

Report to the Faculty Senate Council on Gender Pay Equity on Danforth Campus

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[Correction made to an error on page 18, on December 5, 2016]

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Executive Summary

Findings

1. There has been an increase in the number of tenured and tenure-track women faculty on the Danforth Campus from 177 (28%) to 218 (32%) over the six years since 2008-09.
2. Our analysis focused on three principal models, which used alternative measures of faculty compensation. In one of the models, there is a negative gender pay gap for women in three of the six schools—the George Warren Brown School of Social Work (Brown School), the Sam Fox School of Design & Visual Arts (Design & Visual Arts), and the School of Law (Law)—and a slightly positive pay gap in the other three schools—Arts & Sciences, Olin Business School (Business), and the School of Engineering & Applied Sciences (Engineering). In the other two models, there is a gender pay gap for all six Schools considered in this report, such that women appear on average to be paid less than men. Note that the Medical School is not included here. All three models include controls for years since degree, years at WU, rank, underrepresented minority group membership, academic discipline, and department-chair-equivalent and other administrative roles. The coefficients for female gender for the three models in each of the six Danforth Campus schools are reported below. As in previous studies, statistical significance is not reported, because the entire population relevant to the analyses was included. The standard errors are plotted in the detailed presentation of the results in order to illustrate the uncertainty of the point estimates (See Figures 1 and 2).

Results of Final Models Using Three Different Dependent Variables –
Coefficients for Female (negative values indicate women paid less than men)

	Full Appointment Salary (FAS)	Total Actual Pay (TAP)	Actual Pay Minus Externally- Funded Summer Research (APMESR)
Arts & Sciences	0.2%	-4.5%	-1.4%
Business	0.3%	-1.5%	-1.4%
Design & Visual Arts	-2.9%	-5.0%	-5.0%
Engineering	0.8%	-3.0%	-1.2%
Law	-3.4%	-6.4%	-6.0%
Brown School	-2.6%	-7.9%	-3.0%

3. Comparing the models shows that gender differences were found to be larger in a negative direction for women when supplemental forms of pay were included in the measure of faculty compensation (Total Actual Pay, or TAP), compared to the analysis using only Full Appointment Salary (FAS). When externally funded summer research funds are removed from the measure of compensation (APMESR), the gender pay gap decreased in Arts & Sciences, Engineering, and the Brown School, compared with the model using Total Actual Pay (TAP).
4. Additional analyses showed that, overall, women are less likely than men to hold additional roles that are associated with supplemental salary (11% vs. 16%), although this varies by School. These analyses also showed that there is a gap in the amount of supplemental pay for additional teaching for female vs. male faculty, which varied by school. This gap was most pronounced in Business,

where tenured male vs. female faculty receive 3.2 times as much supplemental pay for additional teaching, such as in the executive programs, global programs, and extra courses in conventional degree programs.

5. The Committee also conducted an analysis that used the methodology followed in prior GPE studies, so that the results could be compared directly with the two previous reports. In previous years, 9-month adjusted appointment salary was used as the dependent variable. The models used in this study use more sources of data, and more accurately measure actual compensation. The first model (FAS) uses Full Appointment Salary rather than adjusting it to a 9-month equivalent. The second model (TAP) uses Total Actual Pay, which includes all sources of compensation from the university, including supplemental sources of pay such as summer research grants, administrative supplements, and payments for overload teaching. The third model is similar to the second, but removes externally funded summer grant money from the measure of compensation (APMESR).

Limitations

1. The results of this study are correlational, not causal, and do not establish whether or not any gender pay gap is the result of discrimination. The coefficients reflect average differences across groups, after controlling for several factors, but do not provide evidence that any individual faculty member is over- or under-paid based on gender or any other factor.
2. The Committee did not have data to control for the quality or quantity of research, teaching, or service contributions of individual faculty members. It is possible that some observed differences in pay result from objective differences in contributions. Testing this hypothesis would require data that was not readily available to the Committee.
3. Likewise, the Committee did not have data to examine competing hypotheses to explain gender gaps in supplemental forms of pay. For example, it is not clear whether opportunities to earn supplemental pay through administrative roles or extra teaching assignments are not offered to male and female faculty on an equal basis, or whether male and female faculty make different choices about whether to pursue and/or accept these types of opportunities.
4. The Committee's analyses were restricted to financial compensation. We did not investigate whether there are gender differences in teaching load and/or teaching releases, the number of unique course preparations, the quantity of lab space, spousal hiring, or the magnitude of start-up packages.
5. The R-squared for analyses of Law was substantially lower than for that of other Schools.

Recommendations

1. Because supplemental sources of pay can add materially to total compensation, the Committee believes that the models used in this report more accurately capture faculty compensation, and advocates that the methodology used in prior GPE studies be discontinued.
2. The Committee notes several areas for possible further investigation that were outside its scope.
 - a. It is unclear why there are gender differences in extramural funding in STEM fields. Although external funding is outside of the discretion of the university, potential causes for this gender gap should be scrutinized. Further study might suggest the value of additional resources dedicated towards grant application support and mentorship, and/or approaching funding agencies about the possibility of bias in the grant review process and potential remedies.
 - b. It is also unclear to what extent gender differences in paid administrative roles (throughout campus) and extra teaching (notably Business) result from differences in interest vs.

differences in opportunities. Further investigation might be warranted to try to determine the causes.

- c. The data analyzed in this report provide only a snapshot of a single moment in time. A longitudinal study could examine patterns in compensation for individual faculty members over time, for example, looking at whether male vs. female faculty members have different patterns of salary discontinuity at the time of a promotion or retention offer.
3. The Committee had several policy recommendations:
 - a. Deans should ensure equal access for female and male faculty members to opportunities for supplemental pay. One way to check for equitable access would be for department chairs or Deans to report to the Provost the process by which opportunities are offered for additional roles, teaching pay, summer research pay, and other sources applicable to the School.
 - b. Greater transparency about supplemental forms of compensation would help ensure equal access to these opportunities. This includes grants, pay for administrative roles, additional teaching, and summer pay. Information about teaching loads should also be made available to the faculty.
 - c. Available resources should be increased to support maximally competitive grant applications from all faculty members. This could include seed grants, systematic mentoring programs, and proactive administrative support to assist in locating potential funding sources. Additional review of proposals prior to their submission could be systematically encouraged, for example, by instituting informal internal 'friendly review', providing funding to elicit external proposal reviews, and creating an internal committee through which proposals are vetted and provided with feedback.
 - d. Negotiations should be monitored for potential gender differences. It was noted that gender differences appeared the most strongly in supplemental pay other than the appointment salary. This pattern is consistent with academic research showing that female salary differentials tend to appear in settings when compensation is more discretionary, unclear, and individually negotiated, and that women tend to achieve lower gains than men in negotiating their compensation. Further, it is possible that there are gender differences in the willingness to seek opportunities externally for job offers or internally for roles that bring with them additional pay. Because salary is often adjusted on the basis of negotiations, the Committee recommends that Deans be mindful during compensation negotiations, for both new and existing faculty. Accordingly, the Committee recommends that when outside job offers are presented, that Deans record this information and report it yearly to the Provost. In particular, this should include information about the outside offer and efforts to retain the faculty member. The university should not reward individuals within the school for their willingness to look outside of the school. The Committee also recommends that Deans be mindful of potential gender differences during initial salary negotiations, particularly given that initial salary serves as an important benchmark for future salary. The Committee recognizes the dilemma during salary negotiations to balance equitable treatment with market forces based both on quality of scholarship and the ability to negotiate.
 - e. Committees to examine Gender Pay Equity at Washington University should continue on a regular basis, at an interval of 3 years. This provides an opportunity to monitor gender differences and to note improvements made over time.
 4. The final models reported above involved several methodological improvements from prior studies. The Committee recommends that these changes in methodology be adopted in future GPE studies.

- a. As described above, the models used use three separate measures of faculty pay as dependent variables for gender pay equity analysis: Full Appointment Salary, Total Actual Pay and Actual Pay Minus Externally Funded Summer Research. All three measures provide useful insights into pay equity and should be used in future studies.
- b. Full Appointment Salary is a better measure of compensation than the 9-month Adjusted Appointment Salary that was used in prior studies, because it recognizes the full impact of additional role salaries and lowers the risk of inconsistency in data handling. Full Appointment Salary can be used for purposes of historical comparison, but TAP and APMESR provide better, more complete measures of total compensation received by faculty.
- c. The final models replaced traditional discipline groups with a single index variable that reflects external salary market differences among disciplines. The new approach removes the arbitrariness of grouping decisions and better reflects the impact of market discipline differences.
- d. The final models replaced the previous single indicator for Salaried Additional Roles with two variables to distinguish between department-chair equivalent and other salaried additional roles to better represent the wide range of additional roles and related additional salaries.
- e. The Committee reconsidered and formalized the criteria for exclusion of particular cases from the population used for analyses. These criteria should be followed consistently in future studies.

Glossary of Key Terms

Appointment Salary – also called “**Regular Pay**” this includes base faculty salary plus joint appointment salaries associated with additional administrative roles such as department chair, associate dean, and director of a program or center. Appointment salaries are usually determined prior to the start of an academic year and documented by a Spring letter to faculty stating the job title and salary for the upcoming year. Typically appointments specify a contract period of either 9 months or 12 months.

Full Appointment Salary –the salary committed to a faculty member for the full 12-month academic year for all of their faculty roles formalized by appointments. [One of the dependent variables considered in this report.](#)

Adjusted 9-month Appointment Salary – The majority of faculty hold 9-month appointments. For faculty with only 9- month appointments, adjusted 9-month appointment salary will equal full appointment salary. For faculty whose primary appointment is for 12 months, or who hold a secondary appointment for 12 months, the portion of their salary that is for a 12 month appointment is adjusted by 9/12ths, to produce an adjusted 9-month Appointment Salary. [Past GPE analyses looked at Adjusted 9-month Appointment Salary. This Committee believes that Full Appointment Salary is a better measure and should be used for purposes of historical comparison.](#)

Salary for Additional Administrative Role – this is a component of salary, for an appointed administrative role beyond the faculty role. Examples of such roles include department chair, associate dean, and director of a program or center.

Total Actual Pay – all of the pay received by a faculty member from Washington University during an academic year; this includes Full Appointment Salary plus supplemental forms of pay: summer research pay, overload / additional teaching pay, and other miscellaneous pay. [One of the dependent variables considered in this report.](#)

Summer Research Pay – Summer Research Pay is a form of supplemental pay that is typically based on the monthly rate for a 9-month appointment salary and is often expressed as months of pay. There are federal guidelines limiting the number of summer months that may be paid from federal grants. [In Arts & Sciences, Engineering and the Brown School, most Summer Research pay is externally funded \(by grants\); in Law and Business, Summer Research is primarily internally funded.](#)

Externally Funded Summer Research Pay – summer research pay funded by sources external to Washington University (primarily from federal research grants)

Internally Funded Summer Research Pay – summer research pay funded by Washington University schools, generally allocated by the Dean.

Overload / Additional Teaching Pay – Pay for teaching that falls outside the duties expected as part of a faculty member’s regular appointment, such as teaching in University College or Executive programs.

Other miscellaneous pay – Pay not accounted for in another category, this is a component of Total Actual Pay. Examples include honoraria, project pay, and discretionary bonuses.

