeau and Gary Slater. The APUO-appointed members were: Jennie Abell, Amir Attaran, Ivy Bourgeault and Sanni Yaya. The committee was chaired by Céline Lévesque (meeting of November 2, 2016); she was succeeded in this role by Vicky Barham. Ivy Bourgeault was the committee’s Secretary. Jennie Abell retired on June 30, 2016 and Serge Nadeau is presently on long-term leave. The present report should therefore be viewed as authored by the six remaining committee members.

## Activities

The EDIC met on six occasions commencing November 2, 2016 followed by meetings: 7 March, 2017; 18 April, 2017; 23 May, 2017; 6 June, 2017; 27 June, 2017. The fact that the EDIC committee failed to meet for the past several years created many challenges for our committee. The sense from the members of the Committee this year was that we cannot in a one fell swoop do the work to fill the lacunae caused by past inaction. This required that we would have to make hard choices about where to focus our efforts this year. It was agreed that we would review reports of past committees at UOttawa and consult with ongoing initiatives, following which we could identify key analyses of available data to undertake specific to our mandate.

A first step was to review the report – from 2009 - of a steering committee (chaired by Ruby Heap) on gender equity which looked at organizational best practices (the report did not deal with the other three groups). This committee undertook a literature review, and examined how some faculties had established their own equity office and approach (e.g., the Faculty of Medicine). They

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<sup>1</sup> In March 2017, APUO formally requested to “designate” the three groups under Article 17.1.6.1(b) of the Collective Agreement, but the University only agreed to “include” the other groups in EDIC’s mandate and discussions, so the formal designation is not in force at this writing.

examined administrative structures, policy and programs; academic climate; work-family policies and discussed governance models and next steps. It recommended the creation of a central structure for gender equity, chaired by a tenured professor.<sup>2</sup>

One of the challenges facing our committee was to establish what was already known by other individuals and offices on campus with a mandate related to equity. In particular, as our committee does not itself collect or have access to data, it wished to ascertain what data might be available from other parties. As such, a second set of activities was to reach out to other Committees and Offices on campus involved in human rights initiatives related to our mandate. We are grateful to these parties for meeting with us.

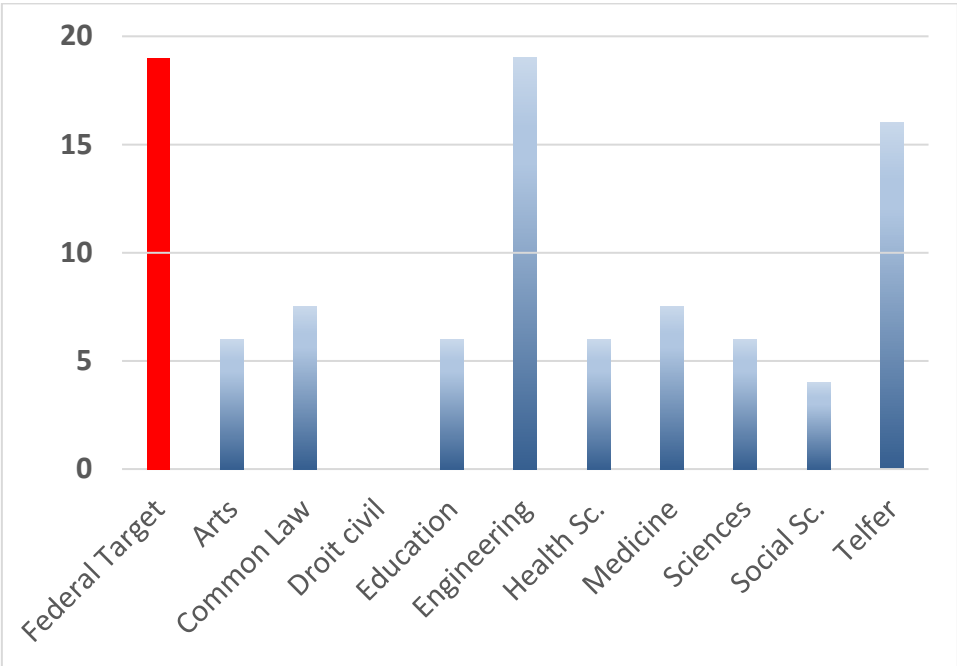
Whereas the mandate of the EDIC committee is specifically limited to examining equity, diversity and inclusivity as they affect members of the APUO bargaining unit, other individuals and offices on campus have a broader mandate, to cover the university community as a whole. We sought both to understand the specific mandate of these offices, and also to see whether they might have already, or might be in the process of, collecting the sort of data that we believe are absolutely crucial underpinning to any serious discussion of current (and past) concerns with equity, diversity and inclusivity.

We met with Carole Bourque, Spécialiste de la diversité et de l'inclusion (meeting of 18 April, 2017), and she presented to us the statistics the University submits to Government of Canada to comply with the requirements relative to the Federal Contractor's Program (FCP). The committee was distressed to note that the University appears to be missing – and by a wide margin – equity targets for all four designated groups, and in particular our sense was that we are underperforming in comparison with other Canadian universities. For example, nine out of ten faculties (all but Engineering) are missing the FCP target for employing visible minority professors (see Figure 1). The same is true for aboriginal persons (see Figure 2) where only Common Law meets the target. As we were given only tabulated numbers but not access to the underlying data, we were unable to study these apparent instances of systemic discrimination, but draw attention to them as a serious problem.

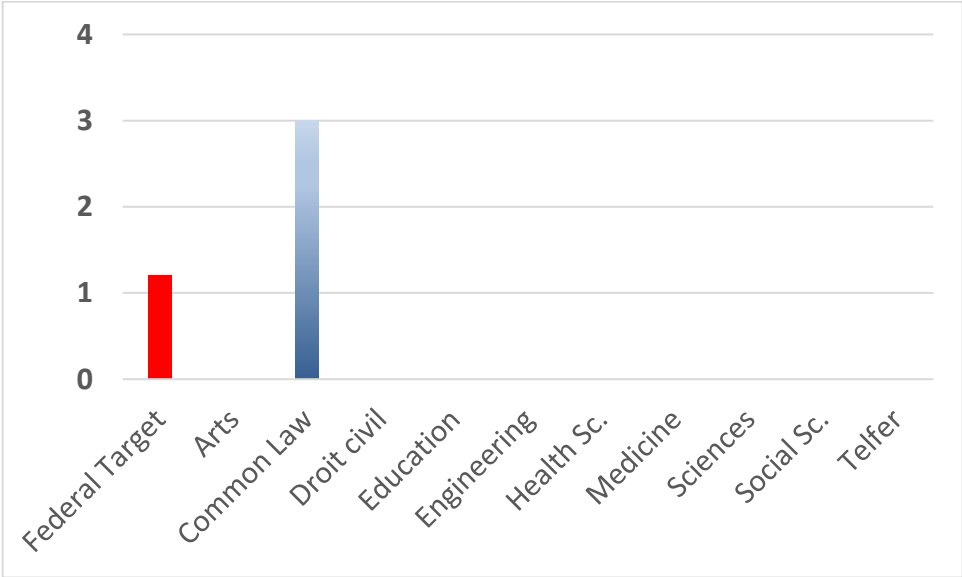
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<sup>2</sup> We note that the position created in 2016, and to which Professor Martine Lagacé was appointed, is somewhat comparable to what was recommended in the 2009 report, although the latter did not have ambitions beyond gender equity only.

**Figure 1 Representation of Visible Minorities relative to the FCP as a percentage**



**Figure 2 Representation of Aboriginal persons relative to the FCP as a percentage**



The EDIC also met with Professors Martine Lagacé and Caroline Andrew, Co-chairs of the President's Ad Hoc Committee on Diversity and Inclusion (meeting of 23 May, 2017). The mandates of Professors Lagacé and Andrew extend beyond APUO members and address the entire university community, but do overlap to some extent with the mandate of this Committee. We learned of the efforts underway to collect relevant quantitative and qualitative data relevant to matters of equity, diversity and inclusivity from all stakeholder groups, and hope to benefit from access to these data in the future, as they are relevant to the situation of APUO members. It should be underscored, however, that this important initiative is not a substitute for ongoing collection and analysis of transparent, appropriate data, as discussed more fully below.

In regards to the activities the EDIC undertook to access and analyse key data sets available to address our mandate, a number of challenges were faced. At the outset, the mandate of EDIC was initially limited by APUO and the University to gender equity. While the committee discussed and took steps to ensure that its mandate was extended on an *ad hoc* basis to include visible minorities, aboriginal persons, and persons with disabilities, it was subsequently unable to act on this mandate because of a refusal to date by the University's Human Rights Office (HRO) to share data on the employment of these three protected groups at the University.

HRO possesses data on the employment of these three protected groups, which it collected pursuant to the University's obligations under the *Federal Contractors Program* (FCP). Neither the University nor APUO currently possesses an alternative source of employment data for these three protected groups. The HRO data are unique in that regard, and therefore, necessary if any employment equity analysis is to be carried out.

At the request of EDIC and on its behalf, IRP requested HRO to give access to the anonymized employment data of these three protected groups to IRP, so that the latter could perform an employment equity analysis. Unfortunately, HRO refused that request, and declined to share the raw data with IRP. EDIC then asked HRO to specify its reason for refusing. HRO responded that sharing the data with IRP for analysis would violate sections 9(3) and 3(6)(b) of the *Employment Equity Act*, and concluded that "it was prudent administrative practice to refuse the request to release the raw equity data to IRP" at the present time.<sup>3</sup> As of October 27, 2017, HRO has given no commitment to share these data with IRP or any other analyst, but writes that it is in discussions with the Human Resources (HR) office of the University, both of whom are "looking forward to receiving a meeting invitation from the Chair of EDIC", and "to plan how the employer can meet the specific needs of the EDIC and continue to carry out its obligations under the Act."<sup>4</sup>

EDIC has been frustrated by this impasse, and is not able to come to a consensus. While the HRO believes that it is acting in good faith, a solution to enable the analysis of employment data for the three protected groups is necessary going forward.

There exists a difference of opinion on EDIC as to whether HRO has a sound basis in the *Employment Equity Act* for not sharing employment data for equity analysis purposes. This difference of opinion gives risk to a dissent, presented here, and further elaborated in Annex A.

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<sup>3</sup> See e-mail from Sonya Nigam, October 27, 2017, Annex A.

<sup>44</sup> *Ibid.*



The dissent is based on advice received from EDIC member, Professor Attaran, who is a lawyer. In his view, the jurisdiction of the *Employment Equity Act* does not extend to the provincially-regulated private sector, such as universities. Accordingly, HRO's reliance on the *Act* as ostensibly the reason why it cannot share employment data with IRP for analytical purposes is simply wrong and pretextual. Further, the anonymized data collected under the Federal Contractors Program is not collected under the *Employment Equity Act*, but rather the Treasury Board Contracting Policy administered by Employment and Skills Development Canada (ESDC), which strongly recommends that organizations perform an equity analysis with the data they possess. As ESDC wrote to Professor Attaran (who shared their message with EDIC) on October 27, 2017, it is "correct that employers should be conducting analyses of their workforce data to determine where [equity] gaps exist and how they may be addressed".<sup>5</sup>

The dissent also notes that it has been nearly a year since members of EDIC first requested that the University furnish information about the employment of visible minorities, aboriginal persons, and persons with disabilities. Since HRO possesses the data and is a branch of the University, the University is in breach of its legal duty to take proactive steps to create an equitable workplace by letting HRO conceal the employment data which IRP requires to analyze the situation of these three protected groups. The University's refusal to allow the data to be analyzed, so as to produce an accurate picture of employment equity for these three protected groups, amounts to willful blindness to discrimination on the University's part.

