

**EXPERT REPORT IN THE MATTER OF**  
***Chen-Oster, et al. v. Goldman Sachs & Co.***

**SUBMITTED BY:**  
**WAYNE F. CASCIO, PH.D.**

**FEBRUARY 18, 2014**

Wayne F. Cascio, Ph.D., hereby submits the following Opening Expert Report:

**I. STATEMENT OF QUALIFICATIONS**

1. I am Wayne F. Cascio, Robert H. Reynolds Distinguished Chair in Global Leadership in the Graduate School of Business Administration, University of Colorado Denver. I have held this appointment since 1981.

2. I reside at 24353 Paragon Place, Golden, Colorado 80401.

3. I received a Ph.D. in industrial and organizational psychology from the University of Rochester in 1973. Since that time I have held full-time and visiting faculty appointments at Florida International University, University of California-Berkeley, University of Hawaii, Wharton School of the University of Pennsylvania, University of St. Gallen (Switzerland), University of Geneva (Switzerland), the University of Hong Kong, and the National University of Singapore.

4. I am a Diplomate in industrial and organizational psychology, of the American Board of Professional Psychology.

5. I am a past president of the Society for Industrial and Organizational Psychology and of the Human Resources Division of the Academy of Management and a past member of its Board of Governors. I am a past Chair of the Society for Human Resource Management Foundation.

6. I am the author of approximately 150 journal articles and book chapters, and 27 textbooks in the field of human resource management. I am the co-author of a graduate-level text that is used widely in industrial and organizational psychology programs in the United States and abroad.

7. Since 2009 I have served as chairperson of the Compensation Committee of the Board of Directors of CPP, Inc., a small, privately held corporation in Mountain View, CA.

8. I have taught compensation administration at both graduate and undergraduate levels for many years, and have written extensively on that topic in all nine editions of my textbook, *Managing Human Resources: Productivity, Quality of Work Life, Profits* (9<sup>th</sup> ed., 2013). New York, NY: McGraw-Hill.

9. I received the Michael R. Losey Award for Human Resources Research in 2010 from the Society for Human Resource Management, and I received the Distinguished Scientific Contributions award from the Society for Industrial and Organizational Psychology in 2013.

10. I have testified as an expert in industrial and organizational psychology in both state and federal courts in the United States, for plaintiffs as well as defendants. Almost all of these cases involved allegations of discrimination on the basis of race, gender, age, or national origin. Clients and cases are listed in my curriculum vitae, which is attached as Appendix A to this report.

11. I am being paid for my time at the rate of \$500 per hour. My payment is not contingent on my opinions. I reserve the right to supplement this report if and when additional, relevant material becomes known to me.

## **II. NATURE OF ASSIGNMENT**

12. I have been retained in this matter by attorneys for the plaintiffs to evaluate the performance-assessment and compensation-recommendation processes at Goldman Sachs.

## **III. MATERIALS REVIEWED**

13. I have reviewed the amended class action complaint, deposition testimony of the firm's divisional and other 30(b)(6) witnesses in this matter, together with attached Exhibits and supporting documentation, as well as various validation studies of behavioral competencies and compensation metrics. I also read materials produced by Goldman Sachs relevant to performance-assessment and decisions about variable (bonus) compensation. In addition, I have

reviewed reports and depositions of two Goldman Sachs proposed experts, as well as literature and press articles. Please refer to Appendix B for a complete list of all materials that counsel sent to me and that I have reviewed in preparing this report.

#### **IV. SUMMARY OF CONCLUSIONS**

14. Based on my review of the information provided, Goldman Sachs has utilized a uniform, firm-wide performance-assessment and compensation-recommendation process designed to accomplish two goals: (1) to assess the relative performance of its employees in a systematic manner, and (2) to set each employee's compensation.

15. A key aspect of setting each employee's compensation is predicated on a common, company-wide forced-distribution process known as manager quartiling. The quartiling process places individuals into groups that are meant to be substantially similar in terms of performance. But instead of creating groups of similar performers paid similarly, this ranking process is associated with large, unjustified differences in compensation outcomes for men and women. As a result, similarly situated men and women with the same quartile score receive different pay, with women earning significantly less (when controlling for the appropriate regression factors). Goldman Sachs also utilizes a common, company-wide 360-degree performance-review process to assess the relative performance of its employees as an input into quartiling and also compensation decisions. The 360-degree review incorporates feedback from a variety of reviewers – including both solicited and unsolicited reviewers – and uses a common numerical scoring process to calculate an average total score. The 360-degree review fails to measure the relative performance of employees based on unjustified and unreliable procedures that result in an adverse impact on women. Consequently, female employees systematically receive 360-degree scores that are lower than their similarly situated male counterparts. The result is biased performance assessment and compensation decisions.

16. As set forth fully in this Report, Goldman Sachs's performance-assessment and compensation-recommendation systems have significant deficiencies, and, consequently, fail to meet basic professional standards. Further, the observed gender differences arising from the 360 degree review and quartiling – forced-ranking process cannot be justified by any reliable performance measure, and do not support the extreme gender-based differences in compensation.

17. These deficiencies include the following:

a. Lack of reliability: Goldman Sachs lacks reliable, valid measures of potential in the quartiling process, and provides no assessment of inter-rater agreement in the 360-degree review process.

b. Lack of clear standards for decision making in the performance-assessment and compensation-recommendation process: Goldman Sachs does not ensure that raters are calibrated to a common behavioral standard.

c. Lack of adequate process and proper implementation: Goldman Sachs utilizes a faulty, poorly designed process, and also fails to implement the process correctly. Managers follow a uniform framework through which: (1) they do not have to rely on specific information; (2) the weights of variables that informed individual compensation decisions can vary; (3) there is no requirement that raters be consistent in their application of factors considered, even across similarly situated employees; (4) for those being rated, there is a lack of transparency in the resulting quartiling placement; and (5) there is no requirement for written documentation.

d. Lack of proper accountability/auditing systems: Goldman Sachs failed to provide effective statistical monitoring or auditing at firm-wide or divisional levels that corrected for adverse impact against women in the compensation- recommendation process. To the extent

that Goldman Sachs knew of such gender disparities, it did not take action to correct them during the time period of this case.

18. For these reasons, the performance-assessment and compensation-recommendation processes do not meet the basic standards of practice in the field.

19. Instead, the processes at Goldman Sachs lack key safeguards to ensure procedural justice, namely: employees do not have access to review their appraisal results; managers are not required to follow validated measures of potential and are given unclear and inconsistent instructions on how to force rank in the quartile process; thorough and consistent documentation does not exist, particularly with respect to the quartiling process; and, as noted above, there was a lack of effective statistical monitoring to detect potentially discriminatory effects of the performance assessment and compensation recommendation systems.

20. I have relied for my conclusions on the standard methods in my field, and have concluded that neither the reliability nor the validity of Goldman Sachs' performance evaluation and compensation-setting procedures, as implemented in practice, have been demonstrated.

21. Goldman Sachs's performance evaluation and compensation-recommendation systems have significant deficiencies and, consequently, fail to meet basic professional standards in the field of Industrial/Organizational Psychology. The observed gender differences arising from the performance evaluation systems are not justified by reliable measures, they are based on practices that are unsupported in my field, and they are not consistent with the core requirements of the SIOP Principles and the Uniform Guidelines.

22. Overall, the extreme differences in pay by gender that emerge in the compensation recommendations cannot be justified by the existing systems.

V. **INDUSTRIAL AND ORGANIZATIONAL (I/O) PSYCHOLOGY AND ITS FUNCTION IN ASSESSING PERFORMANCE MEASUREMENT SYSTEMS AND BEST PRACTICES IN THEM.**

23. Psychology is the scientific study of the human mind and behavior. Industrial and Organizational psychologists focus on a key aspect human life, namely, the behavior of men and women in work settings. I/O psychologists seek to understand and optimize the effectiveness, health, and well-being both of individuals and of organizations. Among the many topics that I/O psychologists study are performance management (the design of job-performance measurement systems for feedback and performance improvement) and compensation and benefits (pay, benefits, rewards, and recognition).<sup>1</sup>

24. I/O Psychology addresses policies and practices that cause adverse impact on protected groups.<sup>2</sup> The case in question involves adverse impact against females. For purposes of this report, I have reviewed, but not separately studied, the statistical analyses performed by Plaintiffs' expert Henry Farber and understand that (as alleged in the Complaint) women are statistically significantly disadvantaged in the common performance measurement systems, and they also are statistically significantly underpaid relative to men.

25. I/O psychologists study the reliability and validity of assessment devices used to make employment decisions, for example, in the areas of staffing, promotions, or pay. Goldman Sachs' primary performance measurement systems, described below, have not been evaluated in practice. Goldman Sachs has assessed the reliability and content-oriented evidence of validity of the inputs to its 360-degree performance-review process, but not to the process as applied to make compensation recommendations. The manager-quartiling process has not been subject to a

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<sup>1</sup> ENCYCLOPEDIA OF INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY, VOL. 1, p.xxxv (Steven G. Rogelberg ed., 2007).