Actual Pay Minus Externally Funded Summer Research Pay – The pay received by a faculty member from Washington University *excluding* that portion of summer research pay that was externally funded. [One of the dependent variables considered in this report.](#)

Report to the Faculty Senate Council on Gender Pay Equity on Danforth Campus

I. Introduction

In January of 2016, Rebecca Hollander-Blumoff, Chair of the Faculty Senate Council (FSC) appointed a 9 member¹ Gender Pay Equity (GPE) Committee to review and assess the 2014-15 pay equity data on the Danforth Campus. This report provides the findings of this study to the FSC. Analyses for the pay-equity study were conducted by Lynn McCloskey, Assistant Provost, Lisa Wiland, Director of Institutional Research, and Tao Zhang, Senior Research Analyst, with direction and feedback from the Committee. The Committee met every week for an hour, a total of 12 meetings between February 18 and September 8.

The Committee began with a review of the methodology and recommendations by previous GPE studies (2010 and 2012), GPE Sub-Committee's report to the Faculty Senate Council regarding methodology (dated May 27, 2015; chaired by Andy Sobel), and the letter to the Faculty Senate Council (dated August 8, 2014) by Washington University's Association of Women Faculty (AWF).

As a precaution for the sake of privacy, faculty members on the Committee had access only to the results of analysis and to aggregate information; the underlying individual salary data were available only to the Washington University Institutional Research analysts. The analysts provided the committee with detailed information about the available data, reviewed the data for errors, conducted analyses and reported summary results.

II. 2016 GPE Committee's Methodological Revisions

The Committee spent some time reviewing the methodology applied in the 2010 GPE study which was also replicated in 2012 GPE study. In particular, we reviewed their recommendations for future studies. Additionally, the Sub-Committee and the AWF had made several methodological comments. The 2016 Committee considered these suggestions and made the following changes.

- i. Extend GPE analysis beyond appointment salary and examine total actual pay, including supplemental pay for summer research, paid administrative roles, additional teaching and other activities:*

The AWF was concerned that *extra compensation associated with summer research, extra teaching or additional work* were not accounted for in prior studies that examined only appointment salary. Moreover, the Sub-Committee focusing on methodology had suggested that future GPE studies should use total University compensation "*to account for other income streams from the University.*" The current committee considered ways to account for total annual compensation, including the analysis of W-2 data. However, we note that W-2 data is suboptimal to analyze, because it omits deferred compensation and reflects a calendar year instead of the 12-month fiscal year period representing salary contracts from July through June. We concluded that, as a better alternative to W-2 data, Total Actual Pay (including deferred compensation) provides more complete information and is more appropriate for GPE analysis (see Appendix 1). The HR system's records for actual pay are coded with descriptions for each source of earnings, so that additional categories of pay can be defined and explored for gender differences. The Committee observed, for example, that summer research accounts for 9% of actual pay and is the largest category of pay not previously analyzed. It is important to note that summer research pay is driven by two distinct sources, both by faculty winning external grants and by school funding from school Deans. Given

¹One member, whose School was already represented on the Committee, stepped down due to additional service roles.

these two different sources, the Committee chose to examine two different measures of actual pay²: (1) Total Actual Pay, and (2) Actual Pay Minus Externally Funded Summer Research Pay. The latter reflects only the pay that is funded by the University, in order to acknowledge that external grant funding is outside of the university's control. The magnitude and types of supplemental pay vary considerably by School (see Table 1).

Table 1: Appointment Salary and Total Earnings for Tenured and Tenure Track Faculty 2014-15

	n	Appointment Salary			Actual Pay					Actual adjusted for externally funded summer research		
		Base Salary	Addl Roles Salary	Full Appointment Salary (Base + Addl Appnts)	Regular Pay		Supplemental Pay			Total Actual Pay-Adj*	Summer Research externally funded	Total Pay, minus externally funded summer research
					Total Regular Pay	Total Regular Pay-Adj*	Summer Research Total	Additional instruction	Other			
Arts & Sciences	389			49,900,933	49,467,643	50,060,381	3,540,541	346,604	217,539	54,165,065	2,572,914	51,592,151
% of Total Pay				92%	91%	92%	7%	1%	0%	100%	5%	95%
Business	68			16,145,410	15,786,910	16,154,910	2,577,816	1,768,826	200,779	20,702,332	4,527	20,697,805
% of Total Pay				78%	76%	78%	12%	9%	1%	100%	0%	100%
Design & Vis Arts	41			4,154,427	4,081,638	4,154,691	0	116,701	26,183	4,297,575	0	4,297,575
% of Total Pay				97%	95%	97%	0%	3%	1%	100%	0%	100%
Engineering	86			10,937,917	10,893,468	11,012,556	2,538,133	49,523	27,483	13,627,695	1,909,863	11,717,832
% of Total Pay				80%	80%	81%	19%	0%	0%	100%	14%	86%
Law	43			9,186,743	9,112,296	9,209,021	627,500	292,000	59,500	10,188,021	10,000	10,178,021
% of Total Pay				90%	89%	90%	6%	3%	1%	100%	0%	100%
Social Work	44			6,025,783	6,024,950	6,025,783	908,854	4,368	222,842	7,161,846	660,904	6,500,942
% of Total Pay				84%	84%	84%	13%	0%	3%	100%	9%	91%
Total 6 Schools	671			96,351,213	95,366,904	96,617,343	10,192,844	2,578,021	754,326	110,142,534	5,158,208	104,984,326
% of Total Actual Pay				87%	87%	88%	9%	2%	1%	100%	5%	95%

*Note: Regular Pay for 13 faculty members away on unpaid leave was adjusted to the appointment salary each would have received if in residence.

ii. *Replace 9-month adjusted appointment salary with full appointment salary:*

Past GPE studies used one dependent variable, the 9-month adjusted Appointment Salary, in all models. Past studies adjusted faculty salaries with 12-month contracts to 9-month equivalents. For example, the salary for additional roles such as department chair with 12-month additional role salary, was adjusted to 9/12ths to attain 9-month equivalent salary. After comparing results of models using Full Appointment Salary and 9-month Adjusted Appointment salary, our Committee concluded that the previous practice of using 9-month Adjusted Appointment Salary tends to understate the annual salaries for those with additional roles. Further, the Committee noted inconsistencies in the way that the Schools

² Total Actual Pay is all regular pay plus summer research pay plus overload/additional teaching pay plus other miscellaneous pay (such as honorariums, project pay, awards).

classify faculty salaries as 12-month versus 9-month. We compared models predicting Full Appointment Salary with the previous models predicting 9-Month Adjusted Appointment Salary and concluded that Full Appointment Salary better accounted for the full impact of additional role salaries. Using Full Appointment Salary also reduces the risk of inconsistency in data handling.

iii. Replace the single predictor variable for Salaried Additional Roles with two variables, to distinguish between department-chair-equivalent and other additional roles:

Previous studies used one indicator variable to account for faculty with additional administrative roles beyond the normal faculty duties (e.g., chair, director, other) with extra salary. The 2012 GPE report had noted a limitation of this approach because there is a wide range in additional roles and related additional salaries. For example, the 2012 Engineering models that flagged only department chair/equivalent roles had a higher R-squared than models that flagged all faculty members with administrative roles. That result suggested that there is substantial heterogeneity in the administrative roles that had previously been flagged using a single indicator variable. The 2016 Committee explored the titles of all additional salaried roles that were held in the period under analysis (i.e., 2014-15) for each School. The Committee agreed that the job titles could be sorted into two groups that would designate department-chair-equivalent vs. other additional salaried roles. Accordingly, in the current analysis, two new variables were created to replace the single flag in earlier models: one to flag department chair/equivalent roles with additional salary³ and the other for other salaried additional roles⁴. Appendix 2b provides counts by school and gender for salaried additional roles. The Committee noted that there were gender differences in the likelihood of holding department-chair-equivalent and other additional roles⁵.

iv. Replace multiple discipline group indicators with one discipline index variable:

It is important to capture in any analysis the heterogeneous nature of the large population of faculty members, who vary across schools and disciplines that are associated with different typical levels of compensation. Proper categorization of faculty into discipline groups has been a concern since we began implementing the GPE study on the Danforth Campus. For Arts & Sciences, the 2010 GPE study used five discipline groups, and the 2012 GPE study utilized five and eight discipline groups. Each Committee has been concerned about the arbitrary assignment of faculty to discipline groups and expressed uncertainty about the appropriate groupings. The 2012 GPE study recommended re-visiting *“this issue of proper categorization of faculty into discipline groups.”* The current Committee concluded that the goal of having a discipline group variable in GPE analysis is to account for external market differences in salaries by discipline, rather than to categorize faculty members per se. Comparable faculty salary data for a number of research universities were available by discipline for the 2014-15 year under analysis. These were coded by the *Classification of Instructional Programs (CIP)*⁶, which allowed the Committee to compare WU departments with comparable faculty at other institutions. This peer group of research universities included 23 private and 19 flagship public institutions, representing 2014-15 salary data for over 36,000

³ The Dean of College of Architecture, Director of the College of Arts & Graduate Art, and former dean of College of Art & Graduate Art are included along with the department chairs and directors.

⁴ Flagging for these new variables was based solely on the job title associated with the additional role, not on the level of pay associated with any individual role.

⁵ Among tenured faculty, women are more likely to hold salaried additional administrative roles than men in three of the six Danforth schools: Design & Visual Arts, Engineering, and Law. In Law, women are more likely to hold chair/equivalent roles and more likely to hold other administrative roles. In Engineering, women do not hold any of the chair/equivalent roles, but are more likely than men to hold another salaried additional administrative role. In Design & Visual Arts, women are more likely to hold a chair/equivalent role and more likely to hold other salaried additional roles.

⁶ Classification of Instructional Programs (CIP) is a national, standardized taxonomy of instructional programs developed by the National Center for Education Statistics.

tenure/tenure-track faculty, by discipline group and rank. We created an index variable that was referenced to the minimum value in the data set⁷. This variable reports the ratio of the average salary in a given discipline and rank to the average salary in the lowest paid discipline and rank. As such, this index reflects external market differences in incomes by discipline and rank. We believe that use of a new Peer Discipline Rank Salary Ratio index variable instead of indicator variables for each discipline group used in the past has multiple advantages: (a) it removes the arbitrariness of grouping decisions; (b) it reflects contemporaneous *external* salary market differences among disciplines; (c) it allows for accommodation of new and emerging disciplines; and (d) it reduces the number of predictors by substituting one index variable for multiple discipline variables. This yields a more parsimonious model and preserves statistical degrees of freedom. Appendix 3 provides the discipline rank index values for the current study based on average salaries for tenure/tenure-track faculty among WU peers.

v. Inclusion and exclusion criteria clarified:

Previous GPE Committees have debated the appropriateness of including or excluding some individuals from the analysis. For example, the 2010 study excluded 16 (13 male and 3 female) faculty that included 9 current and former deans and 7 faculty members due to unique situations⁸. The 2012 GPE study used the same set of criteria and excluded 9 current and former deans and 6 faculty members. Our Committee considered the Sub-Committee's concern that "*some of the outliers may be helpful to the deans to understand ways to correct pay inequity.*" Hence, the Committee explored inclusion and exclusion criteria in more detail and has recommended the inclusion/exclusion guidelines below. Based on these guidelines, a total of 20 faculty (14 men and 6 women) met the exclusion criteria and were excluded from the current analysis (for details, please see Appendix 4).