Except for that difference of opinion, EDIC is unanimous that a thorough analysis of the employment of visible minorities, aboriginal persons, and persons with disabilities is necessary and urgent. As the following sections will show, EDIC requested, and IRP performed, thorough analyses of gender equity, using the available gender data (not sourced from HRO). While probably it is not possible to perform the exact same analyses for the other three protected groups due to their smaller sample size, no doubt some useful analysis is possible if HRO agreed to share the relevant data with IRP. EDIC notes that a cooperative approach to data analysis has been used by other Ontario universities: e.g. the Ontario Human Rights Commission has praised the University of Guelph for its approach to data collection and proactive equity planning which, at least in the past, has involved parties other than its HRO and HR in the collection and analysis of the data.<sup>6</sup>

In sum, all members of EDIC agree that finding a resolution to the data sharing impasse is essential. It is a limitation of this report that it is focused only on gender equity, for which the data are available, particularly in the hiring, promotion, and pay for women. The results of this work are reported below.

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<sup>55</sup> The full text of the e-mail can be found in Annex A.

<sup>6</sup> For further details on the past involvement of parties other than HR and HRO at uGuelph, see Ontario Human Rights Commission (2010) *Count Me In! Collecting Human Rights-Based Data*: Toronto, Government of Ontario. HRO has informed EDIC that procedures have subsequently changed at uGuelph, and that all reports are now produced internally by their HRO.

## Preliminary Findings

### Gender Representation within Departments at UOttawa

The first set of questions the EDIC addressed through the data analyzed by the IRP were: Are we meeting the 40% threshold of representation? How do we compare to the market? Are we moving the needle?

#### *Are we meeting the 40% threshold of representation?*

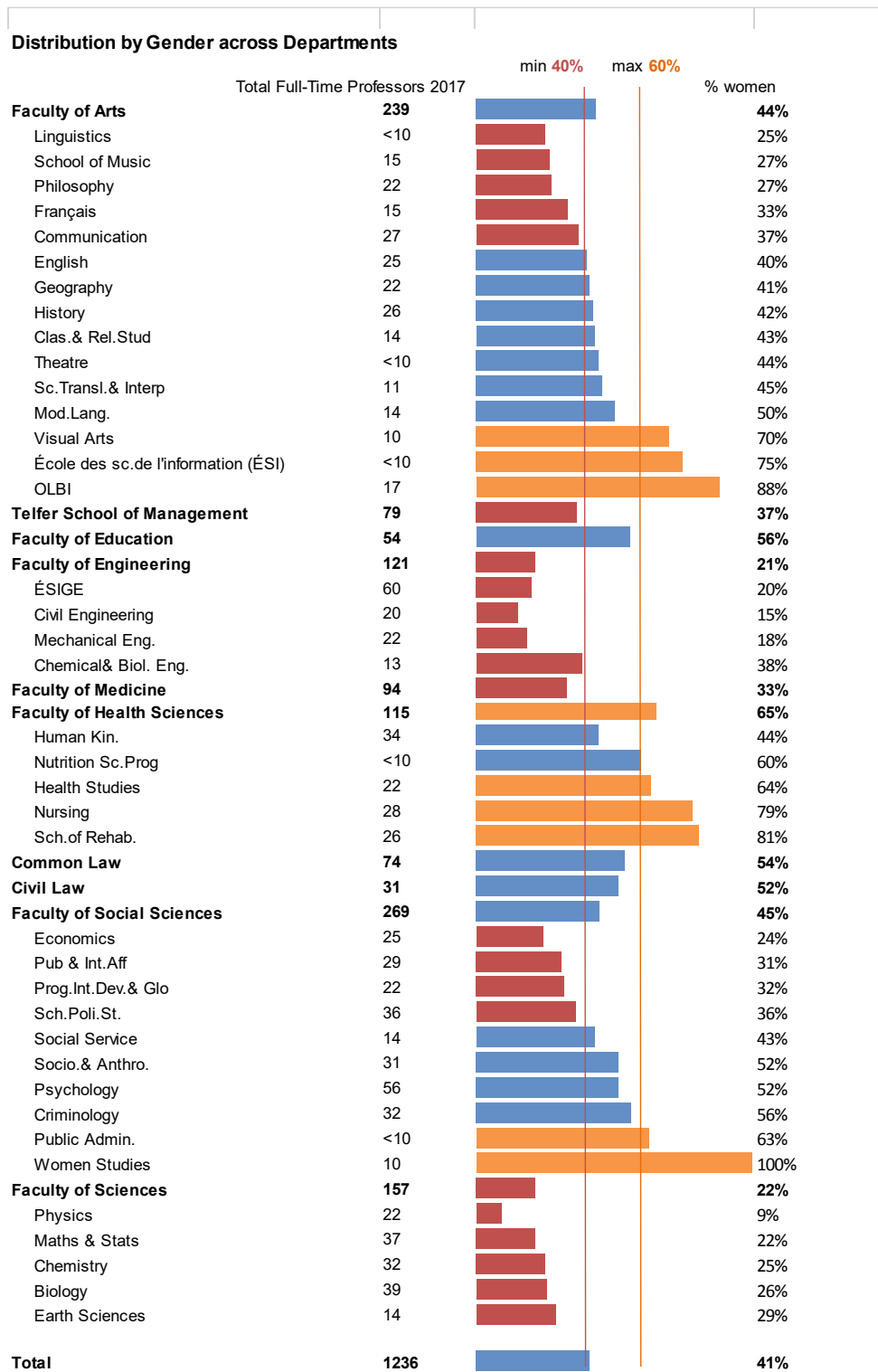
In the January 2017 scan of administrative data, women make up 41% of the 1,236 full-time permanent professors (e-class 1a, 1c) at the University of Ottawa. The level of representation, however, varies by faculty, from a low of 22% in Science to a high of 65% in Health Sciences. Furthermore, we also find considerable variability across departments<sup>7</sup> within a single faculty. The 40% representation threshold for either gender is met in 17 departments (or faculties where there is no departmental breakdown). In 20 departments, women fall short of 40% representation, whereas in eight departments, men represent less than 40% of full-time professors.

As observed in Table 1, the overall representation of women is lowest in the Faculty of Engineering (21%), however, the department of Chemical and Biological Engineering is very close to the 40% threshold. Just above Engineering is the Faculty of Science, in which none of the departments are above 30% in their representation of women, with a low of 9% in the department of Physics. The School of Management is also below the 40% threshold representation for women. In the Faculty of Medicine, representation is below 40% in its larger departments (BMI, CMM) but women have a stronger representation in Epidemiology and Public Health, as well as the Department of Innovation in Medical Education. While the overall proportion of women in the Faculty of Arts and the Faculty of Social Sciences hovers above the 40% threshold, there is substantial gender under-representation across various departments. For example, Linguistics and Economics have low representation among women, while other departments such as the Official Languages and Bilingualism Institute and Women's Studies are mostly if not all comprised of women. The Faculties of Law (both Droit Civil and Common Law) and Education strike an equitable balance in gender representation. On the other hand, the Faculty of Health Sciences appears to have a gender imbalance in favour of women (65% women overall), largely as a result of its nursing and rehabilitation schools. Approximately 8 in 10 full-time faculty members in the School of Rehabilitation and the Nursing departments are women. These extremes are similar (but reversed) to what we are observing in some departments in the Faculty of Engineering.

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<sup>7</sup> We strongly caution the reader as some of these departmental findings are based on very small numbers. In an effort to safeguard the privacy of individuals and what has been deemed by the University as sensitive information, we have suppressed the cell sizes of departments with fewer than 10 full-time members.

**Table 1: Total faculty and % representation of women by faculty and by department**



*How do we compare to the market?*

Article 17.1.6.3 of the Collective Agreement states that if gender representation falls below 40% of the department, it should be at least 5% above the gender representation in the current market

(although the Article goes on to state that noncompliance with this benchmark may not be remedied by referring the problem to arbitration). The market is defined as the profile of PhD graduates from Canadian institutions within the last five available years. Although it should be noted that this definition represents a closer approximation of the hiring pool rather than of our peers/competitors in the sector, it can give us a reliable point of reference. Although not all PhD graduates have ambitions to enter into an academic career, it must be stated that faculty hires typically come from PhD or other advanced degree graduates, either from Canadian or international institutions.

Institutional enrolment data is collected by Statistics Canada under the Postsecondary Student Information System (PSIS<sup>8</sup>). We purchased a data set aggregating all students by field of study and gender graduating from PhD programs in Canadian universities from 2010-2014. We then mapped<sup>9</sup> the relevant 4-digit fields of study to our departments. That way, we could compare the proportion of women graduating in relevant fields of study to the representation of women in full-time faculty positions across departments at the University.

In examining the gap to market in Table 2, we only considered the departments where the current 40% minimum representation was not met for either gender. We then extended the range of 40-60% to include the rate 5% above the market. For example, if 23% of recent PhD graduates in Physics in Canada are women, then the target range for women based on the market would be 28% through 60%. On the other hand, if 93% of recent PhD graduates in Nursing are women, then the target range for women would be 40-88% (increasing the male target from 7% of the market to a minimum of 12%). Using this scheme, we can see where the University is within target range for women in five departments, below the target range in 17 departments and above the target range (meaning too few men) in six departments.

- The gaps to the market in the representation of women in are *Physics* (-19%), *Chemistry* (-15%), *Linguistics* (-15%), and *Biology* (-14%).
- There are just as significant over-representation of women compared to the target range, notably in Information Sciences (ESI) (+15%), Feminist and Gender Studies (+13%) and the School of Rehabilitation (+11%).
- Despite having relatively low representation of women in Mechanical Engineering (currently 18%), the level is 5% above the market of recent PhD's in the field. The current representation of women is also within the target range in Chemical and Biological Engineering as well as International Development and Globalization.
- The representation of men in the Official Languages and Bilingualism Institute and Nursing is equally within the target range.

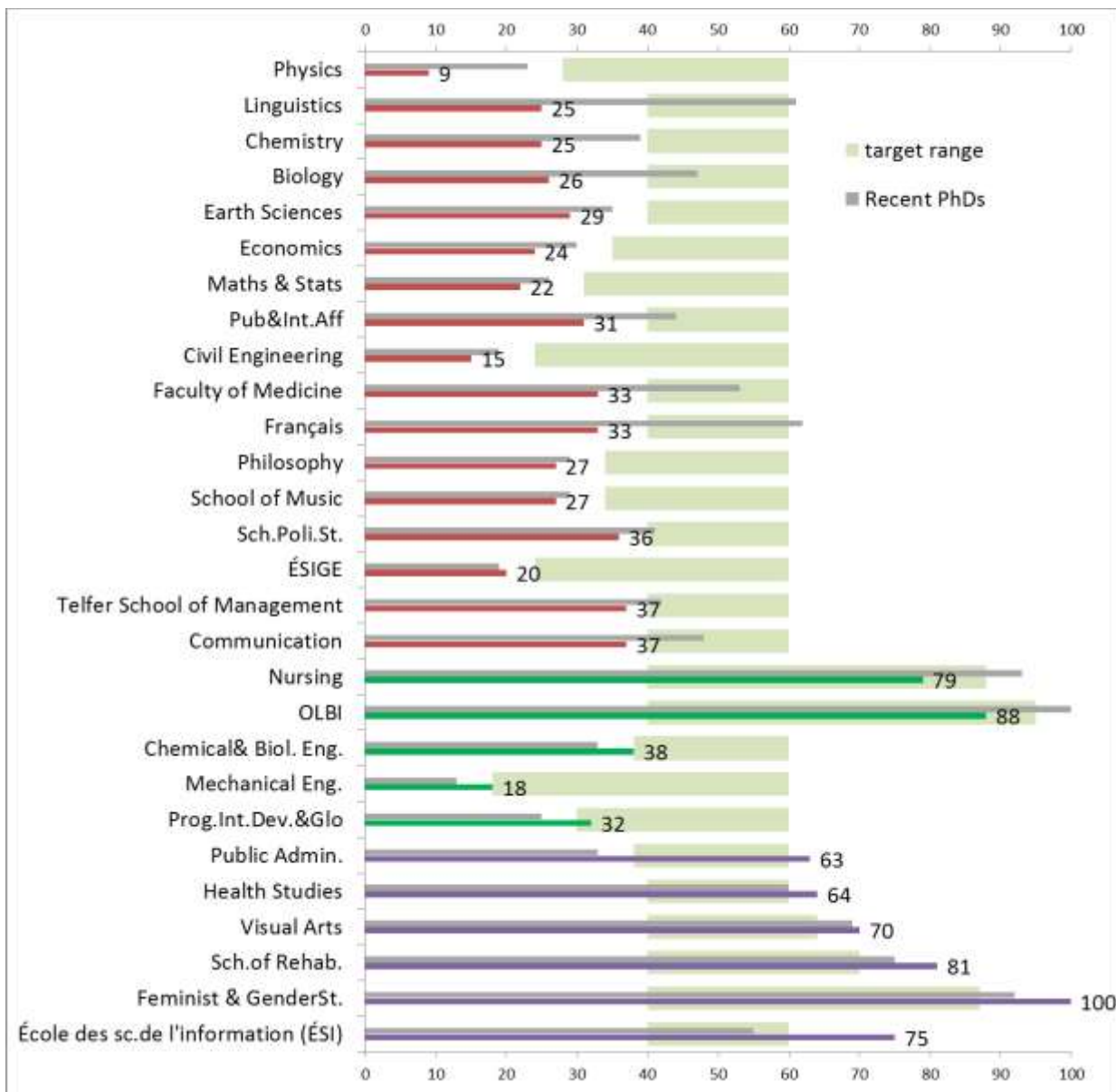
The target range and rate of recent PhD graduates can sometimes lead to a double violation of the Collective Agreement. As an example, Medicine is 7% below the minimum target range of 40%, but the current representation of women in the Faculty (33%) is 20% below the rate of recent PhD graduates in the field. There are similar distortions in the gap for *lettres françaises* and an even greater gap to recent PhD graduates in linguistics.