<sup>2</sup> ADVERSE IMPACT: IMPLICATIONS FOR ORGANIZATIONAL STAFFING AND HIGH-STAKES SELECTION (James L. Outtz ed., 2010).

study by Goldman Sachs of its reliability or validity, and its deficiencies are described in this Report.

26. I/O psychologists have also identified best practices regarding performance measurement systems, including as relates to their role in compensation decisions. More specifically, I/O psychologists have examined forced ranking as well as 360-degree performance-review systems. With respect to forced-ranking or forced-distribution systems, as a general matter, such systems have commonly recognized problems.<sup>3</sup> “One difficulty with the forced-distribution approach is that the size of the performance categories that is forced on raters may not reflect the actual distribution of the performance of the rates.”<sup>4</sup> That is, if the performance of a group of employees assigned to a rater, as a group, is distinctly superior or, conversely, distinctly mediocre, the rater must still sort those employees into a forced distribution, one that does not accommodate their actual level of performance. Hence, the ratings would not be valid.

27. So-called 360-degree performance review systems involve employee self-evaluation, as well as evaluations by a superior, co-workers, and subordinates. Feedback from these systems usually involves showing the employee how he or she rated himself or herself, and then contrasting these ratings with those received from all other evaluators. As one recent critique noted, “[t]he potential benefit of receiving feedback from different sources is obvious,

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<sup>3</sup> Steve Bates, *Forced Ranking*, HRMAGAZINE, June 1, 2003, at 62; Ajay K. Chattopadhyay, & Anil K. Ghosh, *Performance Appraisal Based on a Forced Distribution System: Its Drawbacks and Remedies*, 61 INT’L J. PRODUCTIVITY & PERFORMANCE MGMT. 881 (2012); Edward E. Lawler, III, *The Folly of Forced Ranking*, STRATEGY & BUSINESS, July 15, 2002, at 28; Jeffrey Pfeffer & Robert I. Sutton, *Evidence-Based Management*, HARV. BUS. REV., Jan. 2006.

<sup>4</sup> Gary J. Greguras, *Performance Appraisal, Subjective Indexes*, in ENCYCLOPEDIA OF INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY, VOL. 2. 603 (Steven G. Rogelberg ed., 2007).



but evidence for the effectiveness of feedback from such systems has been mixed at best.”<sup>5</sup>

“Very little empirical data exist concerning the effectiveness of 360-degree appraisal systems...and the data that are available suggest weak and inconsistent effects for this type of feedback.”<sup>6</sup> Conflicting feedback information often generated by 360-degree appraisal systems can actually make the feedback less useful and even problematic.<sup>7</sup>

## **VI. BACKGROUND ON GOLDMAN SACHS AND RELEVANT FIRMWIDE POLICIES.**

### **A. Company Background**

28. According to its Website ([www.goldmansachs.com](http://www.goldmansachs.com)), Goldman Sachs & Co. is a leading global investment banking, securities, and investment management firm that provides a wide range of financial services to a substantial and diversified client base that includes corporations, financial institutions, governments and high-net-worth individuals. Founded in 1869, the firm is headquartered in New York and maintains offices in all major financial centers around the world.

29. The firm reports its activities in four major business segments: investment banking, institutional client services, investing and lending, and investment management. Organizationally, a management committee has oversight responsibility for nine divisions, in addition to the Executive Office. These divisions are: Securities; Operations, Technology, Finance and Services; Merchant Banking, Legal and Management Controls; Investment

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<sup>5</sup> Angelo S. DeNisi & Shirley Sonesh, *The Appraisal and Management of Performance at Work*, in APA HANDBOOK OF INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY, VOL. 2, 255-79 (Sheldon Zedeck ed., 2011; *see also*, James W. Smither, Manuel London, & Richard R. Reilly, *Does Performance Improve Following Multisource Feedback? A Theoretical Model, Meta-analysis, and Review of Empirical Findings*, 58 PERS. PSYCHOL. 33 (2011).

<sup>6</sup> *See* DeNisi & Sonesh, *supra* note 5.

<sup>7</sup> Angelo S. DeNisi & Avraham N. Kluger, *Feedback Effectiveness: Can 360-Degree Appraisals be Improved?*, 14 ACAD. MGMT. EXEC., 129 (2000); Bruce Pfau & Ira Kay, *Does 360-Degree Feedback Negatively Affect Company Performance?*, HRMAGAZINE, June 1, 2002, at 54.

Management; Investment Banking; Human Capital Management; Global Investment Research; and Global Compliance. GS0100556 at 560.

30. The major focus in this report is on the compensation-recommendation process, and the role that performance reviews play in that process, for U.S.-based Associates and Vice-Presidents in revenue-producing roles of four divisions: Securities, Investment Banking, and Investment Management. The pertinent time period is from July 7, 2002 through the present. The next section outlines firmwide policies and practices for performance assessment, followed by a description of firmwide policies and practices for the determination of compensation.

**B. Manager Quartiling**

31. From 2002 to the present, all divisions at Goldman Sachs have required managers to force-rank their employees into quartiles (“manager quartiling”).<sup>8</sup> Firmwide guidelines on manager quartiling, created by the firm’s Talent Assessment Group, are distributed to managers in all divisions.<sup>9</sup>

32. Purpose. Goldman Sachs provides the following purposes for the Manager Performance Rank (“Manager quartiling”): understanding talent at the firm, identification of top/bottom performers, promotions, career-development reviews (CDRs), regretted losses, terminations/downsizings, and as a data point in compensation.<sup>10</sup> GS0153480. Goldman Sachs’ corporate representative further testified that, “The purpose of the performance quartile is to

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<sup>8</sup> Deposition of Jessica Kung, July 31 and August 1, 2013, (“Kung Tr.”) at 29:6-19; Deposition of Caroline Heller-Sberloti, July 10 and 11, 2013 (“Heller-Sberloti Tr.”) at 39:20-24; Deposition of Bruce Larson, June 12, 2013 (“Larson Tr.”) at 182:16-183:22.

<sup>9</sup> Kung Tr. 120:6-25; Heller-Sberloti Tr. 92:9-99:20; Larson Tr. 83:19-84:22.

<sup>10</sup> Despite the fact that one of the stated purposes of the manager quartile is promotions, there is no requirement that a Vice President attain a certain quartile in order to be eligible for promotion to Managing Director; in fact, there is no stated relationship between performance evaluation and eligibility for promotion at all, other than a recent 2011 document from one division that now suggests Vice Presidents may not be in the fifth quartile. GS0113973; GS0113548 at 558; Larson Tr. at 266:17- 267:14; 296:16- 297:17; Kung Tr. at 428:8-430:19. In my opinion, this is a flawed selection system, notwithstanding my other criticisms about the performance-measurement systems in place.

provide an assessment of an employee's performance, potential, and contribution," and "[o]ne of the purposes of the quartiling process is to assess relative performance, and to do so we encourage managers to provide quartiles across a continuum on the distribution."<sup>11</sup>

33. Firmwide guidelines on quartiling show there are supposed to be three inputs: performance, contribution, and potential, relative to (1) each individual's level of experience and position, and (2) each individual's peers. GS0122587. Guidance to managers, *id.*, suggests that they assess overall performance, contribution, and potential by considering factors such as the following, as demonstrated by behavior displayed and results attained during the year:

- A. 360-degree review data
- B. Quality of performance
- C. Long-term commercial impact or contribution
- D. Potential to assume increasing responsibility
- E. Leadership/management skills
- F. Diversity and citizenship-related activities

34. Input 1 – Performance. As seen below, in 2011 the divisions created written lists of metrics used to evaluate an employee's financial performance. *See* GS0122913 (Securities); GS0122904 (IBD); and GS0122937 (IMD). However, the construct of performance also includes non-financial indicators, such as the six criteria in the bulleted list above.

35. Input 2 - Potential. As examined in greater detail below, but as an overall conclusion, there is no standard definition of potential, no formal training in how to assess it, nor any requirement that managers document their view of an employee's potential. Landman II Tr. 29:3-25; 30:2-10; 18-24. With respect to training, the "Guidelines for the Manager Performance

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<sup>11</sup> Deposition of David Landman, October 10, 2013 ("Landman II Tr.") at 10:10-21.

Rank,” state: “Assess potential for future contribution to the firm by considering factors such as skill set, managerial capacity, and breadth of ability.” GS0122587 at 588.

36. Input 3 – Contribution. This term is not defined separately or distinguished from the construct of performance in the guideline documents given to managers. GS0122587. As with performance, managers are advised to consider the six criteria in the bulleted list in paragraph 31 above. *Id.*

37. The 360-Degree Performance-Review Process

a. From 2002 to the present, all divisions have participated in the 360-degree performance-review process each year.<sup>12</sup> The firm’s Talent Assessment Group administers this process centrally. Employees from one division may review employees in another division.

b. The process proceeds as follows. Employees create a list of reviewers. Managers review the list, and have the ability to add to or remove reviewers from their employees’ reviewer lists, as they deem appropriate.<sup>13</sup> There is no requirement that the composition of reviewers be uniform for similarly situated employees; for instance, Associate A on Sales Team X may be reviewed by two partners, two VPs, and one associate, while Associate B on Sales Team X may be reviewed by one partner, one VP, and three associates.<sup>14</sup>

c. Reviewers are asked to provide both quantitative and qualitative feedback. Prior to 2010, each division used a five-point rating scale for quantitative feedback.<sup>15</sup> In 2010,

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<sup>12</sup> Kung Tr. 30:5-16; 278:16-279:12; Heller-Sberloti Tr. 79:18-21; 264:19-266:18; Larson Tr. 69:23-70:6; 167:20-168:1.