- *Faculty holding full-time administrative roles excluded:* As in the previous Danforth Campus GPE studies, the current Committee agreed that, in general, tenured persons holding full-time administrative positions should be excluded from the current or future GPE study (e.g., Chancellor, Provost, sitting deans of six Schools, the Dean of the Graduate School, the Dean of the College of Arts & Sciences). The rationale for exclusion of the sitting deans is that they are in primarily administrative instead of faculty roles and that their salaries are determined by those administrative roles. Also, their salaries are determined by the central administration, rather than by the discretion of the individual Schools.
- *Former deans excluded for three years:* In 2010 and 2012 GPE studies, the Committees elected to exclude former deans because it was assumed that their service as deans may have a continuing influence on their salaries. When the work of this Gender Pay Equity Committee began, it was proposed that previous deans who return to faculty roles *not be excluded indefinitely*. Instead, based on discussion with the Provost, it was determined that there is typically a "step-down period". Thus, it was recommended that former deans should be excluded only for three years. Because three years is the typical step-down period, a three-year margin is deemed adequate to cover the expected transition from dean back to faculty member. Accordingly, the 2016 Committee discussed and recommended that the three-year exclusion rule be employed consistently for former School deans, Dean of the Graduate School and Dean of the College. The three-year rule provides a transparent and consistent way of handling the cases of deans stepping down, and is an improvement on the previous method of excluding previous deans indefinitely because it does not unnecessarily restrict the amount of data available for analysis. The Committee believed that after

⁷ For reference, see paper by Andrew L. Luna titled: Using a Market Ratio Factor in Faculty Salary Equity Studies. Working paper available for download via the Internet: <http://eric.ed.gov/?id=ED502286>.

⁸ The unique situations included: % of a faculty's appointment in a school is less than 49%; unique degree with different salary market; faculty's role was not full-time in the year of study; and faculty members holding positions with salaries determined by the central fiscal unit rather than a school.

three years of stepping down, the former deans returning to regular faculty roles should be included in GPE analysis as any other faculty.

- *Interim Deans:* The Committee also discussed the case of faculty who serve as interim deans and then return to faculty. For interim deans, the period of service is typically much shorter and the period in which the interim role might be expected to affect faculty salary is shorter than for regular dean roles. In some cases, senior faculty may serve as an interim dean by rearranging other duties and there may be no discrete salary increase associated with the interim dean role. After consideration, the Committee decided upon the following rule for former interim deans: *At the time of the GPE study, if we cannot determine if a future salary reduction is expected related to the termination of an interim dean role, then the person shall be included in the faculty population for gender pay equity analysis, assuming the person has not relinquished tenure. If it can be determined that the person's transition salary is temporarily elevated due to current status or prior service as interim dean, then the person may be excluded until the transition period is over.*
- *Faculty members on leave are included in the current GPE study,* unless they are on leave for an extended period. Faculty members on unpaid leaves that have extended beyond one full year were excluded. The reason is that these faculty members do not receive Actual Pay, and their nominal appointment salaries typically remain frozen reflecting functionally inactive status.
- Faculty members with joint appointments across schools were included only in the school with their primary appointment.

vi. Associate Professors without tenure to be treated as equivalent in rank to assistant professors:

Untenured faculty members on the Tenure Track outside of Law generally have the rank of Assistant Professor. There are a small number of Associate Professors untenured, on tenure track. This group is too small to be analyzed by itself; for the purpose of this analysis the Committee directed that they be combined with Assistant Professors.⁹ (In Law, all untenured faculty members on the tenure track are given the title of Associate Professor.)

III. Current Study's Population and Results of GPE Analyses

The population in this study includes tenured and tenure-track faculty who held regular faculty positions in a school on the Danforth Campus as of November 1, 2014. Thus, the population is similar to those used for prior studies, but with some clarification and refinement of exclusion rules as described in the above section. The 2014-15 data consist of 453 male and 218 female tenured or tenure-track faculty on the Danforth Campus (see Table 2). Total faculty increased from 633 in 2008-09 to 671 in 2014-15. Overall, the number of women faculty increased by 23%, from 177 (28%) to 218 (32%), and male faculty declined by about 1% in the past 6 years, from 456 (72%) to 453 (68%). All Schools have more women than in 2008-09 except Design & Visual Arts. Business and the Brown School attained the greatest percentage growth in women faculty over these six years. Table 2 lists the number of faculty members separately for each School.

⁹The current cohort had seven Associate Professors on the Danforth campus who were on the tenure-track but untenured (3 in Business, 3 in Arts & Sciences and 1 in Engineering).

Table 2. Faculty size by gender over time on Danforth Campus

School		2008-09 GPE- Analysis	2011-12 GPE Analysis	2014-15 GPE Analysis	6-year % change (2008-09 to 2014-15)
Arts & Sciences	Total	381	375	389	2%
	Men	271	264	260	-4%
	Women	110	111	129	17%
	Women as % of Total	29%	30%	33%	
Business	Total	57	67	68	19%
	Men	47	52	51	9%
	Women	10	15	17	70%
	Women as % of Total	18%	22%	25%	
Engineering	Total	81	73	86	6%
	Men	73	66	76	4%
	Women	8	7	10	25%
	Women as % of Total	10%	10%	12%	
Design & Visual Arts	Total	37	44	41	11%
	Men	23	26	27	17%
	Women	14	18	14	0%
	Women as % of Total	38%	41%	34%	
Law	Total	45	43	43	-4%
	Men	25	21	21	-16%
	Women	20	22	22	10%
	Women as % of Total	44%	51%	51%	
Brown School	Total	32	37	44	38%
	Men	17	16	18	6%
	Women	15	21	26	73%
	Women as % of Total	47%	57%	59%	
Danforth Schools	Total	633	639	671	6%
	Men	456	445	453	-1%
	Women	177	194	218	23%
	Women as % of Total	28%	30%	32%	

Women faculty made gains in number at every rank level over the past six years (See Table 3). The largest gain was made at the level of Associate Professor; the number of women holding this position on the Danforth Campus rose from 49 to 71 between 2008-09 and 2014-15. Female faculty members are concentrated at the ranks of Assistant and Associate Professor, while the majority of male faculty members hold the rank of Full Professor. The proportions by gender were the most similar at the rank of Associate Professor with tenure (43% female).

Table 3. Danforth campus: Gender by rank

	2008-09			2014-15			Change in the proportion of this group that is women, in percentage points:
	Men	Women	Total	Men	Women	Total	
Assistant Professor	93 60%	62 40%	155 100%	110 64%	63 36%	173 100%	-3.6
Associate Professor without Tenure ¹⁰	4 57%	3 43%	7 100%	8 67%	4 33%	12 100%	-9.5
Associate Professor with Tenure	94 66%	49 34%	143 100%	96 57%	71 43%	167 100%	8.2
Full Professor	164 82%	37 18%	201 100%	129 74%	46 26%	175 100%	7.9
Full Professor with Endowed Chairs	101 80%	26 20%	127 100%	110 76%	34 24%	144 100%	3.1
Total	456 72%	177 28%	633 100%	453 68%	218 32%	671 100%	4.5

IV. Results of Statistical Regression Models

The study employed ordinary least squares regression to model the relationship between gender and the log of pay while controlling for a set of covariates. Our Committee reviewed the results of two sets of analyses. The first set used revised models that incorporated the changes described above regarding the 2016 GPE Committee’s Methodological Revisions (the “A-Models”). The second set of analyses replicated previous GPE reports, strictly for comparison purposes (the “B-Models”). A comparison of predictors used in previous and current study is reported in Appendix 5.

Analyses of 2014-15 data employing revised concepts: The “A-Models”

The current study with revised covariates uses three different measures of pay as dependent variables, listed below. Note that pay was log-transformed in each case before analysis.

- (1) Model A-1 used Full Appointment Salary;
- (2) Model A-2 used Total Actual Pay;
- (3) Model A-3 used Actual Pay Minus Externally Funded Summer Research Pay.

¹⁰ As indicated above, Associate Professors without tenure are combined with Assistant Professors for the sake of this report.

Control variables were included in all models; the A-Models included: years since terminal degree and its squared term, years at Washington University and its squared term, rank (associate, full professor, and endowed chair), under-represented minority group member (URM)¹¹, a discipline index variable to capture the impact of external market differences by discipline and rank (which is new in the current study), and two variables reflecting faculty's additional salaried administrative roles (note that previous studies used a single dummy variable to reflect salaried administrative roles).

The study used ordinary least squares equation and regressed the log of the three pay variables on gender, controlling for the revised covariates. The coefficients associated with gender reflect the predicted percentage difference in male and female pay, controlling for covariates. As in previous studies, the Committee did not report on the statistical significance of the gender differences, because the entire population relevant to the analyses was included.¹² In the charts that follow, the point estimate of the regression coefficient for the effect of being female is shown by a dark blue horizontal bar. A paler blue vertical bar shows 2x the standard error of the estimate of the coefficient. Coefficients for the effect of being female are shown in Table 4, along with the adjusted R-squared that indicates the goodness-of-fit of each model.

¹¹ Underrepresented ethnic minority (URM) includes the groups under-represented at U.S. research universities compared to their proportion in the U.S. population: African American, Hispanic or Latino, and Native American, Alaskan, Hawaiian or other Pacific Islander.

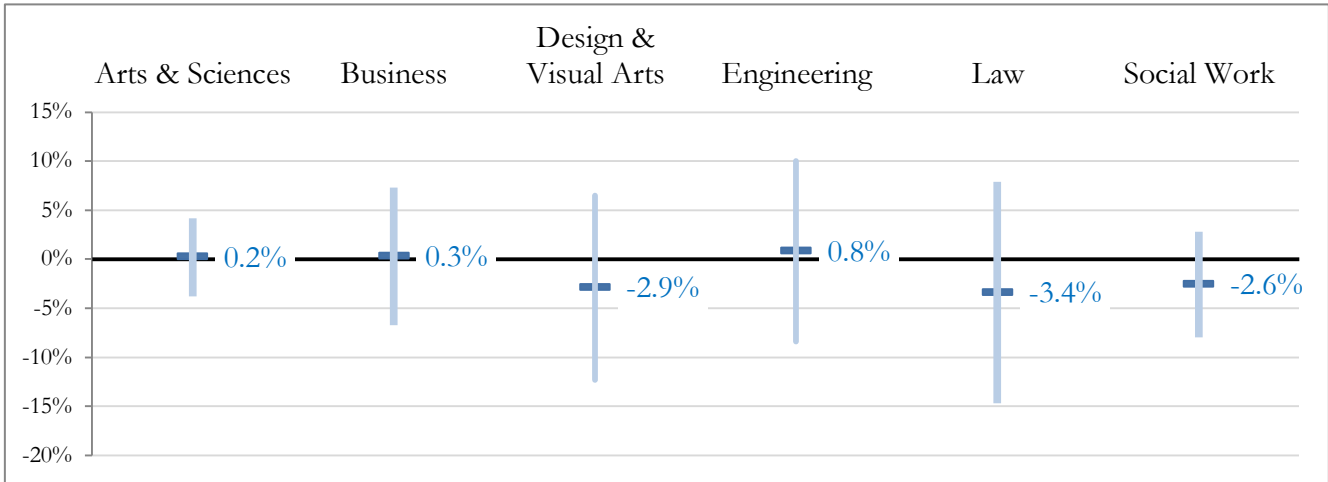
¹² Tests of statistical significance are designed to evaluate the relationship between a sample and a population to determine whether relationships observable in the sample are likely to be true of the population as a whole. Because these analyses look at the full population of faculty being considered, there is no sampling error to consider, and thus tests of statistical significance are not pertinent. There are, however, sources of uncertainty other than sampling error in the process of estimating regression coefficients (e.g. model specification error, measurement error). For this reason, we believe it could be misleading to report model coefficients without their corresponding standard error. In the charts included in this report, the point estimate of the regression coefficient for the effect of being female is shown by a dark blue horizontal bar; a paler blue vertical bar shows 2 x the standard error of the estimate of the coefficient.