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<sup>8</sup> See appendix for PSIS methodology and data rounding requirements for reporting

<sup>9</sup> See appendix for complete mapping. Some faculties (e.g., Medicine) could not be broken down into their departments for this section

**Table 2: Representation of women by faculty and department compared to recent PhD graduates in the field in Canada**



*Are we moving the needle?*

Given the expected decades-long careers of full time professors, change in the representation of gender may be incremental, even over periods of growth in the size of certain Faculties. Looking at the 2017 status, to what extent have the gender imbalances across departments narrowed (or widened) in recent years?

In the past 5 years, through a combination of attrition or concerted hiring practices, the gender balance has been more equitable across a number of faculties and departments. Overall, the

percent of women has increased, particularly noteworthy in the Faculties of Engineering and Management, two faculties that had significant ground to make up to reach the 40% threshold.

**Table 3: Change in % representation of gender by faculty and department**

| Faculties and Departments              | Total full-time profs. 2017 | 2012    | 2017    | Δ Since 2012 | Faculty hired since 2002-2012 | Faculty hired since 2012 |
|--|-----------------------------|---------|---------|--------------|-------------------------------|--------------------------|
|  |                             | % women | % women | % women      | % women                       | % women                  |
| Chemical & Biol. Eng                   | 13                          | 23%     | 38%     | 15%          | 57%                           | 0%                       |
| Communication                          | 27                          | 36%     | 37%     | 1%           | 36%                           | 25%                      |
| Telfer School of Management            | 79                          | 32%     | 37%     | 5%           | 54%                           | 35%                      |
| School Poli. St.                       | 36                          | 36%     | 36%     | 0%           | 36%                           | 40%                      |
| Français                               | 15                          | 40%     | 33%     | -7%          | 38%                           | N/A                      |
| Faculty of Medicine                    | 94                          | 28%     | 33%     | 5%           | 29%                           | 41%                      |
| Prog.Int.Dev.& Glo                     | 22                          | 47%     | 32%     | -16%         | 39%                           | 0%                       |
| Pub & Int Aff                          | 29                          | 29%     | 31%     | 2%           | 32%                           | 40%                      |
| Earth Sciences                         | 14                          | 27%     | 29%     | 1%           | 0%                            | 25%                      |
| Philosophy                             | 22                          | 25%     | 27%     | 2%           | 33%                           | N/A                      |
| School of Music                        | 15                          | 22%     | 27%     | 4%           | 50%                           | 50%                      |
| Biology                                | 39                          | 25%     | 26%     | 1%           | 33%                           | N/A                      |
| Chemistry                              | 32                          | 24%     | 25%     | 1%           | 23%                           | 17%                      |
| Linguistics                            | <10                         | 73%     | 25%     | -48%         | 20%                           | 0%                       |
| Biochem. Microbiology Immunology (BMI) | 29                          | 32%     | 24%     | -8%          | 8%                            | 33%                      |
| Cellular and Molecular Medicine (CMM)  | 40                          | 33%     | 25%     | -8%          | 31%                           | 13%                      |
| Economics                              | 25                          | 22%     | 24%     | 2%           | 50%                           | 50%                      |
| Maths & Stats                          | 37                          | 14%     | 22%     | 8%           | 15%                           | 57%                      |
| ÉSIGÉ                                  | 60                          | 17%     | 20%     | 3%           | 22%                           | 50%                      |
| Mechanical Eng                         | 22                          | 18%     | 18%     | 0%           | 27%                           | 0%                       |
| Civil Eng                              | 20                          | 11%     | 15%     | 4%           | 18%                           | 25%                      |
| Physics                                | 22                          | 0%      | 9%      | 9%           | 0%                            | 29%                      |
|  |                             | % men   | % men   | % men        | % men                         | % men                    |
| Public Admin.                          | <10                         | 44%     | 38%     | -7%          | 40%                           | N/A                      |
| Health Science (Interdisciplinary)     | 22                          | 32%     | 36%     | 5%           | 36%                           | 57%                      |
| Visual Arts                            | 10                          | 30%     | 30%     | 0%           | 43%                           | N/A                      |
| École des sc.de l'information (ÉSI)    | <10                         | 33%     | 25%     | -8%          | 50%                           | 0%                       |
| Nursing                                | 28                          | 14%     | 21%     | 7%           | 24%                           | 0%                       |
| Sch. Of Rehab                          | 26                          | 22%     | 19%     | -3%          | 13%                           | 0%                       |
| OLBI                                   | 17                          | 6%      | 12%     | 6%           | 20%                           | 0%                       |
| Feminist & Gender St.                  | 10                          | 0%      | 0%      | 0%           | 0%                            | 0%                       |

Table 3 only presents the departments that are below the 40% threshold so we can focus on the direction of change in the past 5 years. For example, the department of Chemical and Biological Engineering increased from 23% to 38% women, a gain of 15%. The Physics department went from 0 to 9% women, and the Mathematics and Statistics department also increased 8% up to 22% representation of women within the department in 2017. Other noteworthy increases in the past five years include the Faculties of Management and Medicine, each up 5%. Within the Faculty of Medicine, however, the two departments that are below the 40% threshold, Biochemistry Microbiology Immunology and Cellular and Molecular Medicine, actually lost ground from 2012.

This means the 5% increase for Medicine is being generated by departments that were already performing well above the 40% threshold (i.e., EPI and DIME).

Some departments that were within the threshold but lost ground include the School of International Development and Global Studies (from 47% to 32%) and the Department of *français* from 40% to 33% in 2017. Linguistics, which was overrepresented by women in 2012, has shifted to a majority of male professors in 2017. This is a small department (< 10) and we caution the reader in interpreting these data.

For eight departments whose current representation of men is below 40%, three have made modest gains (Health Studies, Official Languages and Bilingualism Institute, Nursing), two are unchanged (Visual Arts, Women's Studies) and three are moving further away from gender equity (Information Sciences, School of Rehabilitation and Public Administration) The latter was above the 40% threshold five years ago but has since dropped to 38% male. Once again, this is a small department (< 10) so it is inherently susceptible to volatility.

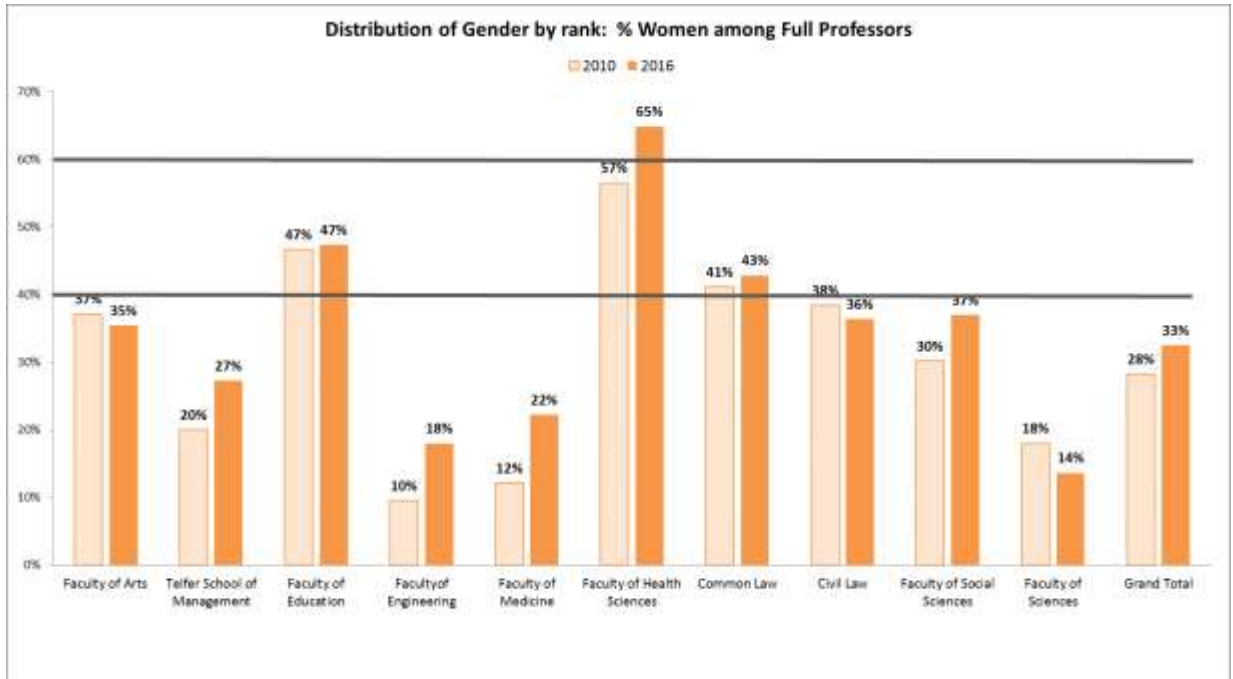
Overall, the trend is towards more equitable gender representation across departments, with some evidence of success, particularly in the Faculty of Engineering. These departments (Electrical and Software Engineering, Mechanical and Chemical & Biological Engineering), as well as other Faculties such as Telfer, made significant efforts to hire more women five to 15 years ago. Recent hires in Science including Mathematics, Biology and Physics, far outpaced the rate of women graduating from PhD programs in Canada. In contrast, the Faculty of Medicine, although it has shown a positive trend in representation in recent years, still lags well behind the graduation rate of women PhD's in the field in Canada.

#### *Implications of low representation of women faculty*

Within each department there are other questions related to equity, notably the representation of women across professorial ranks, senior administrative roles, CRC and university research chairs.

Figure 3 below presents data on the proportion of women among Full Professors. The overall proportion of women among Full Professors is up slightly from 28% in 2010 to 33% in 2016. The biggest gains are in the Faculty of Medicine (+10%), Telfer (+7%) and Social Sciences (+7%). The Faculty of Health Sciences (+8%) is now above 60% women in Full Professor positions. Discouragingly, however, the number of faculties attaining 40% women in the Full Professor rank is the same as in 2010 and three faculties have regressed rather than progressed: Arts is down -2%; Civil Law is down -2%; and Science is down -4%. The data therefore do not support an inference of sustained, systemic progress in this aspect of women's employment.