<sup>13</sup> Kung Tr. 283:5-22; Heller-Sberloti Tr. 267:17-268:5; Larson Tr. 174:25-175:25.

<sup>14</sup> Kung Tr. 288:19-289:14.

<sup>15</sup> Kung Tr. 291:4-11; 314:21-25; Heller-Sberloti Tr. 288:9-19; Larson Tr. 178:22-179:2.

there was a firm-wide shift to a nine-point rating scale, to address problems with lack of differentiation in review scores.<sup>16</sup>

d. The firm used the scores earned in certain “Firm-Wide Review Categories” to generate an overall “360 score.” From 2003 to 2006, in all divisions, these included - Leadership, Overall Commercial Effectiveness, and Overall Professional Performance.<sup>17</sup> These three items were averaged to produce the employee’s 360 score.<sup>18</sup>

e. In 2006, there was a firm-wide shift to a nine-item average score, using the same nine criteria in each division to calculate an employee’s score: Technical Skills, Communication Skills, Judgment, Problem Solving, Teamwork, Compliance, Diversity, Leadership, Overall Commercial Effectiveness, and Overall Professional Performance.<sup>19</sup> The firm used employees’ 360 scores to rank the employees within their peer groups – that is, to compare each employee’s overall 360 score to his or her peer group.<sup>20</sup>

f. The review-feedback books – which contain the reviewers’ scores and comments, as well as the overall score or rank earned by the employee – are not shared with the employee.<sup>21</sup> Rather, the employee receives verbal comments from his or her manager at the end of the process.<sup>22</sup> The objective of the 360-degree performance-review process “is to gather feedback from individuals that work with any given employee so that the manager can receive

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<sup>16</sup> GS0003436; Kung Tr. 314:21-25; Heller-Sberloti Tr. 288:9-19; Larson Tr. 180:4-181:4.

<sup>17</sup> Kung Tr. 294:25-295:10; Heller-Sberloti Tr. 377:12-378:8; GS0120172.

<sup>18</sup> Kung Tr. 295:11-25; GS0098006; GS0120172.

<sup>19</sup> Kung Tr. 305:14-306:2; 307:2-8; GS0120195; GS0121383; GS0120828.

<sup>20</sup> Kung Tr. 301:6-18; Heller-Sberloti Tr. 311:6-12; Larson Tr. 184:19-24, 209:4-15. This rank is sometimes referred to as the “performance review rank” – not to be confused with the “manager performance rank,” which was a term used between 2006 and 2008 at Goldman Sachs to refer to the manager quartile. Manager performance rank and manager quartile are the same thing. *See, e.g.*, GS0122590; Larson Tr. 99:19-102:5; Kung Tr. 117:14-120:5.

<sup>21</sup> Kung Tr. 290:6-12; Heller-Sberloti Tr. 297:25-298:3; GS0121075.

<sup>22</sup> Kung Tr. 290:6-12; Heller-Sberloti Tr. 309:8-13.

input into both understanding their performance and information to provide them with feedback to help them develop.”<sup>23</sup> That feedback is qualitative in nature.<sup>24</sup>

g. As noted in paragraph 35(f) above, employees do not receive their feedback books – they receive only verbal feedback from their managers at the end of the process. From the employee’s perspective, this is the annual performance review.<sup>25</sup> Employees are generally not given specifics on the manager quartiling process, including the fact that the 360-degree performance review is but one input into the manager’s quartile assessment and that the employee’s rank on the 360-degree performance review may deviate substantially from the manager quartile assessment. There is considerable support for these statements at both firmwide and divisional levels, as follows.

i. First, the firmwide “Manager Compensation Communication Guides” include the following sample question and talking point for managers communicating compensation to employees: “Question: What is my performance quartile? Answer: Generally employee ranks are not shared. However, I can tell you that your performance, relative to your peers, is [better, on a par with, or below] what we would expect at someone of your level.” GS0113380 at 393; GS0113764 at 777; GS0113509 at 523; and GS0113456 at 469.

ii. Likewise, the firmwide Manager Performance Rating Toolkits from 2010 and 2011 suggest that managers should not disclose quartiles to employees: “When you deliver review feedback to employees who are receiving a Q4 or Q5 performance quartile, you should make sure you that clearly communicate that the employee’s performance is

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<sup>23</sup> Deposition of David Landman, September 5, 2013 (Landman I Tr.)” at 17:11-16.

<sup>24</sup> Landman I Tr. 80:1-5.

<sup>25</sup> See, e.g., GS0120203 (IMD Individual Review Book with heading “2006 Investment Management Annual Review Performance Process”); GS0120828 (IBD Individual Review Book with heading “2006 Investment Banking Annual Review Performance Process”); GS0121383 (Securities Individual Review Book with heading “2006 Fixed Income Currency & Commodities Annual Review Performance Process”).

relatively lower than peers.” GS0153064 at 067; GS0153035 at 038. If employees had access to their quartiles, then a Q4 or Q5 employee would not need to be told that their performance is relatively lower than their peers.

iii. Finally, the Manager Performance Rating Toolkits from 2006-2009 instruct managers that “[y]our divisional HCM team will provide you with guidance on whether it is appropriate to communicate to the employee his/her manager performance rating.”<sup>26</sup>

However, testimony from the divisional HCM witnesses indicates that Goldman Sachs’ practice has been not to inform employees of their manager quartile as part of the performance review process.<sup>27</sup>

38. The statistical report from Dr. Farber indicates that female employees receive average 360-degree scores that are materially lower than their similarly situated male counterparts, and that those gender differences in average scores are statistically significant. The observed deficiencies in the design and implementation of 360-degree performance review process would likely have reduced or eliminated the observed gender differences in outcomes.

**C. Goldman Sachs Policies and Practices for the Determination of Compensation: Firm-Wide Principles**

39. According to Goldman Sachs, five broad principles guide the firm’s compensation practices: (1) encourage a firmwide orientation and culture; (2) evaluate performance over time; (3) discourage excessive or concentrated risk taking; (4) attract and

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<sup>26</sup> GS0153290 at 293; GS0153007 at 016; GS0109390 at 394; GS0119973 at 976.

<sup>27</sup> Larson Tr. 167:9-19 (“Q. In the investment banking division, is it true that in communicating, compensation managers are not supposed to tell employees what their performance quartile is? A. In general, the compensation communication conversation is meant to communicate compensation, and managers don't share the specific performance manager quartile. Q. Are there exceptions to that? A. Not that I'm aware of.”); Heller-Sberloti Tr. 308: 5-17 (“Q. ... at any point from 2000 to the present, have the quartiles been part of the review-delivery process? A. I believe quartiling has been separate from the review-delivery process during the period. Q. So people are not told what quartile they're in? A. That's not consistent. So sometimes people are told what quartile they're in, but that wouldn't necessarily happen in the performance-review delivery.”).

retain talent; and (5) directly align firmwide compensation with firmwide performance.

GS0113195.

40. At Goldman Sachs, employees are paid a per-annum total compensation, or “PATC.” PATC is made up of the following components: annualized salary, supplemental salary, annualized discretionary year-end bonus, commissions, year-to-date bonus advances, and annualized London car allowance. GS0122533 at 535. It is “the sum of base salary earned per annum, bonus, and other comp arrangements.” GS0113858 at 862. PATC earned in the current year determines an employee’s salary for the following year.<sup>28</sup> According to the Summary of the GS Salary Model, “...as PATC increases, base salary increases – but the salary increases slow down at higher PATC levels.” GS0122847. Thus as PATC goes up, salary as a percentage of PATC goes down.<sup>29</sup>

41. At successive salary steps, therefore, bonuses account for progressively larger portions of PATC. Above salary step 5, the bonus accounts for the majority of an employee’s PATC.

42. Firm-wide manager compensation guidelines direct managers to consider four factors when determining an employee’s compensation: “(1) the performance of the firm, the division, and the business unit for the fiscal year; (2) the market pay level for the employee’s role; (3) manager performance [quartile] and the factors that were considered in formulating that ranking; and (4) other circumstances that should bear on the individual’s compensation proposal for this year, such as P&L impact in the current year, indispensability of/risk of losing the

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<sup>28</sup> Deposition of Scott Mehling, May 20, 2013 (“Mehling Tr.”), at 47:9-14.