Table 4. Gender Pay Equity on the Danforth Campus, set of “A-Models”, 2014-15 data

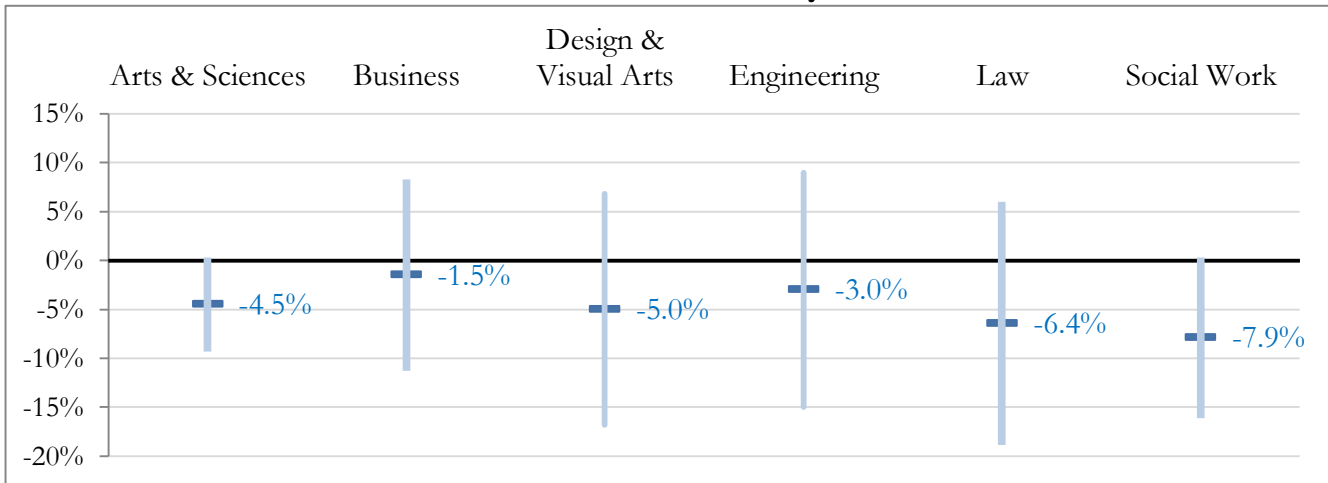
School		A-1 Full Appointment Salary	A-2 Total Actual Pay	A-3 Actual Pay Minus Externally Funded Summer Research
Arts & Sciences	Adjusted R square	0.82	0.77	0.80
	coefficient for female	0.2%	-4.5%	-1.4%
Business	Adjusted R square	0.82	0.78	0.78
	coefficient for female	0.3%	-1.5%	-1.4%
Design & Visual Arts	Adjusted R square	0.85	0.78	0.78
	coefficient for female	-2.9%	-5.0%	-5.0%
Engineering	Adjusted R square	0.83	0.76	0.78
	coefficient for female	0.8%	-3.0%	-1.2%
Law	Adjusted R square	0.64	0.56	0.57
	coefficient for female	-3.4%	-6.4%	-6.0%
Brown School	Adjusted R square	0.94	0.91	0.90
	coefficient for female	-2.6%	-7.9%	-3.0%

Figure 1. Plots of coefficients for female with 2x standard error of estimate of coefficient for female, 2014-15 data, showing six schools and three dependent variables

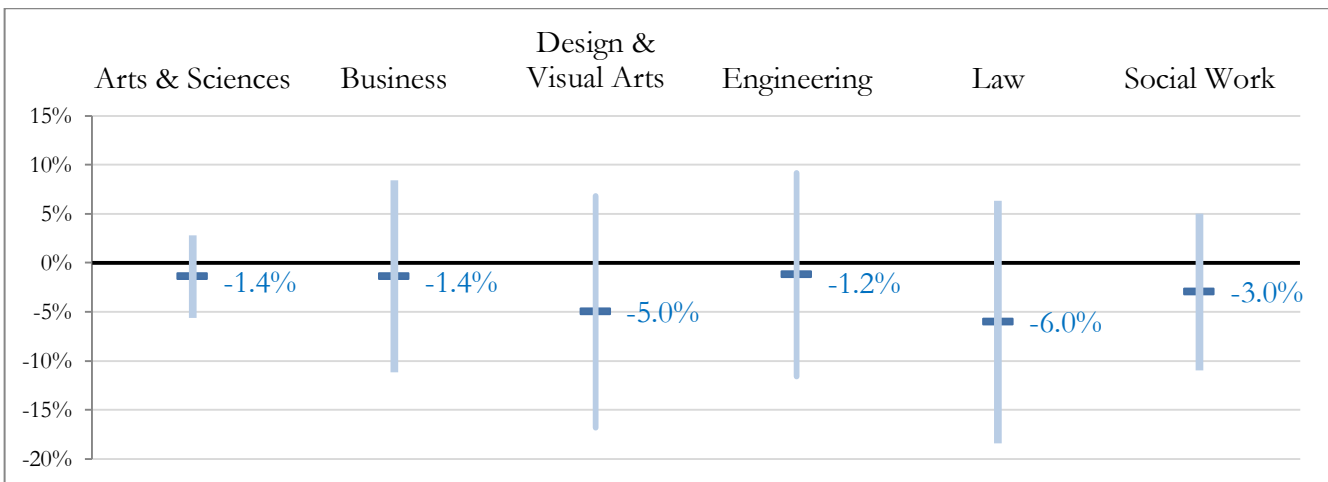
Model A-1: Full Appointment Salary, 2014-15



Model A-2: Total Actual Pay, 2014-15



Model A-3: Actual Pay Minus Externally Funded Summer Research, 2014-15



Several features are notable about these figures. The first is that when Full Appointment Salary is the dependent variable, gender differences are slightly positive for women in three schools and slightly negative in three schools (see Figure 1). However, when examining actual pay, female faculty members are paid less than male faculty in all schools, after accounting for the other explanatory variables in the model. This indicates that gender differences increase in the supplementary components of pay, such as summer support and additional teaching. Further, in Engineering and Arts & Sciences—the two schools for which external grant funding is a substantial component of actual pay—these gender differences are greater in analyses that include externally funded summer research than in those that do not.

In Arts & Sciences, the female coefficient is positive in Model A-1, in which the dependent variable is Full Appointment Salary. In the remaining two models, where the dependent variables are Total Actual Pay (TAP) and Actual Pay Minus Externally Funded Summer Research (Models A-2 and A-3, respectively), the coefficients are negative, which indicates that women earn less than men after accounting for other covariates. The biggest disparities in pay are noted in Model A-2, when the actual pay includes externally funded summer research pay.

When externally-funded summer research pay is excluded in Model A-3 the coefficient remained negative, and indicated that women faculty in Arts & Sciences earned 1.4% less than their male counterparts after accounting for other covariates. The difference in the gender coefficients between Model A-2 and Model A-3 suggests a gender difference in attracting external funding.

Further analyses examined summer research only for individuals in STEM (Science, Technology, Engineering, and Mathematics) fields, because these are the primary fields for which faculty seek external funding. STEM fields within Arts & Sciences include Biology, Chemistry, Earth and Planetary Sciences, Mathematics, Physics and Psychological & Brain Sciences.

Table 5. Summer Research Pay for STEM Faculty in Arts & Sciences

		A&S STEM					
		Men		Women		Total	
Pay for Summer Research	Externally Funded	73	62%	16	55%	89	61%
	WU Funded	34	29%	10	34%	44	30%
	Subtotal with Summer Research Pay	85	73%	19	66%	104	71%
	Received no Summer Research Pay	32	27%	10	34%	42	29%
	Total	117	100%	29	100%	146	100%

This table indicates that STEM women in Arts & Sciences receive summer research pay at a lower rate (66%, Average=\$16,350) than men (73%, Average=\$21,844). Women are less likely to receive funding from outside sources (55% vs. 62%). This suggests a discrepancy in STEM female faculty attracting extramural grants. By contrast, women are more likely to receive internal funding from the university (34% vs. 29%); however, among those receiving WU internal funds the average amount for women is less than that for men (\$9,310 vs. \$16,347).

In **Business**, as in Arts & Sciences, the female coefficient in the Full Appointment Salary (Model A-1) is positive, with women earning about 0.3% more than men after accounting for other covariates. However, in the two models based on actual pay, women earn 1.4% to 1.5% less than men after accounting for other covariates. This can be partially explained by men receiving on average more supplemental pay for additional teaching and summer research. Supplemental teaching includes executive programs, global programs, and

additional courses in standard degree programs. Among tenured faculty—the primary individuals asked to do additional teaching—men receive an average of 19% beyond their salary for extra teaching, compared with 6% for women. Looking only at those receiving this kind of pay, men were paid 22% beyond their salary for supplemental teaching as compared to 8% for women.

In **Engineering**, the female coefficient is positive in the analysis of Full Appointment Salary (Model A-1). In the two models based on actual pay the female coefficients are negative, indicating that women earn less than men after accounting for other covariates. As with Arts & Sciences, this appears to result from differences in summer research pay. Among those who receive this type of pay, the average percent of their salary coming from summer research pay is 28% for men and 24% for women. Pay disparity widened to 3.0% in Model A-2 when the actual pay included externally funded summer research pay. When externally funded summer research pay is excluded in Model A-3, the gender difference remained negative. The coefficient indicates that women faculty in Engineering earned 1.2% less than their male counterparts after accounting for other covariates. The greater pay gap when including external support suggests, as with Arts & Sciences, that there are differences in attracting extramural grants for male vs. female faculty members. We note that this difference may reflect a higher proportion of women at more junior levels, given that extramural funding tends to be most common for senior faculty.

In **Design & Visual Arts**, in all three regression models the female coefficients are negative, ranging from -2.9% to -5%, indicating that women earn between 2.9% and 5% less than men after accounting for other covariates. Unlike the other schools, there is very little supplemental pay in Design & Visual Arts, with no summer research pay and only a small amount of additional teaching pay.

In the **Brown School**, women earn 2.6% to 7.9% less than men after accounting for other covariates. As with Arts & Sciences and Law, this gap was lower after taking out external funding. External funding was more common for male vs. female faculty members (89% vs. 65%).

In **Law**, women earn 3.4% to 6.4% less than men, after accounting for other covariates. Unlike most other schools, almost all summer research pay in Law is internally funded under the discretion of the Dean.

Replicating previous GPE Appointment models to generate historically comparable results: “The B Models”

For comparison purposes, we reviewed results from a set of historically comparable models that analyzed 2014-15 appointment salary data by repeating the multiple regression models used in the past. The analyses were run separately for each school on the Danforth Campus. The 2010 and 2012 studies analyzed 9-month-Adjusted Appointment Salary. The salaries of faculty members with 12-month appointments were adjusted to 9-month equivalency. The log of 9-month Adjusted Appointment Salary was regressed on gender controlling for all the covariates included in the previous studies. These control variables included: discipline group (for all schools except Law), years since terminal degree and its squared term, years at Washington University and its squared term, rank (associate, full professor, and endowed chair), underrepresented ethnic minorities (URM), a single dummy variable flagging faculty with an administrative role with additional salary. The gender difference is measured by the coefficient for female produced by the models. This allowed a direct comparison of 2014-15 with 2011-12 and 2008-09 results. The results of these models are summarized in Table 6, by School.

Table 6. Historical comparisons over time of models for appointment salary on the Danforth Campus, 2008-09 to 2014-15.