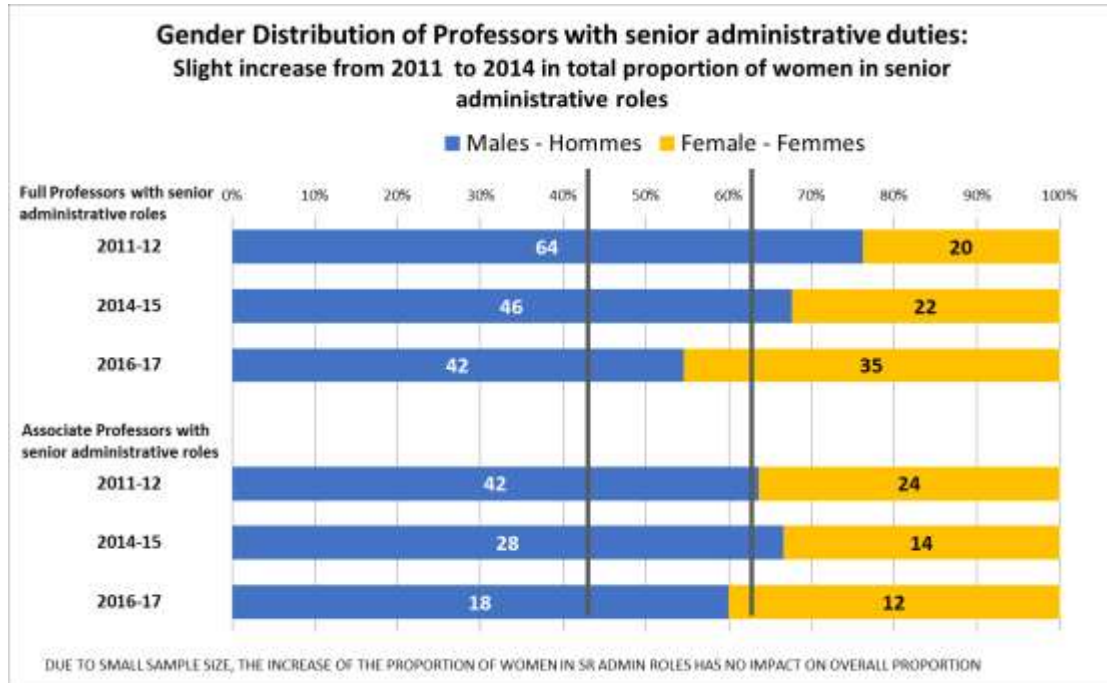
**Figure 3 Proportion of Women among Full Professor Rank, 2010 & 2016**



The EDIC also examined the proportion of women in senior administrative roles which include: Deans, Assistant Dean, Associate Dean, Vice-Dean, Director whose responsibilities and salary are equivalent to those of a Dean, Director, department head, coordinator, chairperson (see Figure 4). These data are collected and reported yearly by the University to Statistics Canada for the Full-time University and College Academic Staff System, a mandatory survey to provide national-level information on full-time teaching staff. Compared to earlier in the decade (2011-2012), women now make up nearly half of full professors with senior administrative duties and slightly more than 40% of Associate Professors with senior administrative roles.

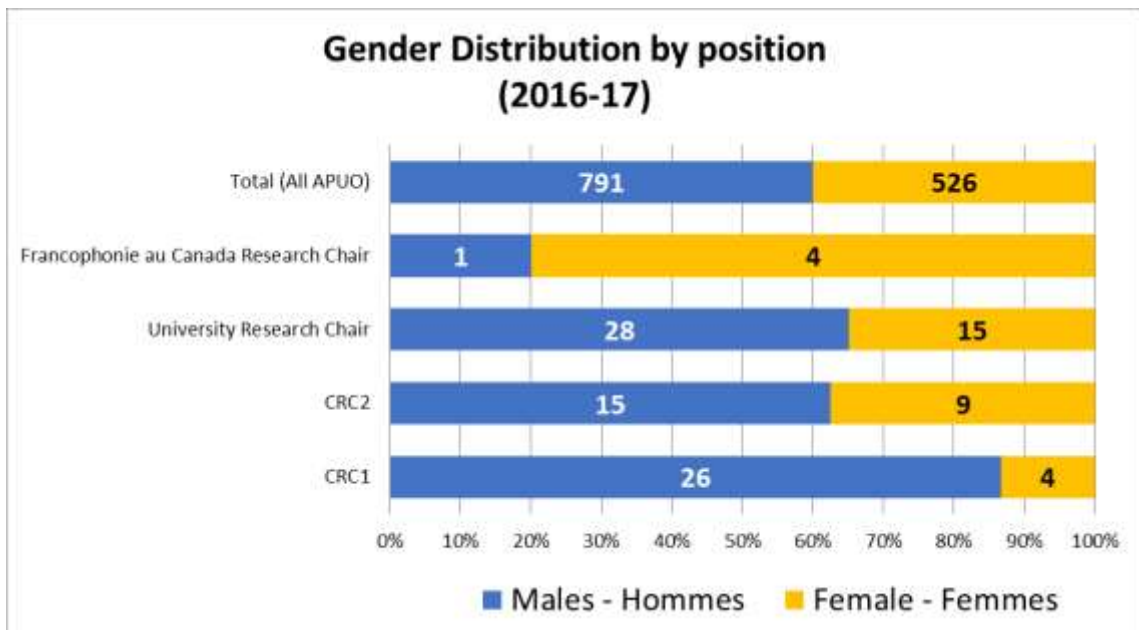


**Figure 4 Gender Distribution of Professors with Senior Administrative Duties**



Finally, the gender distribution among Canada Research Chairs were examined (see Figure 5). These data were collected from the University Research Office in February 2017. Compared to the approximate 40% representation among full professors at uOttawa, women are slightly under-represented among the 43 University Research Chairs and 24 CRC-level 2 positions. The 30 CRC-level 1 positions are currently disproportionately occupied by male professors.

Figure 5 Distribution of CRC Positions by Gender



#### *Data Limitations and Expected Challenges*

Where do we go from here? It is clear that equity in terms of rank and research chairs has implications for salary, which prompted a further analysis of gender equity with respect to salaries. The salary gap was modeled to account for faculty of origin and experience and the results suggest there is significant unexplained variance in the expected average salaries for men and women in the faculties of Law and Medicine, which may be attributable to discrimination.

#### **Gender Salary Gap at UOttawa**

This section summarizes series of analyses on the gender salary gap at uOttawa produced by the Institutional Research and Planning (IRP) division prepared for the Equity, Diversity and Inclusion Committee. The data come from the University and College Academic Staff System (UCASS) between the periods of 1995 and 2016. It includes Assistant, Associate and Full Professors and excludes clinicians working in the Faculty of Medicine. The gender salary gap is calculated by comparing the gross salary (including vacation pay) a faculty member is expected to receive during the salary year. Administrative stipends are excluded from gross salary calculations.

#### *The Gender Salary Gap at a Glance*

We start with the most recent data on the salary gap (Fall 2016). Faculty with senior administrative duties are excluded from these calculations, however, Canada Research Chairs (CRC) are included.

Table 4 shows the gap (*Females – Males*) across ranks, as well as for the University as a whole. Note that the overall gap is not a weighted average of the gaps at each rank, because the proportion of male and female professors at each rank varies.

**Table 4:** Wage gap between males and females by rank (Fall 2016).

| Rank           | Male             | Female           | Gap                | % Male       | % Female     |
|----------------|------------------|------------------|--------------------|--------------|--------------|
| Assistant      | \$112,067        | \$111,856        | \$-211             | 52.4%        | 47.6%        |
| Associate      | \$139,622        | \$137,956        | \$-1,665           | 54.2%        | 45.8%        |
| Full           | \$174,601        | \$170,571        | \$-4,030***        | 69.6%        | 30.4%        |
| <b>Overall</b> | <b>\$149,821</b> | <b>\$140,516</b> | <b>\$-9,305***</b> | <b>59.7%</b> | <b>40.3%</b> |

Notes: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Key messages:**

- Overall, if we only control for rank and not for experience and faculty, there is a statistically significant wage gap between males and females at the Full Professor level.
- The wage gap widens in both absolute and relative terms as the professorial rank increases.

Table 4 provides a starting point; it seems natural to drill down to the faculty level since the hiring and promotion process is largely carried out by these units. One approach to evaluate the differences in average salary across gender is through the **Blinder-Oaxaca decomposition method**. It decomposes the overall salary gap between an explained component and an unexplained component. The explained component reflects the impact of observable attributes on the salary gap such as work experience and field of work. The unexplained component is the part of the gap that is not explained by observable attributes –it is often associated with wage discrimination.<sup>10</sup> We estimated three specifications: one including experience, professorial rank and CRC recipient; another one including only experience and CRC recipient; and lastly a model with experience only. Dropping rank and CRC recipient from our model attempts to address the concern that there could be an embedded gender bias in the promotion structure. If this concern is correct, the inclusion of rank could pick up some of the impact of discrimination and reduce the magnitude of the unexplained component. We estimated these three models for all data and also for each Faculty separately.

Table 5 shows a summary of the **unexplained components** by Faculty in the Blinder-Oaxaca decomposition method. A more detailed table with the regression results is found in the Appendix.

**Table 5:** Allowing the gap (*Female – Male*) to vary according to rank, experience, CRC recipient and Faculty (Blinder-Oaxaca decomposition).

Unexplained component estimates are in \$ thousands.

| Faculty | Rank + CRC | CRC | None | Total Difference | Observations |
|---------|------------|-----|------|------------------|--------------|
|---------|------------|-----|------|------------------|--------------|

<sup>10</sup> Note through this section the important caveat that a statistical test for discrimination such as the Blinder-Oaxaca decomposition is not the same thing as the legal test for discrimination. To prove discrimination in law the standard of proof is a balance of probabilities (so for example a probability of 51% vs. 49%), but to prove it statistically as a scientist one would employ a much higher standard of proof (for example a p value of <0.05, which implies a >95% probability). In other words, the standard of proof of statistical significance, and the standard of proof of a balance of probabilities, cannot be used interchangeably. Both are relevant in their particular context.

|                 |               |               |               |                  |              |
|-----------------|---------------|---------------|---------------|------------------|--------------|
| <b>All</b>      | <b>-0.249</b> | <b>-1.592</b> | <b>-1.486</b> | <b>-9.844***</b> | <b>1,130</b> |
| Arts            | -0.24         | -0.599        | -0.599        | -4.335           | 230          |
| Education       | -0.624        | -0.774        | -0.774        | -2.434           | 51           |
| Engineering     | 2.788         | -0.452        | 1.995         | -2.166           | 101          |
| Health Sciences | -1.024        | -0.945        | -0.945        | -3.748           | 108          |
| Law             | -3.45         | -9.800***     | -11.23***     | -19.41***        | 91           |
| Medicine        | -3.636        | -5.252        | -8.011        | -16.12**         | 86           |
| Sciences        | -1.248        | -4.869        | -5.996*       | -15.18***        | 142          |
| Social Sciences | 0.701         | 1.183         | 1.028         | -8.205***        | 251          |
| Telfer          | 4.245         | 0.775         | 0.775         | -2.88            | 70           |

Notes:

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### Key messages:

- Overall, the unexplained component for the University as a whole is not statistically significant across specifications. For the faculties of Law and Medicine, however, there is some evidence of possible salary discrimination against females when we do not account for Rank or CRC in the specifications. In Law, the unexplained component is \$11,230 whereas in Medicine, \$5,996 of the gap cannot be explained by differences in characteristics between both groups.

### A Time-Series Perspective

It is helpful to the discussion to look at the differences in salary between females and males over time. We went as far back as 1995 (the first UCASS data in our records) and computed the gap for each year until the most recent data available (Fall 2016). Since this is a time series, rather than measure in dollar amounts that would need to account for inflation, we measure the gap as the yearly percent difference in the average salary for males and females. A negative gap indicates a lower average salary for female professors. The annual salary is used to calculate these percentage differences.<sup>11</sup> Table 6 shows the series from 1995 to 2016.