<sup>29</sup> For example, above a Year-1 Associate in Securities, Merchant Banking, and Global Investment Research, salary as a percentage of PATC at each step in the firm-wide model decreases as follows (all figures rounded for ease of exposition): Step 2, 83%; Step 3, 75%; Step 4, 58%; Step 5, 50%; Step 6, 45%; Step 7, 42%; Step 8, 39%; Step 9, 38%, Step 10, 36%, and Step 11, 35%. GS 0113480 at 481.



individual, recent significant increase in responsibility, and specialized contribution (e.g. to diversity, training, recruiting) in current year.” GS0122587 at 589. These guidelines apply firm-wide.<sup>30</sup>

**D. Goldman Sachs Policies and Practices for the Determination of Compensation: Firm-Wide Rounds Process**

43. Compensation amounts are determined as follows. The divisions undergo a compensation “rounds” process each year, overseen by the firm-wide compensation team and the company’s CFO, and administered by each division’s Human Capital Management (“HCM”) team.<sup>31</sup>

44. First, the firm’s CFO provides the heads of each division a compensation budget for their division.<sup>32</sup> The division heads then allocate this budget among their business units.<sup>33</sup> The managers of each business unit then allocate that money among their respective teams.<sup>34</sup>

45. Based on that allocation, the divisional HCM teams send each manager a total budget for his or her employees, and the managers enter their compensation recommendations for each employee into the Compensation Recommendation System (“CRS”).<sup>35</sup>

46. Once all the managers’ recommendations have been submitted, the divisions’ compensation committees meet to review how the divisions’ budgets have been allocated.<sup>36</sup> This is the “Round One” meeting.<sup>37</sup> During this meeting, some or all managers are asked to attend

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<sup>30</sup> Kung Tr. 121:8-16; Heller-Sberloti Tr. at 387:11-25; Larson Tr. 85:2-19.

<sup>31</sup> Kung Tr. 56:7-12; Heller-Sberloti Tr. 20:25-21:5; Larson Tr. 113:25-114:22.

<sup>32</sup> Kung Tr. 57:7-14; Larson Tr. 60:21-25; Deposition of Rodney Miller, June 20, 2012 at 35:21-36:8, 84:11-25.

<sup>33</sup> Kung Tr. 57:20-58:9; Miller Tr. 101:10-19; Larson Tr. 61:10-19.

<sup>34</sup> *Id.*

<sup>35</sup> Kung Tr. 58:20-59:12; Heller-Sberloti Tr. 34:5-35:7; Larson Tr. 61:15-19.

<sup>36</sup> Kung Tr. 64:15-24; Heller-Sberloti Tr. 24:8-15; Larson Tr. 62:11-23;. The compensation committee in each division includes the division heads, the COO, and the head of HCM for that division. Kung Tr. 40:17-22, 41:8-24, 64:25-65:8; Heller-Sberloti Tr. 57:9-24; Larson Tr. 55:16-22.

<sup>37</sup> Because the Securities Division is so large, the business units within that division hold a meeting prior to the compensation committee meeting to discuss the recommendations of the managers in that unit. Heller-Sberloti Tr.

*Footnote continued on next page*

and answer any questions the committee may have on their allocation of their respective budgets.<sup>38</sup> The meeting focuses on aggregate figures, such as the overall amount spent on compensation, and whether the allocation of the budget among business units is warranted in light of each unit's financial performance.<sup>39</sup> To the extent that individual compensation is discussed at the committee level at all, it typically pertains solely to the divisions' top earners.<sup>40</sup> Once the compensation committee approves the recommendations, they are transmitted to the firm-wide compensation team.<sup>41</sup> This completes the first compensation "round." Following Round One, the firm's Employment Law Group ("ELG") reviews the submitted compensation recommendations "with a special focus on women and historically underrepresented groups[.]" GS0122587 at 590-591; GS0109402 at 403.<sup>42</sup>

47. Subsequently, if the division receives additional guidance from the ELG or from the firm (such as more or less money for the division's budget based on updated financial results for the firm as a whole), the division will launch another round, following the same steps as outlined above.<sup>43</sup> Ultimately, the process ends each year when the firm receives and approves each division's compensation recommendations, typically after at least two rounds.<sup>44</sup>

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*Footnote continued from previous page*

at 65:11-66:9. These meetings exist to help the business-unit heads be prepared for the compensation committee meeting. *Id.*

<sup>38</sup> Kung Tr. 44:20-25, 65:22-66:4; Heller-Sberloti Tr. 25:3-11, 26:2-13, 147:4-8; Larson Tr. 61:20-24, 62:11-23.

<sup>39</sup> Kung Tr. 78:16-22; Heller-Sberloti Tr. 147:9-24, 207:1-208:15; Larson Tr. 63:15-64:11, 76:1-8.

<sup>40</sup> Kung Tr. 78:16-25, 86:17-87:4; Heller-Sberloti Tr. 26:2-13; Larson Tr. 62:25-63:3, 96:15-22.

<sup>41</sup> Kung Tr. 68:7-16; Heller-Sberloti Tr. 27:17-21; Larson Tr. 63:14-23.

<sup>42</sup> The ELG also reviews manager quartile recommendations for the same "special focus on women." GS0122587 at 590-591; GS0109402 at 403.

<sup>43</sup> Kung Tr. 95:9-20, 96:2-6, 111:22-112:2; Heller-Sberloti Tr. 27:24-28:14; Larson Tr. 64:14-66:15.

<sup>44</sup> Kung Tr. 114:21-115:9; Heller-Sberloti Tr. 27:22-23; Larson Tr. 66:4-67:9.

**E. Relationship Between Performance-Measurement Process and Compensation-Recommendation Process**

48. Prior to 2006, firm-wide compensation guidelines reflected that a primary purpose of the manager quartile system was to set the employee's compensation recommendation.

GS0122587.<sup>45</sup>

49. Beginning in 2006, after the Chen-Oster EEOC class charge was filed, Goldman Sachs allowed managers to "delink" compensation from the quartile process. *Id.* at 590. The instructions indicate that going forward, the manager quartile would be "one of several data points when setting the employee's year-end compensation." *Id.* at 593. Yet, data analyzed in this case show that quartile assignments are correlated with compensation outcomes, and that generally quartiles are a major driver of compensation-recommendation decisions throughout the entire class period, though women earn significantly less than men in the same quartile.

50. There are significant problems with the performance-assessment metrics, including:

a. Prior to 2011, there were no written lists of compensation metrics in any of the divisions.<sup>46</sup> This meant that managers were not required to follow reliable, valid measures to reward performance. Goldman Sachs witnesses testified that the belief was that managers would know which metrics were relevant in their own businesses, because in order to operate in their line of work, managers regularly review top-level financial reports that include a roll-up of

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<sup>45</sup> This document states: "In the past, a primary purpose of the *Manager quartile* was to set the employee's compensation recommendation. In contrast, the Manager Performance Rank should be used for the purposes above and also as one of several data points when setting the employee's year-end compensation. *It is not the sole determinant of the compensation recommendation.*" GS0122587 at 593. The document also states that going forward, "[m]anagers will have flexibility to de-link compensation decisions from the manager performance rank where they deem it appropriate to reflect additional factors (*e.g.*, market compensation levels) that may be unrelated to the individual's performance." *Id.* at 590.

<sup>46</sup> Kung Tr. 142:12-143:7; Heller-Sberloti Tr. 130:9-135:20; Larson Tr. 90:7-91:10.

results consisting of organizational metrics.<sup>47</sup> Goldman Sachs' witnesses confirmed that there were no guidelines or training sessions provided to managers on which metrics to follow or how the metrics should factor into compensation.<sup>48</sup> Moreover, to the extent divisional metrics were a guidepost, there was no requirement that they be followed in reliable and valid ways, leaving open to untethered interpretation such ambiguous metrics as the net profits of undifferentiated teams or indirect performance measures relating to risk.<sup>49</sup> For example, as noted earlier, the term "contribution," a key input to each manager's quartiling decisions, is not a distinctive term. In fact, there is overlap between the terms "contribution" and "performance." Both are supposed to rely, at least in part, on objective performance metrics that show each employee's financial impact.

b. In 2011, the divisions created written lists of metrics used to evaluate an employee's financial performance. GS0122913 (Securities); GS0122904 (IBD); and GS0122937 (IMD). The framework documents that accompany these metrics charts contain guidelines on how the metrics are supposed to factor into compensation. *See* GS0115138 (Securities); GS0115057 (IBD); GS0122653 (IMD). However, the frameworks and metrics charts were not distributed to managers; they were intended for the eyes of the senior leadership.<sup>50</sup>

c. There was no requirement that managers document the specific metrics they relied on for bonus-recommendation decisions, and there is no documentation of the relative

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<sup>47</sup> Kung Tr. 219:15-221:12; Heller-Sberloti Tr. 130:9-131:4; Larson Tr. 90:7-22. The regularly run financial reports tend to be aggregate level – that is, reports on the performance of the particular business unit, or desk within business unit. The testimony is that if a manager wanted individual or team data, he or she could request it or could look it up. Kung Tr. 127:16-135:4; Heller-Sberloti Tr. 161:18-164:17; Larson Tr. 91:23-92:16.

<sup>48</sup> Kung Tr. 192:7-194:3, 226:18-25; Heller-Sberloti Tr. 159:1-160:11; Larson Tr. 142:22-143:4.

<sup>49</sup> GS0122913 (Securities); GS0122904 (IBD); GS0122937 (IMD).