School		B-Models			
		2008-09	2011-12	2014-15	
		9 month Adj. Appointment Salary	9 month Adj. Appointment Salary	9 month Adj. Appointment Salary	Full Appointment Salary
A&S	Adjusted R-squared	0.82	0.81	0.83	0.84
	coefficient for female	-1.2%	-0.8%	-0.8%	-0.6%
Business	Adjusted R-squared	0.91	0.88	0.84	0.88
	coefficient for female	-3.7%	0.5%	4.4%	4.2%
D&VA	Adjusted R-squared	0.83	0.87	0.87	0.85
	coefficient for female	-5.0%	1.4%	-2.2%	-2.2%
Engineering	Adjusted R-squared	0.75	0.71	0.79	0.80
	coefficient for female	-0.8%	-0.6%	-1.7%	-2.0%
Law	Adjusted R-squared	0.44	0.41	0.52	0.58
	coefficient for female	-3.0%	-3.1%	-6.8%	-5.3%
Brown School	Adjusted R-squared	0.90	0.92	0.93	0.93
	coefficient for female	-4.1%	1.9%	-2.7%	-3.0%

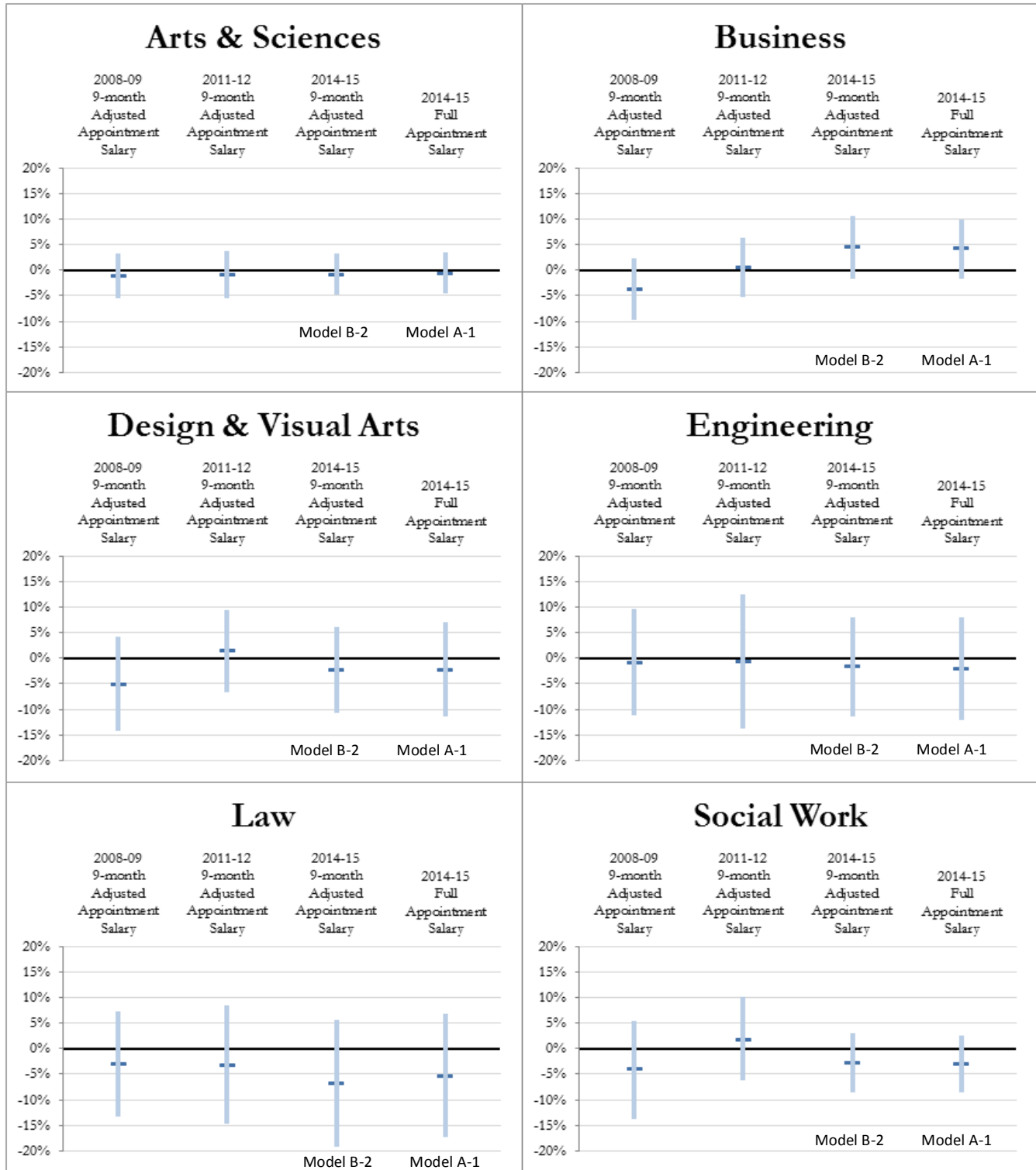
Based on these models with the former methodology, shown in the first three columns in Table 6—which examine 9-month-Adjusted Appointment Salary—four of the six Schools made progress in reducing gender pay inequity since the 2008-09 study. Figure 2 shows the plot of female coefficients and 2 times the standard error for the estimate of the coefficient.

In Business, the 9-month Adjusted Appointment Salary models showed that the women faculty earned 4.4% higher salaries than men in 2014-2015 compared to 3.7% lower in 2008-09 after accounting for other covariates—although we note that this needs to be interpreted in the context of the other set of models being presented using actual pay. The gap increased in magnitude in Engineering and Law. Between 2011-12 and 2014-15 the gender gap in pay has widened in Law, Engineering, Design & Visual Arts, and the Brown School.

The last column of Table 6 provides results of modeling Full Appointment Salary using the same set of predictors for comparison purposes. (In the interest of clarity, note that Full Appointment Salary is not the same as Total Actual Pay, in that it does not include supplemental sources of compensation such as summer research and supplemental teaching.) The analysis of Full Appointment Salary shows that the models are as strong as or stronger than those for the 9-month Adjusted Appointment Salary; the R-squared value is higher for four of the six Schools, and is the same for the sixth School. Full Appointment Salary is a more complete

reflection of faculty salary, and it is less subject to error. For future studies we recommend replacing 9-month Adjusted Appointment Salary with Full Appointment Salary as the dependent variable in models based on appointment salary data.

Figure 2. Plot of historical coefficients for female with 2x standard error of estimate of coefficient for female



Recommendations for Further Investigation

The results above raised a number of questions that may warrant further investigation, but were outside the scope of the current study.

1. Two of the sources of gender pay inequity may warrant separate investigations—both to understand them better as well as to consider potential remedies.
 - a. The first is that there is a gender difference in taking on extra administrative roles and extra teaching. The Committee notes multiple potential explanations for this difference, and does not endorse any one in particular. It is possible that women have lesser access to these opportunities. It is alternately possible that they have equal access, and that they make a choice to partake less in these opportunities. This could result from other interests or priorities. Understanding the cause of this gender difference is important for determining whether and how to address it.
 - b. The second is that there is a gender difference in external grant funding. The Committee recognizes that these grants are determined outside the discretion of the university; however, the University may still play a role, depending on the deeper cause of the difference. As with administrative roles and teaching, the Committee presents hypotheses without endorsing any of them.
 - i. One possible explanation is that male faculty members may be submitting proposals that are objectively more competitive and/or in greater frequency or volume. If so, this difference could potentially be addressed with mentoring and support for grant writing. Much of the information about how to write a successful grant proposal is provided informally through senior colleagues and other professional network connections. These informal sources might be less available to female faculty members. There are unwritten norms about how to craft a successful proposal and what amounts and types of expenses are considered reasonable by granting agencies. Further, there are informal sources about special calls for proposals, and information about these solicitations is often disseminated through faculty members' networks. A study of NIH funding found that women had lower application rates to funding programs, particularly for cohorts of greater age¹³. A different committee might further investigate differences in grant funding. It could study to what extent there are gender differences in, e.g., the number of proposals, amounts, sources, acceptance rates, and other factors, and could consider responses to remedy any differences on a gender-neutral basis.
 - ii. Another theoretically possible explanation is that there could be discrimination in the grant review process. The same study of NIH funding found that male and female investigators have comparable success rates for most categories of funding, e.g., early-stage applicants and new applications, but not for all categories. For example, experienced male vs. female investigators had higher success rates with grant renewals, and received greater direct costs in certain programs in spite of no greater requests.

¹³ Pohlhaus, J. R., Jiang, H., Wagner, R. M., Schaffer, W. T., & Pinn, V. W. (2011). Sex differences in application, success, and funding rates for NIH extramural programs. *Academic Medicine*, 86, 759-767.

2. The Committee's analyses were restricted to financial compensation. They did not review potential gender differences in teaching load and/or teaching releases, the number of unique course preparations, the quantity of lab space, spousal hiring, and the magnitude of start-up packages. These issues were raised by the Subcommittee that made methodological recommendations for the GPE, but were beyond the scope of the Committee's analysis.
3. The current GPE study made use only of data from the 2014-15 calendar year, which represents a snapshot at a particular moment in time. Greater insight into determinants of pay might be gleaned from a longitudinal analysis of data from multiple years. For example, it is possible that male faculty members might have greater discontinuities in their salary over the course of their careers. This could take place if there are more substantial adjustments made at the time of a promotion or retention offer. The issue of discontinuities was outside the scope of the current Committee.
4. Committees to examine Gender Pay Equity at Washington University should continue on a regular basis, with intervals no greater than 3-4 years. This provides an opportunity to monitor gender differences and to note improvements made by the Deans over time.

Policy Recommendations

1. *Pay transparency:*
The Committee recommends greater pay transparency at Washington University. Because the gender gap is the greatest for supplemental pay, we recommend greater information sharing about forms of pay other than nine-month appointment salary. The Committee acknowledges the tradeoff between confidentiality and providing information. To the extent it is possible without compromising confidentiality, the types of information that would be helpful to release include extra pay provided to faculty members for grants, administrative roles, and summer support.
2. *Resources for grant writing:*
Given that male faculty members receive a greater amount of extramural grant funding, we suggest increasing the resources available to support maximally competitive grant applications from all faculty members. Dedicated staff members could help to identify potential sources of funding for each interested faculty member. A mentorship program could systematically encourage more 'friendly review' of proposals and informal discussions about grant writing. Resources could be provided for seed funds to demonstrate the feasibility of proposals, and for the paid external review of manuscripts. An internal committee could be used for vetting proposals and providing feedback in advance of submitting them to grant agencies. To the extent that gender differences in grant funding could result from differences in informal networks, this gap could be bridged through targeted efforts.
3. *Monitoring gender differences in negotiated compensation:*
Negotiations should be monitored for potential gender differences. It was noted that the gender differences appeared the most strongly when analyzing actual pay rather than appointment salary, which has been the primary dependent measure for past Gender Pay Equity committees. This resulted from greater gender differences in supplemental forms of pay. The new finding is consistent with academic research that demonstrates that female salary differentials tend to appear in settings when compensation is more discretionary, sometimes unclear, and individually negotiated¹⁴. It is also

¹⁴ Bowles, H. R., Babcock, L. & McGinn, K.L. (2005) Constraints and triggers: Situational mechanics of gender in negotiation. *Journal of Personality and Social Psychology*, 89, 951–965.

a well-established finding that women vs. men achieve lower gains through negotiating their compensation¹⁵. As such, we note the likely role of negotiation in contributing to gender pay inequity at Washington University. Further, salary adjustments are often made when negotiating retention offers due to outside job offers. It is possible that there are gender differences in seeking outside opportunities and that female faculty members may be less likely to obtain outside offers, controlling for quality of scholarship. The first reason is structural, in the sense that they may be less willing to disrupt their family life. The second reason is perceptual, as they may be seen by colleagues at other universities as less ‘movable’, and for this reason they may not be considered in the applicant pool when senior-level positions are filled through searches that rely heavily on informal networks.