**Table 6:** The percent difference in the average salary for males and females by rank and year (1995 – 2016). The Male-to-Female ratio is the number of male professors per female professor by rank and year.

| Year | Full     |           | Associate |           | Assistant |           |
|------|----------|-----------|-----------|-----------|-----------|-----------|
|      | Gap      | M:F Ratio | Gap       | M:F Ratio | Gap       | M:F Ratio |
| 1995 | -9.4%*** | 6.2       | -9.4%***  | 2.7       | -1.20%    | 1.2       |
| 1996 | -7.1%*** | 5.7       | -8.2%***  | 2.3       | -1.40%    | 1.1       |
| 1997 | -7.4%*** | 5.6       | -6.8%***  | 2.5       | 0.40%     | 0.8       |
| 1998 | -6.9%*** | 5         | -5.6%***  | 2.5       | 4.0%*     | 0.9       |
| 1999 | -6.6%*** | 5         | -4.5%***  | 2.2       | 3.4%*     | 0.9       |
| 2000 | -6.8%*** | 4.9       | -5.0%***  | 2         | 3.10%     | 1         |
| 2001 | -6.3%*** | 4.2       | -5.1%***  | 1.8       | -0.40%    | 1.2       |
| 2002 | -4.6%*** | 3.8       | -4.7%***  | 1.7       | -1.60%    | 1.3       |
| 2003 | -4.9%*** | 3.7       | -2.10%    | 1.6       | -0.60%    | 1.4       |
| 2004 | -4.3%*** | 3.2       | -0.50%    | 1.7       | -3.2%**   | 1.2       |
| 2005 | -2.2%**  | 3.1       | -0.20%    | 1.6       | -3.0%**   | 1.3       |
| 2006 | -2.6%**  | 3         | -0.30%    | 1.8       | -1.90%    | 1.4       |
| 2007 | -2.9%*** | 2.8       | -0.10%    | 1.9       | -2.0%*    | 1.2       |
| 2008 | -2.5%**  | 2.9       | -0.30%    | 1.7       | -1.90%    | 1.2       |
| 2009 | -2.7%**  | 2.7       | -0.40%    | 1.7       | -2.4%*    | 1.1       |
| 2010 | -3.4%*** | 2.8       | -1.00%    | 1.6       | -2.5%*    | 1.1       |
| 2011 | -2.6%*** | 2.6       | -1.7%*    | 1.6       | -2.3%*    | 1.1       |

<sup>11</sup> There is also an exclusion filter for those earning either less than 65%, or more than 175%, of the mean salary for a specific rank and year. Only 44 out of 21,352 (0.002%) observations are excluded once this filter is applied. The cut-off is an empirical result reached by manipulating the most recent UCASS data. Those earning much less or much more than the mean are likely to be misrepresented in the dataset. Unfortunately, there is no way to manually inspect the salary for the years prior to 2008.

|      |          |     |         |     |        |     |
|------|----------|-----|---------|-----|--------|-----|
| 2012 | -2.8%*** | 2.7 | -1.9%** | 1.6 | -1.80% | 1.1 |
| 2013 | -2.2%*   | 2.7 | -1.8%** | 1.5 | -2.10% | 1   |
| 2014 | -2.0%*   | 2.7 | -2.0%** | 1.4 | -0.70% | 0.9 |
| 2015 | -2.4%**  | 2.5 | -1.30%  | 1.4 | 1.40%  | 0.9 |
| 2016 | -2.3%*** | 2.3 | -1.2%*  | 1.2 | -0.20% | 1.1 |

Notes:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### Key messages:

- Overall, the salary gap has been decreasing across all ranks. However, this masks the cumulative effect of the year-over-year gender gap.
- At the Full Professor level, the gender salary gap in 1995 was -9.4% in favour of men. In 2016, the gender salary gap narrowed down to -2.3%.
- The gender salary gap decreased from -9.4% in 1995 to -1.2% in 2016 at the Associate level.
- The share of Female professors has steadily increased for the Associate and Full professorial levels
- Historically, the gender salary gap at the Assistant level has hovered near parity levels. Women have earned more on average than men in 5 of the 22 years.
- The gender salary gap has favoured women only when the M:F ratio has been less than or equal to 1. That is, only when there have been as many or more female than male professors.

Additionally, we implemented the Blinder-Oaxaca decomposition method for three time periods (2008, 2012 and 2016) in order to uncover any trends in the unexplained component of the salary gap (see Table 7).

**Table 7:** The estimated unexplained components in the Blinder-Oaxaca Decomposition for each year and specification (thousand \$)

| Faculty         | Rank + CRC    |               |               | CRC            |                 |               | None           |                 |               |
|-----------------|---------------|---------------|---------------|----------------|-----------------|---------------|----------------|-----------------|---------------|
|                 | 2008          | 2012          | 2016          | 2008           | 2012            | 2016          | 2008           | 2012            | 2016          |
| <b>All</b>      | <b>-0.418</b> | <b>-0.682</b> | <b>-0.249</b> | <b>-1.281*</b> | <b>-1.765**</b> | <b>-1.592</b> | <b>-1.283*</b> | <b>-2.046**</b> | <b>-1.486</b> |
| Arts            | 0.603         | -0.969        | -0.24         | -0.543         | -1.376          | -0.599        | -0.373         | -0.594          | -0.599        |
| Education       | 3.256*        | 2.535         | -0.624        | 2.325          | 1.122           | -0.774        | 2.325          | 1.122           | -0.774        |
| Engineering     | 1.359         | 2.926*        | 2.788         | 1.888          | 0.591           | -0.452        | 1.603          | 1.124           | 1.995         |
| Health Sciences | -1.75         | -1.809        | -1.024        | -2.829         | -2.51           | -0.945        | -2.829         | -2.51           | -0.945        |
| Law             | -0.17         | -0.741        | -3.45         | -4.367         | -4.387          | -9.800***     | -4.5           | -7.778**        | -11.23***     |
| Medicine        | -2.986        | 1.402         | -3.636        | -7.817*        | -4.803          | -5.252        | -9.715**       | -9.987**        | -8.011        |
| Science         | -1.514        | -1.814        | -1.248        | -0.997         | -1.836          | -4.869        | -0.95          | -2.839          | -5.996*       |
| Social Sciences | 0.315         | -0.316        | 0.701         | 0.686          | -0.946          | 1.183         | 0.719          | -1.122          | 1.028         |
| Telfer          | -4.436        | -2.979        | 4.245         | -4.628         | -3.005          | 0.775         | -4.628         | -3.245          | 0.775         |

Notes:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### Key messages:

- For the University as a whole, there is no statistically significant evidence of trend that the unexplained component is either decreasing or increasing over time, even though there are statistically significant pay differences when observed at points in time. However, within

faculties, the unexplained component has increased in the Faculty of Law. In Medicine<sup>12</sup>, the unexplained component is also statistically significant for the first two years.

### *Gender Promotion Gap*

Given the role that promotion has in determining salaries and the fact that the share of males increases with rank (Assistant, Associate and Full), one might ask whether female professors are more likely to stay longer at the Assistant or Associate levels before achieving a promotion. We started by looking at the time to promotion for the past 21 years (Fall 1995 – Fall 2016). The time to promotion is the duration in years between two subsequent ranks (Assistant to Associate and Associate to Full). Observations for which the years of appointments to distinct ranks occur during the same year are excluded.

We need to provide sufficient lag time to compute the average time to promotion. For this reason, it makes sense to exclude the most recent years from this analysis. Table 8 shows the average time to promotion from Assistant to Associate and Associate to Full. Note that the data for Assistant to Associate promotion ranges from 1999 to 2009 whereas the figures for Associate to Full dates back from 1995 to 2007. The rationale for going further back at the Associate to Full rank promotion is that the time for promotion to Full rank is typically longer than for a promotion to Associate.

**Table 8:** Average time to promotion from Assistant to Associate rank.

| Promotion type               | Year of appointment to Assistant | Males average time to promotion (years) | Females average time to promotion (years) | F-M diff in time to promotion (years) | Males promoted (count) | Females promoted (count) |
|------------------------------|----------------------------------|---|---|---------------------------------------|------------------------|--------------------------|
| <b>Assistant → Associate</b> | 1999                             | 5.8                                     | 7.5                                       | 1.7                                   | 11                     | 8                        |
|                              | 2000                             | 4.8                                     | 5.3                                       | 0.4                                   | 12                     | 15                       |
|                              | 2001                             | 3.5                                     | 5.4                                       | 1.8**                                 | 20                     | 5                        |
|                              | 2002                             | 3.9                                     | 5.6                                       | 1.6**                                 | 16                     | 17                       |
|                              | 2003                             | 4.8                                     | 5.6                                       | 0.9                                   | 29                     | 20                       |
|                              | 2004                             | 4.7                                     | 5.7                                       | 0.9**                                 | 31                     | 24                       |
|                              | 2005                             | 4.5                                     | 5.3                                       | 0.8                                   | 23                     | 15                       |
|                              | 2006                             | 4.8                                     | 5.2                                       | 0.4                                   | 36                     | 18                       |
|                              | 2007                             | 5.2                                     | 4.9                                       | -0.4                                  | 36                     | 27                       |
|                              | 2008                             | 5.2                                     | 4.9                                       | -0.3                                  | 24                     | 21                       |
| 2009 <sup>‡</sup>            | 5                                | 4.9                                     | -0.1                                      | 20                                    | 16                     |                          |
| <b>Associate → Full</b>      | 1995                             | 7.9                                     | 14  | 6.1                                   | 9                      | 2                        |
|                              | 1996                             | 7.7                                     | 4.7                                       | -3                                    | 11                     | 7                        |
|                              | 1997                             | 6.3                                     | 6.2                                       | -0.1                                  | 6                      | 8                        |
|                              | 1998                             | 6.1                                     | 6   | -0.6                                  | 15                     | 4                        |
|                              | 1999                             | 8.9                                     | 11  | 2.6                                   | 14                     | 4                        |
|                              | 2000                             | 11                                      | N/A                                       | N/A                                   | 1                      | 0                        |
|                              | 2001                             | 6.5                                     | 8.9                                       | 2.4                                   | 6                      | 9                        |
|                              | 2002                             | 6.3                                     | 8   | 1.7                                   | 10                     | 10                       |
|                              | 2003                             | 8.1                                     | 8.5                                       | 0.4                                   | 14                     | 12                       |
|                              | 2004                             | 7.1                                     | 8.7                                       | 1.6                                   | 23                     | 7                        |
|                              | 2005                             | 6.3                                     | 6.7                                       | 0.5                                   | 17                     | 4                        |
|                              | 2006                             | 5.1                                     | 7.3                                       | 2.2**                                 | 13                     | 9                        |

<sup>12</sup> Upon further investigation, it would appear the Faculty of Medicine has two groups segmented by department with different pay bands in each. This structure exposes a highly variable and large unexplained component.