<sup>50</sup> Kung Tr. 217:1-221:12; Responses and Objections to Plaintiffs' First Set of Requests for Admission, No. 2, Response at p. 5.

weights they assigned to those metrics.<sup>51</sup> Indeed, there is no way to know whether any given manager used some, none, or all of these metrics in formulating his or her compensation-recommendation decisions because the divisions do not monitor whether managers have considered the appropriate performance metrics in their compensation-recommendation decisions.<sup>52</sup>

51. During the rounds process, therefore, managers have available for each of their employees the quartile they assigned and each employee's 360-degree performance-review score, but the problem is implementation. That is, Goldman Sachs fails to utilize an adequate process with valid, performance-based criteria that ensure that compensation will follow performance.

**F. Training and Monitoring**

52. Goldman Sachs does not ensure that raters are calibrated to a common standard. VP's and MD's receive mandatory training upon promotion to their new positions, and this training covers a variety of topics, including review writing and quartiling of employees under them. However, there is no evidence to suggest that the training was focused on teaching managers to reach a common understanding and rating of different types or levels of behavior, for example, regarding teamwork or commercial effectiveness. After this mandatory training, there was other training *available* to them, but there was no other requirement to seek out and attend further training on those topics.<sup>53</sup>

53. Also, while both of Goldman Sachs' validity studies addressed the inter-rater reliability of the competency behaviors in the 360-review instrument, neither study addressed the

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<sup>51</sup> Kung Tr. 134:18-136:14; Heller-Sberloti Tr. 161:18-164:17; Larson Tr. 93:11-98:4.

<sup>52</sup> Kung Tr. 127:10-135:4; Heller-Sberloti Tr. 161:18-164:17; Larson Tr. 91:23-92:16.

<sup>53</sup> Heller-Sberloti Tr. 93:12-94:2, 96:5-13, 97:13-98:3; Larson Tr. 171:19-18.

inter-rater agreement of the five or nine dimension ratings assigned to employees by their raters. That was not within the scope of those studies. GS0112986; GS 0113184; GS0116319. Inter-rater reliability and inter-rater agreement are often treated as if they were the same thing, but they are different.<sup>54</sup> Raters agree if they make the same ratings; they are reliable if they put rates in roughly the same relative order. While both provide useful information, agreement is more important if the ratings are to be used for decisions based on level of proficiency.<sup>55</sup> At Goldman Sachs, compensation-recommendation decisions are based, at least in part, on the relative level of proficiency of employees. Since the ratings of each of the five or nine dimensions of the 360-degree instrument are averaged across all raters of each dimension, level of agreement among different levels of raters is important. That is, it is important to know that raters agree about the degree to which the characteristic being judged (*e.g.*, Leadership, Overall Commercial Effectiveness, Overall Professional Performance) does, in fact, describe the ratee.<sup>56</sup> Moreover, it is critical to have reliable data if one wants to claim that the process is valid.<sup>57</sup> As noted in paragraph 35(b) above, however, there is no requirement that the composition of reviewers be uniform for similarly situated employees; for instance, Associate A on Sales Team X may be reviewed by two partners, two VPs, and one associate, while Associate B on Sales Team X may be reviewed by one partner, one VP, and three associates.

54. One of the most consistent findings in the empirical literature on performance appraisal systems is that the ratings obtained from different sources generally do not converge, and that inter-correlations among the ratings provided by different types of raters tend to be

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<sup>54</sup> ROBERT GUION, ASSESSMENT, MEASUREMENT, AND PREDICTION FOR PERSONNEL DECISIONS (1998); Lawrence R. James, Robert G. Demaree & Gerrit Wolfe, *Estimating Within-Group Interrater Reliability With and Without Response Bias*, 69 JOURNAL OF APPLIED PSYCHOLOGY 85-98 (1993).

<sup>55</sup> Guion, *supra* note 54, at 563.

<sup>56</sup> *Id.*

<sup>57</sup> EDWIN E. [GHISELLI, JOHN P. CAMPBELL & SHELDON ZEDECK, MEASUREMENT THEORY FOR THE BEHAVIORAL SCIENCES \(1981\)](#).

moderate at best.<sup>58</sup> Thus an early meta-analysis reported average self-supervisor, self-peer, and peer-supervisor rating correlations (corrected for unreliability) of .35, .36, and .62, respectively.<sup>59</sup> A different study reported average supervisor-subordinate and subordinate-self rating correlations of .24 and .19, respectively.<sup>60</sup> Finally, a later meta-analysis reported that the correlations (corrected for unreliability) among ratings made by self, peer, and subordinate raters ranged from a high of .79 (supervisor-peer) to a low of .14 (subordinate-self).<sup>61</sup> Evidence indicates that average ratings also differ.<sup>62</sup> While several alternative explanations have been proposed to explain these differences,<sup>63</sup> perhaps the simplest is that raters differ in their opportunity to observe any given individual's work behavior, and these differences may account for disagreement among their ratings.<sup>64</sup> In short, for individuals at Goldman Sachs in the pertinent business units and during the pertinent time period of this case, if the composition of reviewers need not be uniform for similarly situated employees, then the average ratings assigned to those employees may differ by level of the rater, and thus not be comparable. Average 360-degree performance-review ratings of two associates might differ, therefore, purely as a function of the composition of the rater groups that provided inputs to the 360-degree process, and not because of any actual differences in the relative performance of the two

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<sup>58</sup> Jeffrey D. Fecteau & S. Bartholomew Craig, *Are Performance Appraisal Ratings from Different Rating Sources Comparable?*, 86 JOURNAL OF APPLIED PSYCHOLOGY 215-227 (2001).

<sup>59</sup> Michael M. Harris & John Schaubroeck, *A Meta-Analysis of Self-Supervisor, Self-Peer, and Peer-Supervisor Ratings*, 41 PERSONNEL PSYCHOLOGY 43-62 (1988).

<sup>60</sup> Michael K. Mount, *Psychometric Properties of Subordinate Ratings of Managerial Performance*, 37 PERSONNEL PSYCHOLOGY 687-702 (1984).

<sup>61</sup> J.M. Conway & A.I. Huffcut, *Psychometric properties of multisource performance ratings: A meta-analysis of subordinate, supervisor, peer, and self-ratings*, 10 HUMAN PERFORMANCE 331-360 (1997).

<sup>62</sup> Harris, *supra* note 59; Mount, *supra* note 60; G. C. Thornton, *Psychometric Properties of Self-Appraisals of Job Performance*, 33 PERSONNEL PSYCHOLOGY 263-271 (1980).

<sup>63</sup> D.J. Campbell & C. Lee, *Self-Appraisal in Performance Evaluation: Development Versus Evaluation*, 13 ACADEMY OF MANAGEMENT REVIEW 302-314 (1988); C.E. Lance, M.S. Teachout & T.M. Donnelly, *Specification of the Criterion Construct Space: An Application of Hierarchical Confirmatory Factor Analysis*, 77 JOURNAL OF APPLIED PSYCHOLOGY 437-452 (1992).

<sup>64</sup> KEVIN MURPHY & JEANETTE CLEVELAND, UNDERSTANDING PERFORMANCE APPRAISAL: SOCIAL, ORGANIZATIONAL, AND GOAL-BASED PERSPECTIVES (1995).

associates. Perhaps this is why “most companies today still use it [360-degree feedback] only for evaluation of their top-level personnel and for employee development rather than for appraisal or pay decisions.”<sup>65</sup> Neither of the two validation studies that Goldman Sachs commissioned studied those potential effects across the five or nine dimensions of the 360-degree performance-review instrument or whether female employees systematically receive lower average scores relative to their male counterparts. GS0112986; GS 0113184; GS0116319. Unless such a study was done internally, deposition testimony indicates that there were no other outside companies or individuals responsible for the development of the 360-degree review process at Goldman Sachs.<sup>66</sup>

55. Absence of meaningful auditing that might reduce adverse impact against women.

There is some auditing of quartiling results and compensation recommendations by the ELG. *See, e.g.*, GS0122587 at 590-591; GS0109402 at 403. My understanding is that Goldman Sachs has claimed attorney-client privilege with respect to the entire ELG review process, including what data are gathered from the divisions. Based on the statistical results that show adverse impact against women in the quartiling and compensation-recommendation processes, however, whatever auditing is done has failed to correct the problem. Moreover, there is no documented audit of how managers use objective performance metrics. It therefore appears that there is no effective firm-wide or divisional auditing of how quartiling or compensation-recommendation decisions are actually made, and no requirement for managers to document those decisions.

56. The lack of effective auditing with respect to quartile assignments stands in contrast to the process used with the 360-degree performance-review process. The “Firmwide Review Process Feedback Book Interpretation Guide” shows a built-in feature of the 360-degree

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<sup>65</sup> GEORGE MILKOVICH, JERRY NEWMAN & BARRY GERHART, *COMPENSATION 384* (2013).

<sup>66</sup> Landman I Tr. 18:17-19:12.



performance-review process that displays gaps between self-ratings and peer-group ratings. GS0119427 at 434. That feature allows managers to view and compare the ratings, and to identify unusually large differences. “Key Considerations” on that same page indicate that a gap of +/- .5 is meaningful. Such built-in auditing would allow individual managers, and, at a broader level, by division or across divisions, to examine the relative level of inter-rater agreement. However, there is no documented audit that individual managers made such comparisons or used that information.<sup>67</sup> Goldman Sachs has demonstrated its capability (albeit without implementation) to do this with the 360-review process, but it did not do so with the quartiling process, for example, to show meaningful differences between a manager’s 360 ratings and his or her quartile assignments. In fact, there is no official limit on how far the manager quartile can differ from the performance-review rank.<sup>68</sup> For example, an employee may earn a 360-degree rank that places her in quartile 1, but a manager quartile of 4. *See, e.g.*, GS0123267 at 290.