- a. Given the far-reaching implications of negotiated agreements on salary, the Committee urges that Deans be particularly mindful of potential gender differences in their salary negotiations, at both the time of initial hiring and retention negotiations. Initial salary serves as an important benchmark for future salary increases. The Committee recognizes the dilemma during salary negotiations to balance equitable treatment with market forces based both on quality of scholarship and the ability to negotiate.
 - b. Given that it is possible there are gender differences in the willingness to seek outside opportunities, Deans should be mindful of how gender inequity could seep into the process. Accordingly, the Committee recommends that when outside job offers are presented to a Dean or department chair, that Deans record this information and provide it confidentially to the Provost on a yearly basis. In particular, this information should include the institution and job level of the offer and whether or not the faculty member was retained. If the faculty member was retained, the record should include their new salary and job level. If the faculty member was not retained, the record should include a brief description of what efforts were made to retain the faculty member. Overall, the university should not reward individuals differentially for their willingness to look outside of the school.
4. *Equal access to supplemental sources of pay*
Deans should ensure equal access for female and male faculty members to opportunities for supplemental pay. One way to check for equal access would be for the Provost to request information from Deans regarding the process by which opportunities are offered for additional administrative roles, teaching pay, summer research pay, and other sources of additional pay applicable to the School.

Methodological Recommendations for Future GPE studies

In general, we believe that the revised GPE study represents a substantial methodological improvement over previous studies, and appreciate the guidance provided by past committees and other stakeholders. Based on the results, we have suggestions regarding studies going forward:

1. *Replace 9-month Adjusted Appointment Salary with Total Appointment Salary as the dependent variable for Appointment Salary GPE models.* To come to this conclusion, we reviewed data from 3 different models using 2014-15 data. Model 1 used 9-month adjusted appointment salary, traditional discipline group, and 1 additional role indicator. Model 2 regressed Full appointment Salary and the same set of

¹⁵ For recent comprehensive reviews, see: Mazei, J., Hüffmeier, J., Freund, P. A., Stuhlmacher, A. F., Bilke, L., & Hertel, G. (2015). A meta-analysis on gender differences in negotiation outcomes and their moderators. *Psychological Bulletin*, 141, 85-104. Kennedy, J. A., & Kray, L. J. (2015). A pawn in someone else's game? The cognitive, motivational, and paradigmatic barriers to women's excelling in negotiation. *Research in Organizational Behavior*, 35, 3-28.

covariates as Model 1. Model 3 used the same dependent variable as model 2, but used one discipline-rank index variable, and 2 additional role variables. Appendix 6 (appendices 6a & 6b) provide a comparison of these three models using 2014-15 data. In the past, the salary for additional roles such as department chair were assumed to be for 12-months and the base faculty salary for 9 months. We adjusted the additional role stipend, and for any faculty salaries that were classified as 12-month to 9/12ths of its value to attain 9-month equivalency. In working with the 2014-15 data, we observed that this practice tends to slightly understate the annual salaries for those with additional roles; also, that there are inconsistencies in whether schools classify faculty salaries as 12-month versus 9-month. For these reasons, and particularly to recognize the full impact of additional role salaries, we recommend discontinuing use of 9-month adjusted appointment salary as the measure of compensation.

2. Two aspects of the traditional models were considered particularly problematic and noted by previous Committees: discipline groups (intended to capture market differences in salary among disciplines) and the flagging of all additional salaried roles into one dummy variable. The 2016 Committee explored these issues and developed refinements to the traditional model in the two ways below, which we advocate to continue with further GPE studies as well:
 - a. *Replace traditional discipline groups with a single index variable* that captures the relative market compensation of each rank/discipline group by referencing an external database of average salaries at a peer group of 42 research universities. The advantages of the new index variable over the traditional discipline groups are that it removes the arbitrariness of grouping decisions and that it reflects *external* salary market differences among disciplines.
 - b. *Replace the single additional salaried role variable with two variables to distinguish between relatively major and minor additional roles.* The report of the 2011-12 GPE Committee noted that there was a wide range in additional roles and related additional salaries and that Engineering models that only flagged Department Chair/Equivalent roles produced stronger R^2 values indicating a better fit to the data. This concept was expanded to all schools by making two new variables, one to flag Department Chair/Equivalent Roles and one for Other Salaried Additional Roles. Flagging for these new variables is based on the job title associated with the additional role, not by any individual's salary for that role.
3. The GPE Sub-Committee raised a concern that women may be spending a longer time as Associate Professors than men, thus affecting their salary. The GPE Committee reviewed the results of 27 years of faculty records of ranks for tenured and tenure track faculty at Washington University (1987-88 to 2013-2014), encompassing a total of 389 faculty who spent time in the Associate Professor rank (or were promoted directly from Assistant to Full) during this time period. On average men spent 7.5 years and women spent 7.4 years as associate professors, indicating that men and women spend similar number of years at this rank. More in-depth analysis within school and discipline found substantially similar results. There may be other questions about differences between men's and women's experiences in promotion that could be investigated with what is called an *idiographic* approach, because individuals who stay at the university have varying levels of career attainment and individuals who depart the university do so for a range of qualitatively different reasons.

APPENDICES

Appendix 1. Kinds of Faculty Pay: Actual Pay for 2014-15 for 671 GPE Analysis Faculty

Category	Earnings Description	Amount Paid	% of Total
Regular (corresponds to "Appointment Salary")	Regular Pay -- Academic Year	\$91,751,855	
	Regular - Add'l (Annuity Elig)	\$228,193	
	Regular (11-12)	\$3,386,857	
Regular Total		\$95,366,904	88%
Summer Research Total	Summer Research	\$10,192,844	9%
Additional Teaching	Adjunct Pay	\$29,224	
	Lecture Fees	\$669,243	
	Moonlighting	\$8,069	
	Overload Pay	\$1,416,950	
	Summer School	\$144,699	
	Univ. College Annuity Only	\$301,836	
	University College	\$8,000	
Additional Teaching Total		\$2,578,021	2%
Other/Miscellaneous	Advisor Pay	\$27,125	
	Bonus - Discretionary	\$260,000	
	Consultant Fees	\$3,525	
	Honorarium	\$108,214	
	Incidental Other (Not In PARS)	\$26,359	
	Miscellaneous Other (In PARS)	\$35,600	
	Prize/Award - Cash Payment	\$54,602	
	Project Pay	\$238,901	
Other/Miscellaneous Total		\$754,326	1%
Total Actual Pay		\$108,892,095	100%

Appendix 2. Additional Roles

Appendix 2a. Percentage of tenured faculty members holding salaried additional roles, by gender¹⁶

2014-15, Tenured Faculty

		Number of Tenured Faculty	Holding a chair/ equivalent role # and %	Holding other additional role # and %	Holding any salaried additional role # and %
Arts & Sciences	Women	92	6 7%	6 7%	12 13%
	Men	203	20 10%	19 9%	39 19%
Business	Women	7	0 0%	0 0%	0 0%
	Men	29	5 17%	9 31%	14 48%
Design & Visual Arts	Women	11	1 9%	4 36%	5 45%
	Men	22	1 5%	3 14%	4 18%
Engineering	Women	6	0 0%	2 33%	2 33%
	Men	52	6 12%	6 12%	12 23%
Law	Women	20	3 15%	3 15%	6 30%
	Men	18	1 6%	1 6%	2 11%
Brown School	Women	15	0 0%	0 0%	0 0%
	Men	11	0 0%	1 9%	1 9%

We note gender differences in faculty members taking on salaried additional roles. Such roles were more prevalent for men vs. women in Arts & Sciences and Business. However, such roles were more prevalent for women vs. men in Design & Visual Arts, Law, and Engineering. For chair or equivalent high-ranking roles, these were more prevalent for men in Arts & Sciences, Business, and Engineering, and more prevalent for women in Law and Design & Visual Arts.

¹⁶ There were no salaried additional administrative roles in 2014-15 for the Brown School.

Appendix 2. Additional Roles, Continued

Appendix 2b. Comparison of New and Old Additional Role Counts Used for GPE Analysis by year, gender, school, and type of role

		2008-09			2011-12			2014-15		
		Men	Women	Total	Men	Women	Total	Men	Women	Total
A&S	Major Roles: Dept Chair or Equivalent							20	6	26
	Other Roles with Appointment Salary							19	6	25
	Subtotal Holding Additional Salaried Administrative Roles	35	17	52	37	16	53	39	12	51
	No Additional Role							221	117	338
	Total	271	110	381	264	111	375	260	129	389
Business	Major Roles: Dept Chair or Equivalent							5	0	5
	Other Roles with Appointment Salary							9	0	9
	Subtotal Holding Additional Salaried Administrative Roles	7	0	7	11	0	11	14	0	14
	No Additional Role							37	17	54
	Total	47	10	57	52	15	67	51	17	68
D&VA	Major Roles: Dept Chair or Equivalent							1	1	2
	Other Roles with Appointment Salary							3	4	7
	Subtotal Holding Additional Salaried Administrative Roles	2	1	3	0	5	5	4	5	9
	No Additional Role							23	9	32
	Total	23	14	37	26	18	44	27	14	41
Engineering	Major Roles: Dept Chair or Equivalent							6	0	6
	Other Roles with Appointment Salary							6	2	8
	Subtotal Holding Additional Salaried Administrative Roles	6	0	6	14	1	15	12	2	14
	No Additional Role							64	8	72
	Total	73	8	81	66	7	73	76	10	86
Law	Major Roles: Dept Chair or Equivalent							1	3	4
	Other Roles with Appointment Salary							1	3	4
	Subtotal Holding Additional Salaried Administrative Roles	5	5	10	7	6	13	2	6	8
	No Additional Role							19	16	35
	Total	25	20	45	21	22	43	21	22	43
Brown School	Major Roles: Dept Chair or Equivalent							0	0	0
	Other Roles with Appointment Salary							1	0	1
	Subtotal Holding Additional Salaried Administrative Roles	7	5	12	1	1	2	1	0	1
	No Additional Role							17	26	43
	Total	17	15	32	16	21	37	18	26	44
Danforth Overall	Major Roles: Dept Chair or Equivalent							33	10	43
	Other Roles with Appointment Salary							39	15	54
	Subtotal Holding Additional Salaried Administrative Roles	62	28	90	70	29	99	72	25	97
	No Additional Role							381	193	574
	Total	456	177	633	445	194	639	453	218	671

Appendix 3. Ratio of the average salary for ladder rank faculty among WU Peers in each discipline/rank, to the minimum value in this set