2007<sup>†</sup>                      5.9                      6.2                      0.4                      16                      4

Notes:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

<sup>‡</sup>Promotions are tracked up to 2016 (7 years)

<sup>†</sup>Promotions are tracked up to 2016 (9 years)

**Key messages:**

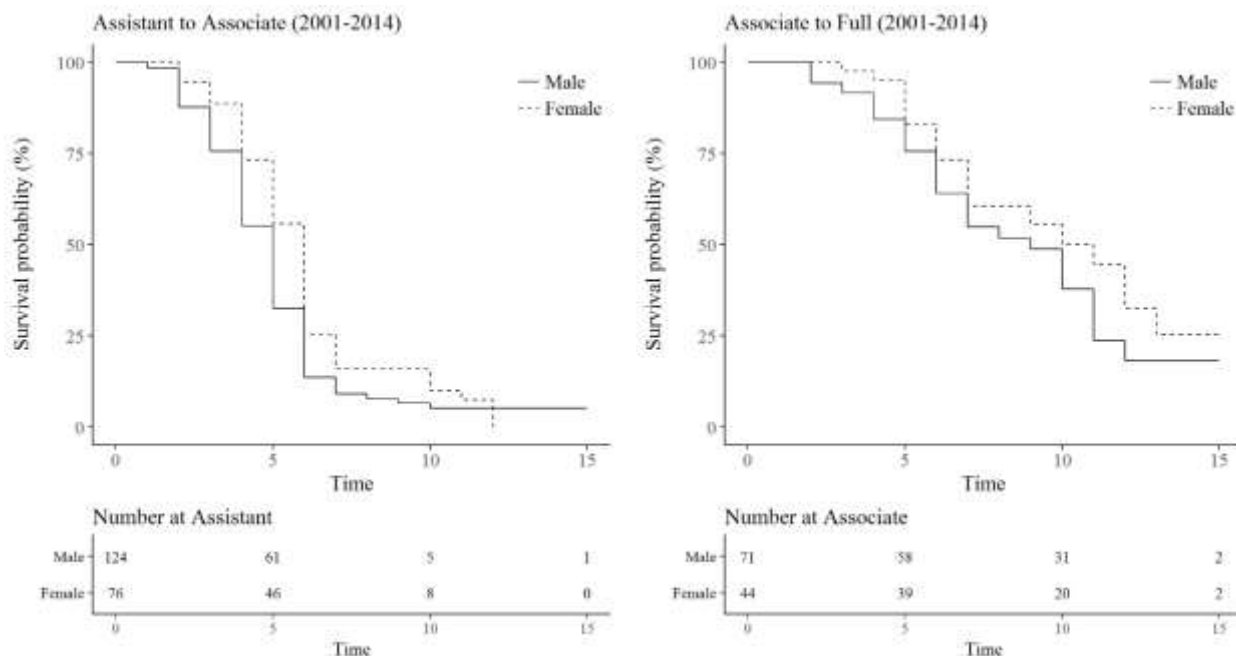
- Among those appointed as Assistant professor in 2001 and promoted to the Associate rank, the average time to promotion for a female professor is approximately 1 year and 10 months longer than males. In the 2002 cohort, the difference is almost 1 year and 8 months. In the 2004 cohort, the difference in time to promotion for female professors was 11 months longer than males. These differences are statistically significant at the 5% level.
- Nearly all of the differences in average time to promotion are not statistically significant, save one: for females appointed to the Associate level in 2005, they were promoted to the Full rank on average 2 years and 2 months later than males.
- The trend seems to reverse for the most recent cohorts (07 – 09) in the Assistant to Associate promotion group. In the Associate to Full promotion group, the variability in the difference in time to promotion is quite high from year to year.

Table 8 shows that there are differences in time to promotion with four of these differences being statistically significant at the 95% confidence level. However, it is important to consider other factors when analyzing one’s chance to be promoted. Survival analysis seems an appropriate instrument to investigate promotion bias while considering other factors.

We tracked professors from the time they were hired—with cohorts starting from 2001 to 2004—until the 2016 Fall session. It should be noted that a professor may exit the sample during the time considered. The period of hiring is shortened in order to mitigate potential heterogeneous practices in promotion that are time-sensitive such as business cycles and collective agreements. The period chosen (2001 – 2004) maximizes the number of hiring and promotions. By considering those hired between 12 and 15 years ago as Assistant or Associate professors, the time to promotion window is sufficiently large to allow for expected promotions in both ranks. It must be noted, however, that the data may contain lecturers or other types of contract employees, which may undermine the expected time to promotion estimates. Similarly, it is not possible to identify a professor who held a teaching position in another institution before joining uOttawa. This also may affect the expected time to promotion. Also, it was not possible to gather data on individual-level bibliometrics and parental leave.

In Figure 6, the survival probabilities (i.e. the probability of staying at the lower rank) are shown by gender. It seems that, overall, females are more likely to stay at the lower rank before getting a promotion. The analysis, however, does not take into consideration other factors.

**Figure 6:** The panel shows the probability of staying (survival) in the same rank for professors hired between 2001 and 2014 (left – Assistant; right – Associate). The tables on the bottom show how many professors remained in the position at hiring in  $x$  years.



The results presented in Table 9 are a summary of the coefficients of interest in the survival regression. We compared the expected time to promotion for females and males by faculty while holding all other factors constant. A more detailed description of the coefficients used in the regression can be found in the Appendix (Annex C).

**Table 9:** Expected time to promotion (in years) by gender, faculty and rank while holding all other factors constant.

| Faculty     | Assistant to Associate |        |               | Associate to Full |        |               |
|-------------|------------------------|--------|---------------|-------------------|--------|---------------|
|             | Male                   | Female | $\Delta(F-M)$ | Male              | Female | $\Delta(F-M)$ |
| Arts        | 4.47                   | 5.96   | 1.49          | 8.36              | 10.78  | 2.43          |
| Education   | 10.78                  | 8.77   | -2.02         | 5.03              | 14.63  | 9.6**         |
| Engineering | 4.81                   | 5.48   | 0.67          | 5.65              | 4.76   | -0.89         |
| Health Sc.  | 5.55                   | 8.23   | 2.68          | 8.5               | 10.15  | 1.65          |
| Law         | 3.78                   | 6.21   | 2.43          | 12.35             | 9.13   | -3.22         |
| Medicine    | 6.28                   | -      | -             | 2.3               | 8.26   | 5.96**        |
| Social Sc.  | 4.16                   | 5.57   | 1.41          | 8.25              | 11.04  | 2.79          |
| Sciences    | 4.75                   | 5.9    | 1.15          | 8.01              | 4.48   | -3.53***      |
| Telfer      | 7.86                   | 5.4    | -2.46         | N/A               | N/A    | -***          |

Note:

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

**Key messages:**

- The differences in the estimated time to promotion from Assistant to Associate rank are not statistically significant across faculties.
- The small number of observations for both survival regressions should be taken into consideration when interpreting the estimates.



- There is a significant difference between the expected time to promotion between females and males from Associate to Full rank in the Faculty of Education. This difference is of 9 years and 7 months approximately (almost three times as much).
- In Medicine, women have been promoted from Associate to Full professor almost 6 years later than males.
- On the other hand females in the Faculty of Science have been promoted from Associate to Full professor earlier than their male counterparts (3 years and 6 months earlier).
- Due to the small sample size, some estimates for the School of Management are not disclosed.

In conclusion, we reiterate this caveat for all the analyses we present: If these analyses are utilized to prove or disprove the existence of discrimination, caution should be exercised not to conflate the scientific standard of proof (typically  $p < 0.05$ , being 95% confidence) with the less exacting legal standard of proof (a balance of probabilities). Each standard has application in its context, but they are not interchangeable.

## Summary, Recommendations & Proposed Activities

The work undertaken over the past year by the EDIC committee has been both frustrating and rewarding. On the one hand, the *ad hoc* extension of our mandate to include all four designated groups enabled us – in principle - to more fully consider the issues of equity, diversity and inclusion as they apply to faculty members; this was a positive development. On the other hand, the barriers encountered in accessing the only data the university presently collects with respect to visible minorities, aboriginal persons and persons with disabilities means that we have not found it possible to provide any substantive analysis on the equity situation for members of these groups, which is frustrating, disappointing, and as noted above, certainly not in compliance with the “best practices” of other universities having the approval of the Ontario Human Rights Commission.

Below, we provide specific recommendations regarding the future role of the EDIC committee; the collection and analysis of data; and next steps, including with respect to acting on the findings of this report.

### *Updating the Collective Agreement*

**RECOMMENDATION:** That if the Employer and APUO continue to include the Standing Committee on Equity, Diversity and Inclusion in the Collective Agreement, then the language should be modernized to ensure that EDIC be permanently mandated to address issues affecting all four protected groups, not just women, and that any equity targets or mechanisms meant for achieving employment equity be extended similarly to all four protected groups. It is strongly recommended to study other institutions and collective agreements for best practices, in preparation for the next round of collective bargaining, including mechanisms used for enforcing equity commitments.

### *Collection and Analysis of Data*

There are several different offices and committees on campus – including EDIC – which have been created to deal with matters related to equity, diversity and inclusion. It is clear that a number of these offices and committees have overlapping mandates, and some have been created because of specific reporting requirements. At times, data possessed by one are not available to another; EDIC ran into that exact problem when its efforts to undertake employment equity analysis for all four designated groups were stymied by the refusal of HRO to share the raw data with IRP. Such a disjointed approach is obviously an impediment to the analysis and proactive correction of inequities, and is inefficient too.

Yet this report shows what is possible when data are available. With access to excellent salary data for the purpose of examining gender equity, we completed a thorough analysis. It is a priority to have sufficient data for a comparable analysis for the other protected groups.

**RECOMMENDATION:** That in the coming year, and then continuing on a perpetual basis, the University and the APUO accord top priority to the analysis of the employment equity situation of visible minorities, aboriginal persons, and persons with disabilities. For this to occur will require that both sides work together to develop a mutually-acceptable plan for collecting the necessary employment data and discharging their respective legal responsibilities with respect to obtaining informed consent, including from faculty members who may no longer be employed as faculty

members at the University of Ottawa. The University should give consideration to offering incentives to faculty members to participate in self-reporting their data.

In the course of this work, it became clear to the EDIC that the analysis undertaken by the Institutional Research and Planning office (IRP) for gender equity was very time-consuming. There is limited capacity within the IRP, and also no capacity within the EDIC, which has no budget from either the University or APUO, to perform this analysis on an ongoing basis, much less to extend it to the other three protected groups, as legal due diligence requires. Without the active collaboration and invaluable contribution made by IRP, it would not have been possible to produce this report.

**RECOMMENDATION:** The committee underscores the importance of both the University and APUO furnishing funds, personnel and infrastructure support to gather and analyze the data that are required to achieve equity, which is a legal obligation. We strongly recommend a data analyst position be created that is dedicated to collecting, analyzing and publishing equity data, with that position being enshrined in the Collective Agreement.

### *Next Steps (the coming year)*

In moving forward, if timely access to institutional data on the other protected groups can be provided, and if that data are of sufficient quality, and IRP has the capacity, then we suggest that the Presidents of the University and the APUO should propose that the top priority for the EDIC in 2017-18 should be to extend the gender equity analysis reported above to the three other protected groups.

However, such work cannot commence until the Employer and APUO have reached agreement regarding how to deal with the issues highlighted in our Recommendations, above. Otherwise we believe the EDIC will sooner or later reach an impasse. That would be a great a pity when it has just resumed functioning after not existing for several years.

In the meantime, we would suggest that it would be useful for the EDIC to meet, separately or jointly, with the Presidents of the University and APUO to discuss our report. Likewise we think it would be useful for the EDIC to meet with the *College des doyens* as a whole. Given the Blinder-Oaxaca decomposition results, the Presidents of the University and the APUO may also wish to strongly encourage the Deans of the faculties of Law, Medicine and Science to meet separately with the EDIC.

Our report has provided compelling evidence that there is a problem of gender equity (following a detailed analysis) and preliminary evidence that there is a problem of visible minority and aboriginal equity (see Figures 1 and 2), at least in some faculties on campus. However, we were not able to provide clear guidance on how to remedy past inequities because there are many conceptually demanding challenges. Two appear especially pressing to us: (i) developing appropriate methodology for modeling the cost of correction to attain pay equity, both present and past (and therefore including pensions), having regard to a modest, but arbitrary, threshold beneath which any pay gap is deemed negligible, and; (ii) determining what constitutes the relevant market for the purposes of professorial recruitment, and in particular whether it should include part-time professors, or the proportion of PhDs or other terminal degree graduates in the Canadian population, or even new graduates in other countries where there is a larger pool of those populated by visible minorities.

One clear finding of the detailed gender equity analysis we present, and which may well also be true for visible minorities and aboriginal people based on the preliminary analysis in Figures 1 and 2, is that not all faculties are turning in the same equity performance. Simply put, performance as measured by equal pay, equal hiring or promotion, and trends over time varies enormously from faculty to faculty. It is critical to better understand the differences in practices between those faculties (and departments) which are improving their performance with respect to equity versus those which are stagnating or deteriorating. Clearly, the challenges are different in faculties in which there has been little hiring versus those which have been expanding in recent years. Particular attention needs to be given to the leadership role of Deans in achieving equity goals.

Amongst the other tasks which we believe could be included in EDIC's work plan for 2017-18 are: (i) examination and analysis of the data collected by the President's Committee on Equity, Diversity and Inclusion; (ii) an environmental scan of policies and procedures on campus that are likely to affect equity toward the four protected groups; and (iii) a review of the different practices existing at the departmental or faculty level to address concerns with equity, so as to shed light on which departments-faculties are doing well and why; (iv) a study of whether other Canadian universities are including the achievement of equity goals in procedures for evaluating performance of Deans, and; (v) to reiterate a point made earlier in this report, "a thorough analysis of the employment of visible minorities, aboriginal persons, and persons with disabilities [which] is necessary and urgent."