**VII. THE APPROPRIATE ASSESSMENT OF PERFORMANCE EVALUATION AND COMPENSATION-SETTING PROCESSES REQUIRES EXAMINATION INTO, AND DEMONSTRATION OF, THE RELIABILITY AND VALIDITY OF SUCH EMPLOYMENT PROCESSES**

57. The methods and principles of the field of Industrial/Organizational (“I/O”) Psychology support the following conclusions:
- a. performance-evaluation and compensation-setting procedures must comply with the requirements of the Uniform Guidelines and the SIOP Principles;
  - b. employers such as Goldman Sachs have particularized obligations when a personnel practice (including compensation) produces an adverse impact based on sex;

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<sup>67</sup> Landman I Tr. 161:1-163:6.

<sup>68</sup> Kung Tr. 321:16-323:9; Heller-Sberloti Tr. 106:11-107:6; Larson Tr. 160:11-20.

c. it is readily feasible for Goldman Sachs to validate its performance evaluation and compensation-setting procedures pursuant to one or more of the methods supported by the Uniform Guidelines;

d. even when formal validation is not required, Goldman Sachs' choice to ignore completely the implementation, outcomes, and/or alternatives to the existing systems is unsupported by the methods and precepts of my field, and is in no way justified by the purported job-relatedness of the metrics used to evaluate performance;

e. the examination into the reliability, validity, and outcomes of performance evaluation and compensation-setting processes should not be supplanted by an alternative method that simply identifies purported "best practices" in the abstract; and

f. The adverse impact here cannot be justified by speculation about gender differences that have not been demonstrated to exist, let alone to apply in any respect to this particular self-selected population of employees in the revenue-producing divisions of Goldman Sachs. Instead, my opinion is that there are significant infirmities with Goldman Sachs' performance evaluation and compensation-setting systems that are predicted to create unreliable outcomes.

58. Below, I discuss the above points in more detail before turning more specifically to the Goldman Sachs systems. My conclusions are embedded in the methodology of my field.

**B. The SIOP Principles and the Uniform Guidelines Clearly Apply to Performance Evaluation and Compensation-Recommendation Decisions.**

59. The function of I/O Psychology (including the SIOP Principles) and the Uniform Guidelines is to ensure the use of appropriate employment practices and to make clear that adverse impact must be identified, examined, and addressed. I/O Psychology emphasizes concepts of reliability (consistent outcomes) and validity (accurate outcomes) in workplace

decisions. The objective is to avoid unexamined and improper employment practices that disadvantage protected groups.

60. The SIOP Principles apply both to performance evaluation and to compensation-setting processes. The introductory section of the SIOP Principles provides that “[s]election procedures refer to any procedure used singly or in combination to make a personnel decision . . . . The terms “selection procedure,” “test,” “predictor,” and “assessment” are used interchangeably throughout this document. Personnel decisions are employment-related decisions to hire, train, place, certify, *compensate*, promote, terminate, transfer, and/or take other actions that affect employment status.” SIOP Principles, at 3 (emphasis added).

61. In the current matter, in my opinion, there is no question that performance appraisal and compensation-recommendation decisions are personnel and employment-related decisions, and therefore are subject to the SIOP Principles.

62. It is also my opinion that the Uniform Guidelines apply to the performance evaluation and compensation-setting procedures in the current case. The introduction provides that “[t]he Uniform Guidelines on Employee Selection Procedures apply to *all selection procedures used to make employment decisions*, including interviews, review of experience or education from application forms, work samples, physical requirements, *and evaluations of performance*. The guidelines are designed to aid in the achievement of our nation’s goal of equal employment opportunity without discrimination on the grounds of race, color, sex, religion or national origin.” Uniform Guidelines on Employee Selection Procedures, <http://www.uniformguidelines.com> (last visited Jan. 27, 2014) (emphasis added).

63. The Uniform Guidelines' stated coverage of *all* selection procedures affecting employment decisions, and explicit reference to performance evaluations, occurs throughout the document. *See* Uniform Guidelines Section 14; *see also* Uniform Guidelines Q&A, Question 5.

64. In addition to the textual support for its inclusion, there is no logical or legitimate basis to exclude compensation from these principles, especially given that the very entity that promulgated the Uniform Guidelines (the EEOC) itself includes compensation discrimination as a prohibited practice.

C. **The SIOP Principles and the Uniform Guidelines Impose Specific Obligations on Employers to Monitor for Adverse Impact and to Address Adverse Impact When it is Found.**

65. Consistent with the SIOP Principles and the Uniform Guidelines, it is my opinion that companies have an obligation to periodically monitor for adverse impact and to look for alternatives if adverse impact is found. I regularly give this advice to corporate clients for whom I consult. Further, the Uniform Guidelines explicitly require monitoring in Sections 4 and 15.

66. If there is adverse impact, the guidance is clear. As the Uniform Guidelines provide, “[t]he use of any selection procedure which has an adverse impact . . . will be considered discriminatory and inconsistent with these guidelines, unless the procedure has been validated in accordance with these guidelines, or the provisions of section 6 of this part are satisfied.” Section 3A.

67. The Uniform Guidelines set forth acceptable types of validity studies and related requirements to ensure accuracy and standardization. Uniform Guidelines, Section 5.

68. The Uniform Guidelines also set forth specific requirements where validity studies cannot or need not be performed. As Section 6 of the Uniform Guidelines provides:

A user may choose to utilize alternative selection procedures in order to eliminate adverse impact or as part of an affirmative action program. See section 13 of this part. Such alternative

procedures should eliminate the adverse impact in the total selection process, should be lawful and should be as job related as possible. . . .

There are circumstances in which a user cannot or need not utilize the validation techniques contemplated by these guidelines. In such circumstances, the user should utilize selection procedures which are as job related as possible and which will minimize or eliminate adverse impact, as set forth below.

(1) Where informal or unscored procedures are used. When an informal or unscored selection procedure which has an adverse impact is utilized, the user should eliminate the adverse impact, or modify the procedure to one which is a formal, scored or quantified measure or combination of measures and then validate the procedure in accord with these guidelines, or otherwise justify continued use of the procedure in accord with Federal law.

(2) Where formal and scored procedures are used. When a formal and scored selection procedure is used which has an adverse impact, the validation techniques contemplated by these guidelines usually should be followed if technically feasible. Where the user cannot or need not follow the validation techniques anticipated by these guidelines, the user should either modify the procedure to eliminate adverse impact or otherwise justify continued use of the procedure in accord with Federal law.

69. Question 13, which is referenced in the prior paragraph, also requires employers to analyze specific employment practices for adverse impact:

13.Q. Is adverse impact determined on the basis of the overall selection process or for the components in that process?

A. Adverse impact is determined first for the overall selection process for each job. If the overall selection process has an adverse impact, the adverse impact of the individual selection procedure should be analyzed. For any selection procedures in the process having an adverse impact which the user continues to use in the same manner, the user is expected to have evidence of validity satisfying the Guidelines. Sections 4C and 5D. If there is no adverse impact for the overall selection process, in most circumstances there is no obligation under the Guidelines to investigate adverse impact for the components, or to validate the selection procedures used for that job. Section 4C. But see Question 25.

70. The Uniform Guidelines make clear that adverse impact cannot be ignored. Even when it is not possible to validate the adverse-impact-causing system, the employer has an obligation to minimize or eliminate such impact.

**D. Goldman Sachs' Performance Appraisal and Compensation-Setting Systems Could Have Been, But Were Not, Validated.**

71. Goldman Sachs' quartiling/forced ranking system has not been validated. Goldman Sachs' 360-degree performance-review process, as implemented, has not been validated. Goldman Sachs' compensation-setting process has not been validated. Despite Goldman Sachs' size and the effort it expended in developing and imposing common, firm-wide practices, the only formal validation that the company chose to sponsor was as follows: (a) some of the input metrics that were eventually used in the companywide 360-degree performance-review process were subject to content validation, and (b) in the wake of specific regulatory requirements, and following the filing of this lawsuit, certain metrics used to measure employee performance and risk management were examined. *See* GS0116319 (2003 PDI Development of a Global Compensation Framework for Analysts, Associates, & VPs/EDs); GS0112986 (2011 APT Metrics Competency Behavior Validation); GS0143885 (2012 APT Metrics Validation of Compensation Metrics).

72. In my opinion, if it wanted to adopt a proper system, and was prepared to accept the outcome, Goldman Sachs would subject its practices (*e.g.*, the 360-degree performance review as implemented, the forced ranking, and the compensation-setting) to the rigor of formal reliability and validation studies. One such strategy would be to examine the relationship (correlation) between performance ratings (360-degree ratings and quartile rankings) at Time 1 and performance ratings of the same individuals at a later time (*e.g.*, in the next year's performance-evaluation cycle). This is a form of test-retest reliability, even though the 360-

degree raters might not constitute an identical set. Yet this is by no means the only possible strategy. Promotion decisions, for example, are possible criteria to consider in validating performance appraisal and compensation systems. If individual performance really does predict important outcomes such as compensation or promotion decisions, then presumably there should be a high degree of relationship (correlation) between performance ratings (360-degree reviews or quartile assignments) and bonuses or promotions. Criterion-related validity is certainly feasible under these circumstances.