WU School	Discipline grouping	Department / Discipline	Assistant Professor	Associate Professor	Professor	
Arts & Sciences	Anthropology	Anthropology	1.23	1.44	2.29	
	Economics	Economics	2.15	2.69	3.96	
	English & History	English	English	1.16	1.40	2.30
		History	History	1.20	1.48	2.47
		Religion/Religious Studies	Religion/Religious Studies	1.18	1.44	2.32
	Science & Math	Biology	Biology	1.38	1.57	2.49
		Chemistry	Chemistry	1.38	1.59	2.74
		Earth & Planetary Sciences	Earth & Planetary Sciences	1.40	1.62	2.42
		Mathematics	Mathematics	1.34	1.56	2.49
		Physics	Physics	1.47	1.66	2.54
		Psychological & Brain Sciences	Psychological & Brain Sciences	1.41	1.62	2.53
		Languages & Literatures, Art History	African & African American Studies	1.18	1.64	2.52
	Art History	Art History	1.15	1.43	2.36	
	Classics	Classics	1.11	1.43	2.23	
	East Asian Languages & Cultures	East Asian Languages & Cultures	1.19	1.40	2.23	
	Germanic Languages & Lit	Germanic Languages & Lit	1.11	1.41	2.26	
	Jewish, Islamic & Near Eastern	Jewish, Islamic & Near Eastern	1.13	1.42	2.09	
	Romance Languages & Lit	Romance Languages & Lit	1.11	1.33	2.16	
	Music, Performing Arts, Film	Film & Media Studies	Film & Media Studies	1.08	1.40	2.22
		Music	Music	1.09	1.35	1.95
		Performing Arts	Performing Arts	1.07	1.29	1.91
	Philosophy, Education, WGS	Philosophy	Philosophy	1.24	1.53	2.54
		Education	Education	1.22	1.46	2.26
Women, Gender & Sexuality Studies		Women, Gender & Sexuality Studies	1.15	1.41	2.14	
Political Science	Political Science	1.43	1.76	2.90		
Business	Accounting	Accounting	3.06	3.05	3.76	
	Business - comparable to WU faculty	Business - comparable to WU faculty	2.63	2.94	4.28	
	Economics	Economics	2.15	2.69	3.96	
	Finance	Finance	3.10	3.26	4.39	
	Marketing	Marketing	2.46	2.60	3.77	
Design & Visual Arts	Architecture	Architecture	1.23	1.52	2.27	
	Art	Art	1.00	1.31	1.83	
Engineering	Biomedical Engineering	Biomedical Engineering	1.57	1.84	2.82	
	Computer Science & Engineering	Computer Science & Engineering	1.63	1.87	2.68	
	Electrical & Systems Engineering	Electrical & Systems Engineering	1.59	1.84	2.65	
	Energy, Environmental & Chemical Engineering	Energy, Environmental & Chemical Engineering	1.58	1.83	2.75	
	Mechanical Engineering & Materials Science	Mechanical Engineering & Materials Science	1.53	1.78	2.55	
Law	School of Law		2.16	3.74		
Brown School	Public Health	Public Health	1.56	2.03	3.07	
	Social Work	Social Work	1.45	1.73	2.82	

As an example of how to interpret this peer institution data, on average an assistant professor in anthropology earns about 23% (index value=1.23) more than an assistant professor in art (index=1). All assistant professors in art received an index value of 1, those in history in the same rank received an index value of 1.20, social work assistant professors received an index value of 1.45, and so on.

Appendix 4. Faculty excluded from 2014-15 GPE study

Criteria		by gender	
		men	women
1	The Chancellor, Provost and Provost Emeritus were excluded because they are currently in full-time administrative non-faculty roles.	3	
2	Two tenured persons excluded because their primary appointments and FTE are for administrative non-faculty roles: Associate Vice Chancellor for Academic Affairs with 67% in administrative role and Associate Vice Chancellor for Students and Associate Dean of Arts & Sciences for Data Analysis with 95% in administrative roles.	1	1
3	Deans of each of the six schools excluded because currently in full-time administrative roles.	4	2
4	Former school deans are excluded for a 3-year period after stepping down because 3 years is the typical pay transition period from dean salary (set by the Chancellor) to faculty salary (set within a school by School Dean).	1	
5	Former interim deans are included if we cannot determine if a future salary reduction is expected related to the termination of an interim dean role.	0	0
6	Dean of the Graduate School and Dean of the College of Arts & Sciences	1	1
7	Former Dean of Graduate School excluded for 3 years after stepping down because 3 years is the typical pay transition period from dean salary driven by the administrative role.	1	
8	Special case: a tenured faculty formerly in WU Dental School holds a courtesy "home" department appointment in Arts & Sciences but no history or expectation of teaching and functionally does not perform a full-time faculty role in the courtesy home department; a unique case that prior Committees recommended be excluded from the analysis and this Committee concurred.		1
9	Faculty on unpaid leaves that have extended beyond one full year were excluded. These cases receive no actual pay and their nominal appointment salaries typically remain frozen reflecting functionally inactive status.	3	
10	Unique case: one recently recruited tenured faculty is a Distinguished University Professor with job and salary set by the Provost and Chancellor outside of any school affiliation; although the person holds joint appointments in two Danforth schools they are not part of the "regular" faculty in either school. Because there is not a primary appointment relationship with the schools in this study, the Committee, after lengthy discussion, decided to omit this unique case from the analysis.		1
Total exclusions of faculty holding tenure for the 2014-15 Danforth GPE analysis		14	6

Notes: Items 4, 5 and 9 include data handling changes made by the 2016 Committee from previous analyses. Item 10 is a new situation and was not considered in previous studies.

Appendix 5. Comparison of key predictors in 2011-2012 and 2014-15 Models

	Using previous independent variables		Using new and improved independent variables		
	9-month Adj. Appointment Salary	Full Appointment Salary	Full Appointment Salary	Actual Pay	Actual Pay minus ext. fund. summer research
	Model B-1	Model B-2	Model A-1	Model A-2	Model A-3
Gender (indicator for female)	✓	✓	✓	✓	✓
Discipline group – set of indicator variables	✓	✓			
Discipline & rank index of peer salaries			✓	✓	✓
Underrepresented Minority	✓	✓	✓	✓	✓
Tenured associate professor	✓	✓	✓	✓	✓
Full professor	✓	✓	✓	✓	✓
Endowed Professor	✓	✓	✓	✓	✓
Salaried Additional Role	✓	✓			
Salaried Additional Role: Chair/Equivalent			✓	✓	✓
Salaried Additional Role: Other			✓	✓	✓
Years since degree	✓	✓	✓	✓	✓
Years since degree, squared	✓	✓	✓	✓	✓
Years at WU on Tenure Track	✓	✓	✓	✓	✓
Years at WU, squared	✓	✓	✓	✓	✓

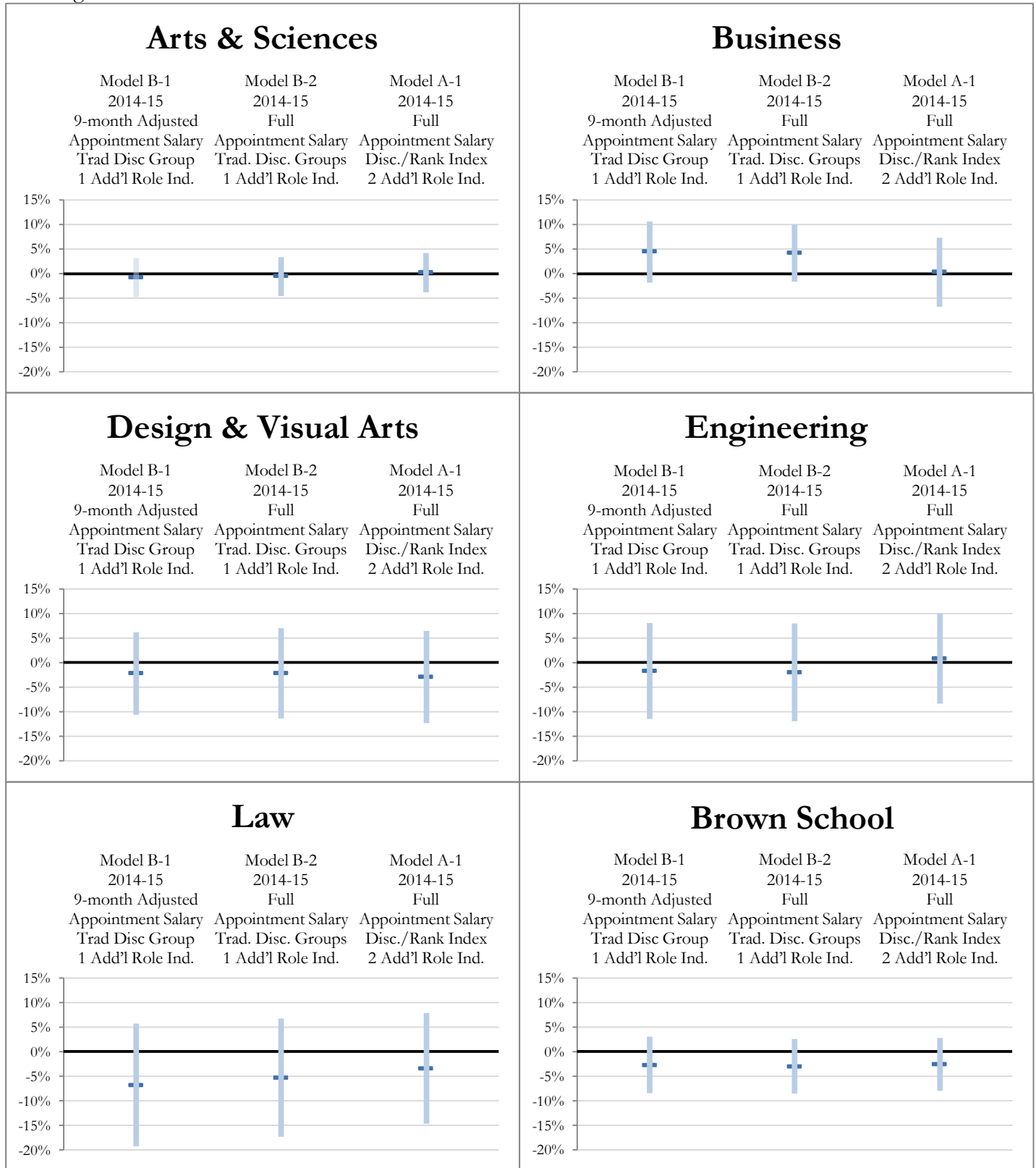
Appendix 6. Showing Model Changes

Appendix 6a. Comparing Old and New Approaches: Comparing the 2014-15 models using the traditional approach with three new refinements.

School		2014-15 9-month Adjusted Appointment Salary Trad Disc Group 1 Add'l Role Indic.	2014-15 Full Appointment Salary Trad. Disc. Groups 1 Add'l Role Indic.	2014-15 Full Appointment Salary Disc./Rank Index 2 Add'l Role Indic.
		Model B-1	Model B-2	Model A-1
Arts & Sciences	Adjusted R square	0.83	0.84	0.82
	coefficient for female	-0.8%	-0.6%	0.2%
Business	Adjusted R square	0.84	0.88	0.82
	coefficient for female	4.4%	4.2%	0.3%
Design & Visual Arts	Adjusted R square	0.87	0.85	0.85
	coefficient for female	-2.2%	-2.2%	-2.9%
Engineering	Adjusted R square	0.79	0.80	0.83
	coefficient for female	-1.7%	-2.0%	0.8%
Law	Adjusted R square	0.52	0.58	0.64
	coefficient for female	-6.8%	-5.3%	-3.4%
Brown School	Adjusted R square	0.93	0.93	0.94
	coefficient for female	-2.7%	-3.0%	-2.6%

Appendix 6. Showing Model Changes, Continued

Appendix 6b. Graphs Comparing Traditional and Revised approaches: 2014-15 Appointment Salary
 Removing adjustment to appointment salary, revising discipline group and additional role variables
 Showing coefficient for female with 2x the standard error of the estimate of coefficient for female.