It is evident that the effort required to deal with all of these issues is significant, and that it is perhaps unreasonable to expect that the members of our committee – no matter how committed, and clever, and reflective – to necessarily arrive at the best answers to all of these questions (and it is probably unrealistic to expect that definitive answers to all of these questions could be provided within one year). Moreover, we also observe that all Canadian universities are subject to the same legal and ethical duties to provide an equitable working environment for all of their employees. This leads us to conclude that much benefit might be derived from organizing a conference that would bring together researchers and academic leaders from across Canada to discuss these issues in greater depth, sharing their own research and institutional practices. We believe that this would help the University of Ottawa, and the academic community across Canada, more efficiently determine how to resolve these challenges.

**RECOMMENDATION:** That the University of Ottawa host a conference in 2017-2018 that would allow Canadian universities to share research (i) on determining what data need to be collected to support equity objectives; (ii) on how to best assess whether or not equity is achieved; (iii) on the determination of appropriate thresholds for determining that remediation is required; and (iv) on the appropriate methodology for measuring the cost of correcting past inequities.

### *Final Remarks*

In closing, the members of the EDIC Committee wish to emphasize the fact that our work together has been a positive, if at times challenging, experience, and we believe the findings of our report will be of assistance to both the Employer and the APUO in discharging their joint responsibility for the attainment of equity.

## **Annexes**

### **Annex A: E-mail correspondence between Amir Attiran, member of EDIC and Sonya Nigam, HRO**

**From:** Amir Attaran aattaran@uottawa.ca  
**Subject:** Re: Official request for reasons

**Date:** October 28, 2017 at 10:38 AM  
**To:** Sonya Nigam  
snigam@uottawa.ca

**Cc:** Victoria Barham Victoria.Barham@uottawa.ca, vra-intl vra-gslater@uottawa.ca, Noémie Boivin Noemie.Boivin@uottawa.ca, Ivy Bourgeault Ivy.Bourgeault@uottawa.ca, Sanni Yaya sanni.yaya@uottawa.ca, Marcel Merette mmerette@uottawa.ca, Kathryn Trevenen Kathryn.Trevenen@uottawa.ca, Elvio Buono Elvio.Buono@uottawa.ca, Manon Dugal manon.dugal@uottawa.ca, Carole Bourque Carole.Bourque@uottawa.ca, APUO-Employer committee on Equity, Diversity and Inclusivity APUO-EMPLOYER-EDI-L@LISTSERV.UOTTAWA.CA



Dear Sonya,

Thanks for this, but your legal analysis is totally and fundamentally wrong. Whoever told you this is simply legally ignorant.

The University is not an “employer” under the *Employment Equity Act*, so the sections of law that you cite are irrelevant. The Act does apply to some of the private sector, certainly, but you’re forgetting that it applies only to the FEDERALLY regulated part (e.g. banks, airlines, telecoms, etc). I am simply dumbfounded that the University is so legally ignorant as not to know this and to believe wrongly that it is bound by the Act. That misunderstanding could be cleared up with a single phone call to ESDC, or just by looking at the first few pages of the 2016 [Annual Report on the Act \(Employment Equity Act: Annual report 2016 \[PDF - 500KB\]\)](#). It’s appalling that nobody at the University has done the basic due diligence to work this out.

Perhaps the confusion arises because the Federal Contractors Program (FCP) is aimed at protecting the same four groups as the Act

— namely women, VMs, aboriginals, disabled. But that does not mean that the Act binds the University at all. The Act binds the federally-regulated private sector, not the provincially-regulated private sector such as the University. Accordingly the sections of law that you cite out of the Act are simply irrelevant.

In contrast, the FCP is governed by the Treasury Board Contracting Policy and does bind the University because a voluntary decision was made to sign an Agreement to Implement Employment Equity. See the explanation here (<https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/annex/5/1>).

This past week I contacted the ESDC to ask if the University, as part of its legal duty against discrimination, should proactively analyze the FCP data that it collected and that your office possesses. I wrote that there appears to be nothing in the Employment Equity Act to prevent this.

ESDC wrote back to say that I am correct. In their words “*You are correct that employers should be conducting analyses of their workforce data to determine where gaps exist and how they may be addressed.*” They also agreed that, the Employment Equity Act notwithstanding, institutions are allowed to share confidential data internally “*in order to carry out employment equity obligations*”. (The relevant emails are copied below.)

In short, the ESDC analysis contradicts HRO’s posture over the past year, which has been to refuse to share data with IRC for analysis.

Let me be absolutely clear as to the crossroads before us. On Monday, EDIC is scheduled to meet, and the University agree to fix the data sharing and analysis problem immediately, which is my hope. But if Monday passes and EDIC cannot agree, or the University does not choose to fix the problem, then by Tuesday it becomes time to fix the problem using the tools of public pressure or possibly litigation. It is not appropriate to delay further since this problem has been frustrating EDIC for about a year now.

In other words: this problem can be solved the easy way, or it can be solved the hard way — but regardless it will be solved. See you at the EDIC meeting Monday and enjoy the weekend.

All the best,

Amir

**Begin forwarded message:**

From: <[ee-eme@hrsdc-rhdcc.gc.ca](mailto:ee-eme@hrsdc-rhdcc.gc.ca)> Subject: RE:

Date: October 27, 2017 at 3B27817  
PM EDT To:  
<[amir@amirattaran.com](mailto:amir@amirattaran.com)>

Dear Mr. Attaran,

You are correct that employers should be conducting analyses of their workforce data to determine where gaps exist and how they may be addressed. In terms of the intra- institutional sharing, it is the responsibility of each employer to determine who may access the data. Employers have an obligation to ensure that the information collected from each individual is kept confidential and only shared in order to carry-out employment equity obligations.

Sincerely,

Équipe de l'équité en emploi / Workplace Equity Team  
Direction de l'équité en milieu de travail, Programme du travail  
Emploi et Développement social Canada / Gouvernement du  
Canada [ee-eme@hrsdc-rhdcc.gc.ca](mailto:ee-eme@hrsdc-rhdcc.gc.ca)  
Workplace Equity Division, Labour Program

Employment and Social Development Canada / Government of  
Canada [ee-eme@hrsdc-rhdcc.gc.ca](mailto:ee-eme@hrsdc-rhdcc.gc.ca)

---

**From:** Amir Attaran [<mailto:amir@amirattaran.com>]

**Sent:** October-26-17 9:51 PM

**To:** EE-EME

**Subject:**

**Re:**

**Sent:** October-26-17

**9:51**

**PM**

**To:**

**EE-EME**

**Subject: Re:**

Hello,

...

I just had a discussion with a colleague about the page one story in The Globe and Mail today, which reports that universities across the country are going to be more transparent about their equity data.

<https://beta.theglobeandmail.com/news/national/canadas-universities-commit-to-diversity-with-plan-to-make-demographic-data-public/article36722690/?ref=http://www.theglobeandmail.com&>

It's good news, but let me ask a question in that context.

**Currently, the faculty union and the administration of the University of Ottawa are wondering whether equity data that the University's Human Rights Office collected for FCP purposes can lawfully be shared with the University's Institutional Research and Planning office to perform an analysis of the employment equity situation. This would not be an external transfer of the FCP equity data to a third party; rather it is simply an intra-institutional decision to let one office of the University analyze the data possessed by another office of the University.**

**So far as I can tell the *Employment Equity Act* does not prohibit intra-institutional sharing of FCP data for analytical purposes, and on the contrary, everything I have read points to the conclusion that the “best practice” for all institutions is to analyze their employment equity data regularly and diligently for proactive compliance. Is that correct?**

**All best,  
Amir**

On Oct 27, 2017, at 12:22 PM, Sonya Nigam <[snigam@uottawa.ca](mailto:snigam@uottawa.ca)> wrote:

Dear Chair and members of the EDIC,

Further to the Vicky Barham's request of October 19th, and Amir Attaran's email of the same date, this is my formal response regarding the reason why the HRO did not provide the raw equity data to IRP.

The University of Ottawa signed an agreement to implement employment equity with the Ministry of Employment and Social Development Canada, which requires the University to commit to implementing or maintaining employment equity in keeping with the [Federal Contractors Program](#) which in turn refers to the Employment Equity Act and Regulations. HR and the HRO are the institutional contacts responsible for managing the employer's obligations.

The Employment Equity Act and Employment Equity Regulations state:

\* Subsection 9(3) of the Employment Equity Act <<http://laws-lois.justice.gc.ca/eng/acts/E-5.401/page-2.html#h-6>> states that the workforce information collected by an employer is confidential and shall be used only for the purpose of implementing the employer's obligations under this Act.

\* Paragraph 3(6)(b) of the Employment Equity Regulations <<http://laws-lois.justice.gc.ca/eng/regulations/SOR-96-470/page-1.html#s-1>> states that the information collected in the questionnaire is confidential and will only be used by or be disclosed to other persons within the employer's organization in order for the employer to carry out its obligation under the Employment Equity Act.



When individual members of the EDIC asked for the raw equity data, the HRO was given little explanation as to how this would further the employer's obligations under the *Employment Equity Act*, and no information was provided in order for the HRO and HR to ascertain the impact of the request upon employment equity strategies already in development.

The HRO communicated with the Ministry of Employment and Social Development Canada regarding the disclosure of the raw equity data to other administrative groups within the University. The Ministry replied:

“As disclosure is only done for the purpose of implementing the employer's obligation, the University of Ottawa will have to determine if the request made by the internal EE Committee falls under that criteria.”

Without additional information about the analytic purpose the HRO felt that it was prudent administrative practice to refuse the request to release the raw equity data to IRP until such

time as more information was received and properly reviewed with our HR partner to make sure that we did not agree to actions that could prove to be counter-productive down the road.

The HRO has briefed AVP, HR, Elvio Buono and Senior Director, HR, Manon Dugal, on this file and they are copied on this email, as is Carole Bourque, Diversity and Inclusion Specialist at the HRO. By this email I confirm that both the HRO and HR are looking forward to receiving a meeting invitation from the Chair of the EDIC and the AVP, IRP to plan how the employer can meet the specific needs of the EDIC and continue to carry out its obligations under the Act.