**E. Implementation and Outcomes are Paramount Concerns.**

73. Among the primary deficiencies that I believe exist at Goldman Sachs are the lack of adequate implementation and monitoring. Goldman Sachs uses a faulty, poorly designed process (quartiling) for employment decisions related to performance assessment and compensation recommendations, and it compounds the problem by failing to ensure reliability in implementation/outcomes. Managers follow a uniform framework through which: (1) they do not have to rely on specific information; (2) the weights of variables that inform quartile and compensation decisions can vary; (3) there is no requirement that raters be consistent in their application of factors considered across similarly-situated employees (or that raters are calibrated to a common standard of behavior); (4) for ratees, there is a lack of transparency in the 360-degree performance-review and quartiling processes; and (5) there is no requirement for written documentation in the quartiling process. Further, Goldman Sachs failed to provide effective statistical monitoring or auditing that addressed or corrected for adverse impact.

74. In my view, the outcomes of a process, in this case, the extent to which performance reviews and pay disproportionately disadvantage female employees, are critical features of implementation, and also are relevant to judgments about validity, because

compensation decisions are based on assessments of job performance, as reflected in quartiling recommendations and the 360-degree performance review.

**VIII. GOLDMAN SACHS' PERFORMANCE EVALUATION AND COMPENSATION-SETTING SYSTEMS HAVE SIGNIFICANT INFIRMITIES, AND ARE NOT RELIABLE OR VALID AS IMPLEMENTED.**

**A. Goldman Sachs' Performance-Review Systems are Procedurally Unfair.**

75. There are two sources of fairness, namely, procedural justice and distributive justice.<sup>69</sup> Procedural justice refers to the perceived fairness of the manner in which outcomes are determined or a decision is reached. Distributive justice refers to people's perceptions of the fairness of the distribution of rewards or resources. Evidence indicates that both of these aspects of fairness are important,<sup>70</sup> and that employees make multiple comparisons, both inside the firm and in the external market, to assess fairness.<sup>71</sup> Researchers in I/O psychology have identified several important procedural safeguards in the performance-review process in order to ensure procedural justice.<sup>72</sup> Three of those are: (1) employees should have access to review their appraisal results; (2) there should be thorough and consistent documentation across raters that includes specific examples of performance based on personal knowledge; and (3) there should be a system to detect potentially discriminatory effects or abuses of the system overall.

<sup>69</sup> Jerald Greenberg, *Organizational Justice: The Dynamics of Fairness in the Workplace*, in 3 APA HANDBOOK OF INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY 271-327 (Sheldon Zedeck ed., 2011); Jerald Greenberg, *Determinants of Perceived Fairness of Performance Evaluations*, 71 JOURNAL OF APPLIED PSYCHOLOGY 340-342 (1986).

<sup>70</sup> Robert Folger & Mary Konovsky, *Effects of Procedural and Distributive Justice on Reactions to Pay-Raise Decisions*, 32 ACADEMY OF MANAGEMENT JOURNAL 115-130 (1989); Margaret L. Williams, Michael A. McDaniel & Nhung Nguyen, *A Meta-Analysis of the Antecedents and Consequences of Pay-Level Satisfaction*, 91 JOURNAL OF APPLIED PSYCHOLOGY 392-413 (2006).

<sup>71</sup> C.O. Trevor & D.L. Wazeter, *A Contingent View of Reactions to Objective Pay Conditions: Interdependence Among Pay Structure Characteristics and Pay Relative to Internal and External Referents*, 91 JOURNAL OF APPLIED PSYCHOLOGY 1260-1275 (2006).

<sup>72</sup> Stan Malos, *Current Legal Issues in Performance Appraisal*, in PERFORMANCE APPRAISAL: STATE OF THE ART IN PRACTICE 44-94 (J.W. Smither ed., 1998); Stan Malos, *The Importance of Valid Selection and Performance Appraisal: Do Management Practices Figure in Case Law?*, EMPLOYMENT DISCRIMINATION LITIGATION: BEHAVIORAL, QUANTITATIVE AND LEGAL PERSPECTIVES 373-409 (F.J. Landy ed., 2005); John M. Werner & Mark C. Bolino, *Explaining U. S. Courts of Appeals Decisions Involving Performance Appraisal: Accuracy, Fairness, and Validation*, 50 PERSONAL PSYCHOLOGY, 1-24 (1997).



76. Goldman Sachs is unusual in that it has one performance-review system that is partially shared with employees (the 360-degree system), and another (the quartiling process) that is not transparent. However, the quartiling process is a major factor in compensation-recommendation decisions,<sup>73</sup> and the 360-degree review process is but one input to it. While managers do review certain results of the 360-degree system with their employees, employees do not review the results of managers' quartiling decisions with respect to them personally. With respect to a second procedural safeguard in paragraph 19 above, thorough and consistent documentation across raters, the 360-degree system does incorporate that, but there is no similar requirement with respect to the quartiling process. Finally, with respect to a third procedural safeguard in paragraph 19 above, a system to detect potentially discriminatory effects, there was, at best, a faulty system that did not correct adverse impact against women due to the quartiling and compensation recommendation processes.

77. I understand that there is statistical evidence that gender-based differences in the 360-degree performance-review ratings explain some, but not all, of the observed gender-based difference in quartiling and compensation outcomes. Consequently, gender biases in the 360-review process are an input into the quartiling and compensation outcomes at Goldman Sachs.

78. As described above, there is no requirement that raters follow reliable, valid criteria, with calibration to ensure that raters assess the same behaviors similarly.<sup>74</sup> Such a system also improves the perceived fairness of the appraisal process among those rated.<sup>75</sup> Inter-

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<sup>73</sup> Though, as noted previously, men and women with the same quartile receive significantly different pay.

<sup>74</sup> E. D. Pulakos, *A Comparison of Rater Training Programs: Error Training and Accuracy Training*, 69 JOURNAL OF APPLIED PSYCHOLOGY 581-588 (1984); E. D. Pulakos, *The Development of Training Programs to Increase Accuracy with Different Rating Tasks*, 38 ORGANIZATIONAL BEHAVIOR AND HUMAN DECISION PROCESSES 76-91 (1986); D.J. Woehr & A.I. Huffcut, *Rater Training for Performance Appraisal: A Quantitative Review*, 67 JOURNAL OF OCCUPATIONAL AND ORGANIZATIONAL PSYCHOLOGY 189-205 (1994).

<sup>75</sup> M.S. Taylor, et al., *Due Process in Performance Appraisal: A Quasi-Experiment in Procedural Justice*, 40 ADMINISTRATIVE SCIENCE QUARTERLY 495-523 (1995); Werner, *supra* note 72.

rater agreement is a particularly important requirement for performance reviews and administrative decisions, such as compensation recommendations.<sup>76</sup> Yet unless Goldman Sachs conducted such a study on the 360-degree performance-review process internally, neither of the two validation studies that Goldman Sachs commissioned addressed the inter-rater agreement of the five or nine dimension ratings assigned to employees by their raters – either raters at the same level (supervisors, peers, subordinates) or across levels. Nor was there any evidence that I read to indicate that such a study was done with respect to the quartiling process, for example, among co-managers of employees.

**B. Forced Ranking.**<sup>77</sup>

79. Forced-ranking systems do not produce valid outcomes if the distribution does not accommodate or reflect actual levels of performance (*i.e.*, if a group of performers, as a group, is either performing superbly or sub-standard and is force-ranked); the quartiling system at Goldman Sachs has not been subject to a study of its reliability or validity; the quartiling system lacks reliable, valid measures of “potential”; there is a lack of proper or adequate training, implementation, and monitoring of the quartiling process; and the quartiling process is not transparent or documented.

80. The quartiling/forced-ranking process is procedurally unfair. As noted in paragraph 19 above, three key procedural safeguards to ensure procedural fairness are that

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<sup>76</sup> Guion, *supra* note 54; Werner, *supra* note 72.

<sup>77</sup> Except where otherwise indicated, when discussing Goldman’s Sachs’ quartiling system, which is a form of forced ranking, I use the terms “quartiling,” “forced ranking” (which is how Goldman Sachs refers to its quartiling system) and “forced distribution” interchangeably. Broadly speaking, there are two types of scales used in performance rating: absolute scales (in which employees are rated relative to standards) and relative scales (in which employees are rated relative to each other). Wayne F. Cascio and Herman Aguinis, *Applied Psychology In Human Resource Management* (Upper Saddle River, NJ: Pearson Prentice-Hall, 7<sup>th</sup> ed. 2011). The quartiling process at Goldman Sachs is a relative rating scale, and a forced ranking/forced distribution in the sense that managers allocate certain percentages of their employees into quartiles. *See, e.g.*, “Performance quartiling and At-Risk Flagging: Process Overviews,” GS0109391.

employees should have access to their appraisal results, there should be thorough and consistent documentation across raters, and there should be an effective system to detect potentially discriminatory effects of the system. If the results of the quartiling/forced-ranking process are generally hidden from employees, then by definition they do not have access to their appraisal results. There was no requirement that managers document the specific metrics they relied on in assessing “performance” and “potential” for purposes of quartiling or bonus-recommendation decisions, and there is no documentation of the relative weights they assigned to those metrics. Finally, as noted in this Report, there has been an absence of meaningful auditing that might reduce adverse impact against women.