Appendix 7: Tenured and Tenure Track Faculty Profile over Three GPE Studies

Appendix 7a: School of Arts & Sciences

		2008-09			2011-12			2014-15		
		Men	Women	Total	Men	Women	Total	Men	Women	Total
By Rank	Assistant Professors	52	44	96	53	33	86	55	36	91
	Associate Professors without Tenure	-	-	-	-	-	-	2	1	3
	Associate Professors with Tenure	56	32	88	54	42	96	61	49	110
	Full Professors	119	24	143	110	25	135	93	29	122
	Full Professors with Endowed Chairs	44	10	54	47	11	58	49	14	63
	Total	271	110	381	264	111	375	260	129	389
By 8 Discipline Groups	Anthropology	17	6	23	16	9	25	13	12	25
	Economics	23	2	25	22	1	23	22	2	24
	English and History	30	19	49	28	24	52	29	27	56
	Foreign Lang. & Lit, Classics, Art Hist.	27	34	61	26	31	57	28	32	60
	Music, Performing Arts, Film & Media	15	3	18	16	3	19	17	6	23
	Natural Sciences, Math, Psychology	120	28	148	117	26	143	117	29	146
	Philosophy, Education, Other	18	12	30	18	10	28	15	15	30
	Political Science	21	6	27	21	7	28	19	6	25
	Total	271	110	381	264	111	375	260	129	389
By race /ethnicity	African American	7	5	12	6	7	13	9	9	18
	Hispanic and Native American	9	3	12	11	2	13	10	3	13
	URM Total	16	8	24	17	9	26	19	12	31
	Asian	14	11	25	15	14	29	14	13	27
	White, Other	241	91	332	232	88	320	227	104	331
	Total	271	110	381	264	111	375	260	129	389
Additional Appointment Salary for Additional Admin Role	Major Roles: Dept Chair or Equivalent							20	6	26
	Other Roles with Appointment Salary							19	6	25
	Total Holding Additional Salaried Administrative Roles	35	17	52	37	16	53	39	12	51
Received Pay for Summer Research	Externally Funded							80	18	98
	WU Funded							44	19	63
	Total with Summer Research Pay							100	30	130
Received Pay for Additional Teaching	Yes							36	13	49
	No							224	116	340
	Total with Pay for Additional Teaching							260	129	389
Received Other Misc. Pay	Yes							48	22	70
	No							212	107	319
	Total with Other Misc Pay							260	129	389

Appendix 7: Tenured and Tenure Track Faculty Profile over Three GPE Studies, Continued
Appendix 7b: Olin School of Business

		2008-09			2011-12			2014-15		
		Men	Women	Total	Men	Women	Total	Men	Women	Total
Professors by Rank	Assistant Professors	20	5	25	22	10	32	20	9	29
	Associate Professors without Tenure	1	1	2	1	1	2	2	1	3
	Associate Professors with Tenure	6	2	8	8	1	9	8	4	12
	Full Professors	6	1	7	7	2	9	2	2	4
	Full Professors with Endowed Chairs	14	1	15	14	1	15	19	1	20
	Total	47	10	57	52	15	67	51	17	68
By Discipline Groups	Accounting	5	2	7	5	2	7	5	2	7
	Economics and Statistics	6	1	7	8	2	10	6	1	7
	Finance	12	0	12	14	1	15	16	3	19
	Marketing	8	2	10	8	3	11	8	4	12
	Operations & Manuf. Mgmt	5	2	7	5	2	7	5	2	7
	Organizational Behavior	6	2	8	6	3	9	6	3	9
	Strategy	5	1	6	6	2	8	5	2	7
	Total	47	10	57	52	15	67	51	17	68
By race /ethnicity	African American	0	0	0	0	2	2	0	3	3
	Hispanic, Native Amer, Pacific Islander	2	0	2	2	0	2	3	0	3
	Underrepresented Minority Total	2	0	2	2	2	4	3	3	6
	Asian	12	4	16	12	6	18	12	4	16
	White, Other	33	6	39	38	7	45	36	10	46
	Total	47	10	57	52	15	67	51	17	68
Additional Appointment Salary for Additional Admin Role	Major Roles: Dept Chair or Equivalent							5	0	5
	Other Roles with Appointment Salary							9	0	9
	Total Holding Additional Salaried Administrative Roles	7	0	7	11	0	11	14	0	14
Received Pay for Summer Research	Externally Funded							2	0	2
	WU Funded							42	16	58
	Total w/ Summer Research Funding							42	16	58
Received Pay for Additional Teaching	Yes							28	6	34
	No							23	11	34
	Total Faculty							51	17	68
Received Other Misc. Pay	Yes							21	2	23
	No							30	15	45
	Total Faculty							51	17	68

Appendix 7: Tenured and Tenure Track Faculty Profile over Three GPE Studies, Continued
Appendix 7c: Sam Fox School of Design & Visual Arts

		2008-09			2011-12			2014-15		
		Men	Women	Total	Men	Women	Total	Men	Women	Total
Professors by Rank	Assistant Professors	4	5	9	3	6	9	5	3	8
	Associate Professors with Tenure	9	7	16	11	8	19	8	8	16
	Full Professors	7		7	8	2	10	7	1	8
	Full Professors with Endowed Chairs	3	2	5	4	2	6	7	2	9
	Total	23	14	37	26	18	44	27	14	41
By Discipline Groups	Architecture	13	4	17	14	7	21	13	6	19
	Art	10	10	20	12	11	23	14	8	22
	Total	23	14	37	26	18	44	27	14	41
By race /ethnicity	African American	1	1	2	1	1	2	0	1	1
	Hispanic, Native Amer, Pacific Islander	0	0	0	0	0	0	1	1	2
	Underrepresented Minority Total	1	1	2	1	1	2	1	2	3
	Asian	1	1	2	2	1	3	2	0	2
	White, Other	21	12	33	23	16	39	24	12	36
	Total	23	14	37	26	18	44	27	14	41
Additional Appointment Salary for Additional Admin Role	Major Roles: Dept Chair or Equivalent							1	1	2
	Other Roles with Appointment Salary							3	4	7
	Total Holding Additional Salaried Administrative Roles	2	1	3	0	5	5	4	5	9
Received Pay for Summer Research	Externally Funded							0	0	0
	WU Funded							0	0	0
	Total w/ Summer Research Funding							0	0	0
Received Pay for Additional Teaching	Yes							6	1	7
	No							21	13	34
	Total Faculty							27	14	41
Received Other Misc. Pay	Yes							5	3	8
	No							22	11	33
	Total Faculty							27	14	41

Appendix 7: Tenured and Tenure Track Faculty Profile over Three GPE Studies, Continued
Appendix 7d: School of Engineering & Applied Sciences

		2008-09			2011-12			2014-15		
		Men	Women	Total	Men	Women	Total	Men	Women	Total
Professors By Rank	Assistant Professors	13	4	17	11	5	16	23	4	27
	Associate Professors without Tenure				1	0	1	1	0	1
	Associate Professors with Tenure	20	2	22	20	2	22	17	4	21
	Full Professors	15	1	16	13	0	13	15	1	16
	Full Professors with Endowed Chairs	25	1	26	21	0	21	20	1	21
	Total	73	8	81	66	7	73	76	10	86
By Discipline Groups	Biomedical Engineering	14	1	15	15	1	16	17	2	19
	Computer Science & Engineering	21	3	24	17	3	20	20	3	23
	Electrical & Systems Engineering	15	1	16	11	1	12	12	1	13
	Energy, Env. & Chem Engineering	12	2	14	13	2	15	15	2	17
	Mechanical Eng. & Materials Sci	11	1	12	10		10	12	2	14
	Total	73	8	81	66	7	73	76	10	86
By race /ethnicity	African American	0	0	0	0	0	0	1	0	1
	Hispanic, Native Amer, Pacific Islander	0	0	0	0	0	0	2	0	2
	Underrepresented Minority Total	0	0	0	0	0	0	3	0	3
	Asian	22	3	25	24	4	28	28	5	33
	White, Other	51	5	56	42	3	45	45	5	50
	Total	73	8	81	66	7	73	76	10	86
Additional Appointment Salary for Additional Admin Role	Major Roles: Dept Chair or Equivalent							6	0	6
	Other Roles with Appointment Salary							6	2	8
	Total Holding Additional Salaried Administrative Roles	6	0	6	14	1	15	12	2	14
Received Pay for Summer Research	Externally Funded							57	7	64
	WU Funded							41	5	46
	Total w/ Summer Research Funding							62	9	71
Received Pay for Additional Teaching	Yes							4	0	4
	No							72	10	82
	Total Faculty							76	10	86
Received Other Misc. Pay	Yes							12	2	14
	No							64	8	72
	Total Faculty							76	10	86

Appendix 7: Tenured and Tenure Track Faculty Profile over Three GPE Studies, Continued
Appendix 7e: School of Law

		2008-09			2011-12			2014-15		
		Men	Women	Total	Men	Women	Total	Men	Women	Total
Professors by Rank	Associate without Tenure	3	2	5	3	2	5	3	2	5
	Full Professors	11	10	21	11	11	22	8	10	18
	Full Professors with Endowed Chairs	11	8	19	7	9	16	10	10	20
	Total Faculty	25	20	45	21	22	43	21	22	43
By race /ethnicity	African American	1	2	3	0	3	3	0	3	3
	Hispanic, Native Amer, Pacific Islander	0	0	0	0	0	0	0	0	0
	Underrepresented Minority Total	1	2	3	0	3	3	0	3	3
	Asian	1	1	2	3	1	4	3	1	4
	White, Other	23	17	40	18	18	36	18	18	36
	Total Faculty	25	20	45	21	22	43	21	22	43
Additional Appointment Salary for Additional Admin Role	Major Roles: Dept Chair or Equivalent							1	3	4
	Other Roles with Appointment Salary							1	3	4
	Total Faculty	5	5	10	7	6	13	2	7	9
Received Pay for Summer Research	Externally Funded							1	0	1
	WU Funded							19	17	36
	Total Faculty							19	17	36
Received Pay for Additional Teaching	Yes							5	4	9
	No							16	18	34
	Total Faculty							21	22	43
Received Other Misc. Pay	Yes							3	3	6
	No							18	19	37
	Total Faculty							21	22	43

Appendix 7: Tenured and Tenure Track Faculty Profile over Three GPE Studies, Continued
Appendix 7f: George Warren Brown School of Social Work

		2008-09			2011-12			2014-15		
		Men	Women	Total	Men	Women	Total	Men	Women	Total
Professors by Rank	Assistant	4	4	8	5	9	14	7	11	18
	Associate Professors with Tenure	3	6	9	2	6	8	2	6	8
	Full Professors	6	1	7	6	4	10	4	3	7
	Full Professors with Endowed Chairs	4	4	8	3	2	5	5	6	11
	Total faculty	17	15	32	16	21	37	18	26	44
By Discipline Groups	Public Health	4	2	6	7	8	15	9	8	17
	Social Work	13	13	26	9	13	22	9	18	27
	Total Faculty	17	15	32	16	21	37	18	26	44
By race /ethnicity	African American	1	2	3	3	3	6	3	5	8
	Hispanic, Native Amer, Pacific Islander	2	0	2	2	1	3	1	1	2
	Underrepresented Minority Total	3	2	5	5	4	8	4	6	10
	Asian	2	3	5	1	1	2	3	1	4
	White, Other	12	10	22	10	16	26	11	19	30
	Total Faculty	17	15	32	16	21	37	18	26	44
Received Additional Appointment Salary for Additional Admin Role	Major Roles: Dept Chair or Equivalent							0	0	0
	Other Roles with Appointment Salary							1	0	1
	Total Faculty	7	5	12	1	1	2	1	0	1
Received Pay for Summer Research	Externally Funded							16	14	30
	WU Funded							7	11	18
	Total w/ Summer Research Funding							16	17	33
Received Pay for Additional Teaching	Yes							3	2	5
	No							15	24	39
	Total Faculty							18	26	44
Received Other Misc. Pay	Yes							9	17	26
	No							9	9	18
	Total Faculty							18	26	44

Note that while only two people in Social Work in 2011-12 received additional appointment salary for additional administrative roles, the Gender Pay Equity Committee that met in 2012 chose to use additional role flags for people who did not receive appointment salaries for their roles, if the roles were ones that had been flagged in the 2008-09 analyses.