Regards,

***Sonya Nigam, LL.M.***

Directrice, Bureau des droits de la personne / Director, Human Rights Office  
Université d'Ottawa / University of Ottawa

1 Stewart, 118

[snigam@uottawa.ca](mailto:snigam@uottawa.ca)

Tél | Tel : 613-562-5800 (3103)

<http://www.uottawa.ca/respect/>

[Violence sexuelle : soutien et prévention](#) <image001.png> [Sexual violence: support and prevention](#)

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Annex B: Detailed Regression Results Controlling for Experience and Allowing For the Gaps to Vary Across Faculties.

| Faculty         | <i>Components of the salary gap (thousand \$)</i> |               |                 |               |                 |               | Total Difference | Observations |
|-----------------|---|---------------|-----------------|---------------|-----------------|---------------|------------------|--------------|
|                 | Rank + CRC  |               | CRC             |               | None            |               |                  |              |
|                 | (1)   | (2)           | (3)             | (4)           | (5)             | (6)           |                  |              |
|                 | Explained   | Unexplained   | Explained       | Unexplained   | Explained       | Unexplained   |                  |              |
| <b>All</b>      | <b>9.595***</b>                                   | <b>-0.249</b> | <b>8.252***</b> | <b>-1.592</b> | <b>8.358***</b> | <b>-1.486</b> | <b>-9.844***</b> | <b>1,130</b> |
| Arts            | -4.095  | -0.240        | -3.735          | -0.599        | -3.735          | -0.599        | -4.335           | 230          |
| Education       | -1.810  | -0.624        | -1.660          | -0.774        | -1.660          | -0.774        | -2.434           | 51           |
| Engineering     | -4.953  | 2.788         | -1.714          | -0.452        | -4.161          | 1.995         | -2.166           | 101          |
| Health Sciences | -2.724  | -1.024        | -2.803          | -0.945        | -2.803          | -0.945        | -3.748           | 108          |
| Law             | 15.96***  | -3.450        | -9.609**        | -9.800***     | -8.184*         | -11.23***     | -19.41***        | 91           |
| Medicine        | -12.48*   | -3.636        | -10.87**        | -5.252        | -8.110          | -8.011        | -16.12**         | 86           |
| Sciences        | 13.93***  | -1.248        | -10.31*         | -4.869        | -9.187**        | -5.996*       | -15.18***        | 142          |
| Social Sciences | 8.906***  | 0.701         | 9.388***        | 1.183         | 9.233***        | 1.028         | -8.205***        | 251          |
| Telfer          | -7.125  | 4.245         | -3.656          | 0.775         | -3.656          | 0.775         | -2.880           | 70           |

Notes:

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Annex C:** Survival Analysis fit estimates (Weibull model) for time to promotion amongst professors hired at the Assistant (left) and Associate (right) levels between 2001 and 2004. The Faculty of Arts, Males and the year of 2001 are the reference categorical variables. The estimates are in percentage of the expected remaining time in the position at hiring compared to the reference individual.

| Variables                  | Assistant to Associate                    | Associate to Full                         |
|----------------------------|---|---|
|                            | Expected remaining time in lower rank (%) | Expected remaining time in lower rank (%) |
| Female                     | 33%                                       | 29%                                       |
| Female * Educ.†            | -19%                                      | 191%**                                    |
| Female * Eng.              | 14%                                       | -16%*                                     |
| Female * Health Sc.        | 48%                                       | 19%                                       |
| Female * Law               | 64%                                       | -26%                                      |
| Female * Medicine          | -   | 259%**                                    |
| Female * Social Sc.        | 34%                                       | 34%                                       |
| Female * Sciences          | 24%                                       | -44%***                                   |
| Female * Telfer            | -31%**                                    | -99%***                                   |
| Female * 2002              | 25%                                       | 61%*                                      |
| Female * 2003              | 12%                                       | 5%  |
| Female * 2004              | 30%                                       | 17%                                       |
| Education                  | 141%***                                   | -40%***                                   |
| Engineering                | 8%  | -32%**                                    |
| Health Sc.                 | 24%                                       | 2%  |
| Law                        | -15%                                      | 48%**                                     |
| Medicine                   | 41%***                                    | -72%**                                    |
| Social Sc.                 | -7%                                       | -1%                                       |
| Sciences                   | 6%  | -4%                                       |
| Telfer                     | 76%**                                     | (omited)‡                                 |
| 2002                       | -9%                                       | -23%                                      |
| 2003                       | -3%                                       | 6%  |
| 2004                       | 1%  | 1%  |
| Foreign                    | 8%  | -24%*                                     |
| Years of Exp.              | 0%  | 2%  |
| New to Inst.               | 9%  | 20%                                       |
| Previous Senior Duty       | -2%                                       | 6%  |
| Unpaid Leave               | 29%***                                    | 7%  |
| <50% Load (Count)          | 9%  | 49%                                       |
| <95% and >50% Load (Count) | 974%***                                   | -2%                                       |
| Constant (in years)        | 4.47***                                   | 8.36***                                   |
| <i>Observations</i>        | <i>200</i>                                | <i>115</i>                                |

Notes:

\*p<0.1; \*\*p<0.05, \*\*\*p<0.01

†For interaction terms, the estimates are computed based on a male in the same category.

‡Only one Associate professor hired between 01-04 in Telfer was promoted to Full.

Foreign: (=0 Canadian, =1 otherwise)

New to Inst: (0= employed by institution previously, =1 otherwise)

Previous Senior Duty: (0= did not hold a senior admin. position before promotion; =1 otherwise)

Unpaid leave: (0= did not take unpaid leave before promotion; =1 took at most 6 months of unpaid leave; =2 between 6 and 12 months; 3= 12 months or longer of unpaid leave)

<50% Load: numbers of times the teaching load was reduced by 50% or less

<95% and >50% Load: number of times the teaching load was reduced between 50% and 95%.

## Annex D

# Postsecondary Student Information System (PSIS)

## CONFIDENTIALITY 2007-03-28

### Explanation and rules to report student counts

The Statistics Act gives Statistics Canada its authority to collect and obtain information and its obligation to protect the confidentiality of respondents. According to this Act, no employees of Statistics Canada “shall disclose or knowingly cause to be disclosed, by any means, any information obtained under this Act in such a manner that it is possible from the disclosure to relate the particulars obtained from any individual return to any identifiable individual person, business or organization”

We have been told by the various users of the institution-based enrolment and faculty data (i.e. from PSIS and UCASS), that they are interested in receiving data at the most detailed level possible. Because of this, the approach we have taken is to round data randomly to 3 - this has allowed us to produce detailed data but still ensure that data for individuals cannot be identified. (In fact, some of the UCASS data requests have been randomly rounded for more than 20 years - unfortunately not for all requests

The reason we cannot provide you with the unrounded data is because we cannot control how the data is used once it leaves Statistics Canada. We have a number of different clients, many making multiple requests for data at differing levels of detail and we need to be able to ensure that if someone were to combine data from various requests, it would not be possible to identify small sub-populations and thus identify individuals - the only way to ensure that this doesn't happen is to round all data requests.

#### **Rounding of student counts from the Postsecondary Student Information System (PSIS)**

All frequencies are randomly rounded to a multiple of 3 using the following procedure:

- (a) Frequencies which are a multiple of 3 are not adjusted.
- (b) Frequencies one greater than a multiple of 3 are adjusted to the lower multiple of 3 with a probability of two-thirds and to the upper multiple of 3 with a probability of one-third. The probabilities are reversed for frequencies one less than a multiple of 3

For example:

#### FREQUENCY ACTION

|    |  |
|----|--|
| 27 | Do not adjust as it is a multiple of 3                                     |
| 28 | Adjust to 27 with a probability of 2/3 or to 30 with a probability of 1/3. |
| 29 | Adjust to 27 with a probability of 1/3 or to 30 with a probability of 2/3. |

Whenever the rounded frequency is 0 (i.e. an actual frequency of 1 or 2 which is randomly rounded to 0), it is treated the same as an actual 0.

The use of random rounding can create slight anomalies. Since sub-totals and totals are also randomly rounded, they will not necessarily equal the sum of the randomly rounded component figures. This will likely be most evident where the frequencies are small.

For example, a sub-total may be shown even though all component figures are 0. In this case, some of the component figure(s) of 1 or 2 will have been randomly rounded to 0 while the sub-total will have been rounded to say 3,6 etc.

## Annex E: Statistics Canada mapping of fields of study in PSIS

| <b>Faculties and Departments</b>    | <b>subject area codes</b>   | <b>subject area descriptions</b>  |
|-------------------------------------|---|---|
| <b>Faculty of Arts</b>              |   |   |
| Communication                       | 09.01   | Communication and media studies   |
| English                             | 23.01   | English language and literature, general  |
| Philosophy                          | 38.01   | Philosophy, logic and ethics  |
| History                             | 54.01   | History   |
| Français                            | 55.14, 55.01  | French literature CAN, French language and literature, general CAN  |
| OLBI                                | 13.14   | Teaching English or French as a second or foreign language  |
| School of Music                     | 50.09   | Music   |
| Clas.&Rel.Stud                      | 38.02, 30.22  | Religion/religious studies, Classical and ancient studies   |
| Geography                           | 45.07   | Geography and cartography   |
| Mod.Lang.                           | 16.04, 16.05, 16.09   | Slavic, Baltic and Albanian languages, literatures and linguistics, Germanic languages, literatures and linguistics, Romance languages, literatures and linguistics   |
| Sc.Transl.&Interp                   | 89.99   | Other instructional program   |
| Linguistics                         | 16.01   | Linguistic, comparative and related language studies and services   |
| Visual Arts                         | 50.07, 50.04, 50.06   | Fine arts and art studies, Design and applied arts, Film/video and photographic arts  |
| Theatre                             | 50.05   | Drama/theatre arts and stagecraft   |
| École des sc.de l'information (ÉSI) | 11.04, 25.01  | Information science/studies, Library science and administration   |
| <b>Telfer School of Management</b>  | 52.01, 52.02, 52.03, 52.06, 52.08, 52.10, 52.12, 52.13, 52.14, 52.99        | Business/commerce, general, Business administration, management and operations, Accounting and related services, Business/managerial economics, Finance and financial management services, Human resources management and services, Management information systems and services, Management sciences and quantitative methods, Marketing, Business, management, marketing and related support services, other   |
| <b>Faculty of Education</b>         | 13.01, 13.03, 13.04, 13.05, 13.06, 13.07, 13.09, 13.10, 13.11, 13.12, 13.13 | Education, general, Curriculum and instruction, Educational administration and supervision, Educational/instructional media design, Educational assessment, evaluation and research, International and comparative education, Social and philosophical foundations of education, Special education and teaching, Student counselling and personnel services, Teacher education and professional development, specific levels and methods, Teacher education and |

|                                   |                                   |  |
|-----------------------------------|-----------------------------------|--|
|                                   |                                   | professional development, specific subject areas   |
| <b>Faculty of Engineering</b>     |                                   |  |
| ÉSIGÉ                             | 14.09, 14.10, 11.07, 14.13, 14.27 | Computer engineering, Electrical, electronics and communications engineering, Computer science, Engineering science, Systems engineering |
| Mechanical Eng.                   | 14.19                             | Mechanical engineering   |
| Civil Engineering                 | 14.08                             | Civil engineering  |
| Chemical&Biol. Eng.               | 14.07, 14.45                      | Chemical engineering, Biological/biosystems engineering  |
| <b>Faculty of Medicine</b>        | 26.99, 51.22, 51.14, 26.14        | Biological and biomedical sciences, other, Public health, Medical scientist (MS, MSc, PhD), Molecular medicine                           |
| <b>Faculty of Health Sciences</b> |                                   |  |
| Health Studies                    | 51.00, 51.07, 51.22               | Health services/allied health/health sciences, general, Health and medical administrative services, Public health                        |
| Sch.of Rehab.                     | 51.23                             | Rehabilitation and therapeutic professions   |
| Nutrition Sc.Prog                 | 19.05                             | Foods, nutrition and related services  |
| Human Kin.                        | 31.05                             | Health and physical education/fitness  |
| Nursing                           | 51.38                             | Registered nursing, nursing administration, nursing research and clinical nursing  |
| <b>Common Law</b>                 | 22.02                             | Law  |
| <b>Civil Law</b>                  | N/A                               | N/A  |
| <b>Faculty of Social Sciences</b> |                                   |  |
| Psychology                        | 42.01, 30.25                      | Psychology, general, Cognitive science   |
| Criminology                       | 45.04                             | Criminology  |
| Economics                         | 45.06                             | Economics  |
| Sch.Poli.St.                      | 45.10                             | Political science and government   |
| Pub. & Int.Aff                    | 45.09, 44.05                      | International relations and national security studies, Public policy analysis  |
| Public Admin.                     | 44.04                             | Public administration  |
| Socio.& Anthro.                   | 45.11, 45.13, 45.02               | Sociology, Sociology and anthropology, Anthropology  |
| Prog.Int.Dev.&Glo                 | 30.20                             | International/global studies   |
| Feminist & Gender St.             | 05.02                             | Ethnic, cultural minority, gender, and group studies   |
| Social Service                    | 44.07                             | Social work  |
| <b>Faculty of Sciences</b>        |                                   |  |
| Biology                           | 26.01, 26.02, 26.03               | Biology, general, Biochemistry/biophysics and molecular biology, Botany/plant biology  |

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| Maths & Stats  | 27.01, 27.03, 27.05 | Mathematics, Applied mathematics, Statistics                                      |
| Chemistry      | 26.99, 40.05, 26.10 | Biological and biomedical sciences, other, Chemistry, Pharmacology and toxicology |
| Physics        | 40.08, 40.02        | Physics, Astronomy and astrophysics   |
| Earth Sciences | 40.06               | Geological and Earth sciences/geosciences   |