81. Quartiling is a form of forced-distribution system, in which managers allocate employees to an approximate bell-shaped or normal distribution, based on their relative performance. Its primary advantage is that it controls rater leniency, rater severity, and central tendency (ratings that are neither very high nor very low). It assumes that ratees, as a group, conform to a normal distribution. If that is not true, and a particular group of ratees is either superior or substandard, then the ratings will, by definition, contain a great deal of error. Forced-distribution systems have generated much academic commentary.<sup>78</sup> With respect to the quartiling system in use at Goldman Sachs, there are at least two key implementation issues: (a) the assessment and weighting of potential; and (b) lack of effective statistical monitoring or auditing of quartiling decisions.

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<sup>78</sup> HERMAN AGUINIS, PERFORMANCE MANAGEMENT (2<sup>ND</sup> Ed. 2009); Bates, *supra* note 3; Chattopadhyay, *supra* note 3; Lawler, *supra* note 3; Pfeffer, *supra* note 3.

1. **Use of a Forced Distribution is Not Appropriate in an Environment Where Performances are Clustered and/or in an Environment Characterized by Work that is Highly Interdependent.**

82. As will be demonstrated below, a major reason why Goldman Sachs changed in 2009 from a 5-point rating scale to a 9-point scale for its 360-degree performance ratings is that there had been “a noticeable inflation of scores over time, and this year the gap between the scores of top and bottom performers has become particularly compressed” (Memorandum of Edith Cooper, Head of Human Capital Management (Ex. 255, GS 0143794)). See also GS0219480-87 (“Combating Grade Inflation in the Firmwide Review System”).

83. Further support for the lack of differentiation in scores in the 360-degree review process comes from “2010 Performance Reviews Process Changes: Divisional Presentation Materials” (GS0004149). P. 2 of that document (GS0004150), point #1, bullet #3 says, “Over the last few years the ratings from the five-point scale have become inflated and compressed, resulting in undifferentiated performance levels. This is a disservice to reviewees who have real areas for development, and dilutes the accomplishments of truly strong performers.” Likewise, the “Partnership Committee Performance Review Debrief,” December 7, 2010 (GS0165212) notes on p. 2, (GS016213), that a key change in 2010 reviews was the use of an “expanded rating scale from 5 to 9 points to increase differentiation.” Among the key issues to address in 2011 is: “Differentiation continues to be challenging given rater inflation.” The next page (GS0165214) lists “2010 Quartile Breakpoints” that distinguish the top 25% and bottom 10% of individuals in various job categories (PMDs, EMDs, Revenue Non-MDs, and Federation Non-MDs). On a 9-point rating scale the differences between top 25% and bottom 10% of ratees are as follows:

- PMDs: 0.69 (8 percent of a 9-point scale)
- EMDs: 0.92 (10 percent of a 9-point scale)

- Revenue Non-MDs: 1.36 (15 percent of a 9-point scale)
- Federation Non-MDs: 1.12 (12 percent of a 9-point scale)

In my opinion, this represents severe compression of the ratings. If the ratings are accurate, then actual differences in performance, as measured on the 360-degree performance reviews, are very small. Goldman Sachs Human Capital Management leaders are well aware of this, because in “2011 Reviews: Goals and Changes,” (GS0113307) a stated goal is to “continue to focus on differentiation” by means of two changes: “Label and define each of the rating scale values,” and “Continue to encourage using entire scale through training and communications.”

84. If the range of scores between top and bottom performers is compressed, and there is a noticeable inflation in scores, then the scores are tightly clustered toward the top end of the 360-degree rating distribution. Forcing a distribution on those scores, as is done subsequently in the quartiling process, seems arbitrary, especially in light of another important fact. That is, much work at Goldman Sachs is performed in a team environment. Highly interdependent work makes it extremely difficult to identify each individual’s contribution. If a team created the same result, and it is not possible to identify relative contributions, use of a forced distribution under these circumstances, in my view, is not appropriate.

85. Teamwork is a key feature of much of the work done at Goldman Sachs. In her July 8, 2010 memo to all Goldman Sachs employees regarding changes to the 2010 360-degree performance-review process (Ex. 252, GS0003438), Edith Cooper concluded by saying, “We believe these changes will further strengthen our firm’s culture of teamwork and open communication.” In choosing to use a forced distribution, however, Goldman Sachs ignores the

extremely toxic effects of a forced distribution on teamwork, a consideration that, at least in my opinion and that of at least some other major corporations, makes its use inappropriate.<sup>79</sup>

86. Overall, while forced-ranking systems do increase the variability in a distribution of ratings, they also have commonly recognized problems. Use of a forced-ranking system for the jobs at issue in this case seems particularly inappropriate because of their heavy emphasis on teamwork. One review of forced distributions in the context of the evidence-based management concluded: “We can find plenty of consultants and gurus who praise the power of dispersed pay, but we can’t find a careful study that supports its value in settings where cooperation, coordination, and information sharing are crucial to performance.”<sup>80</sup>

**2. Quartiling Decisions are Not Documented.**

87. At Goldman Sachs, there is no requirement that the bases or weights of contributing factors to quartiling decisions be documented.

**3. Goldman Sachs Lacks Reliable, Valid Measures of “Potential” in the Quartiling Process, and “Potential” is Not a Secondary Consideration.**

88. “Potential” as used by Goldman Sachs is not a reliable, valid performance measurement, and few safeguards or checks and balances have been in place to ensure that managers’ assessments of potential do not lead to bias against women. According to the deposition testimony of divisional corporate representatives in the divisions at issue in the class, the assessment of potential varied considerably. *See, e.g.*, Heller-Sberloti Tr. 101:21-102:2 (There would definitely [sic] content from the 360 that would be relevant in thinking about.

There would also be the manager’s thought process about that individual’s ability to do more

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<sup>79</sup> Shira Ovide and Rachel Feintzeig, *Microsoft abandons dreaded ‘stack.’*, THE WALL STREET JOURNAL, Nov. 13, 2013, at B1, B5. Claire Suddath, *You get a D+ in teamwork*, BLOOMBERG BUSINESS WEEK, Nov. 23, 2013, at 91. *Companies increasingly turn from ‘stack ranking’ employee evaluations*, MEMPHIS COMMERCIAL APPEAL, Aug. 5, 2012, [www.commercialappeal.com/news/2012/aug/05/companies-increasingly-turn-from-stacked-ranking](http://www.commercialappeal.com/news/2012/aug/05/companies-increasingly-turn-from-stacked-ranking).

<sup>80</sup> J. Pfeffer, & I. Sutton, *Evidence-based management*. HARVARD BUSINESS REVIEW, pp. 68, 69 (2006).

other work within their business to take on more responsibility to advance in the organization, things like that.”); Heller-Sberloti Tr. 102:20-103:3 (“In determining an employee’s potential, managers can weight those different factors however they deem appropriate based on what they think is important in their given business and in that person’s role.”); Larson Tr. at 216:15-23 (Q. How about for potential to assume increasing responsibility, are you aware of any descriptions or clarifications about that criteria, other than in the performance review?... A. Other than managers' observance of somebody's ability to assume additional responsibility in the past, no specific descriptions.)

89. Potential may have been a discussion point between managers and their business-unit heads, but absent any documentation of objective criteria or behavioral examples to support managers’ judgments of potential, there is no way to know that those judgments were gender neutral. A further issue is that managers are free to use completely different weighting schemes.

90. The Uniform Guidelines do not address the criteria of “potential,” but caution that the use of selection procedures to evaluate applicants for higher-level jobs is not appropriate under various circumstances, such as when the majority of those remaining employed do not progress to the higher level. *See* Section 5(I). This language gives further support to the conclusion that employers should use care when giving prominence to “potential” as a basis on which to evaluate and pay employees differently.

91. There is no documentation required of managers for such a “key consideration” as the future potential of the people they rate (Landman II Tr. at 29:3-25; 30:2-10; 18-24). The Heller-Sberloti deposition excerpt cited above (Tr. 101:12-18) says that potential is almost always a discussion point in business-unit reviews of quartile ratings. Moreover, in determining an employee’s potential, managers can weight different factors however they deem appropriate

based on what they think is important in their given business and in that person's role (Heller-Sberloti Tr. at 102:20-103:3). The absence of documentation that includes concrete examples to support a manager's rating of potential, however, means that there is no record of what factors individual managers used to anchor their ratings, and if the ratings were gender neutral.

#### 4. The Quartiling Process is Not Transparent.

92. Employees are generally not given specifics on the Manager quartiling process, including the fact that the 360-degree performance review is but one input into the Manager's quartile assessment and that the employee's rank on the 360-degree performance review may deviate substantially from the Manager quartile assessment. The Manager Performance Rating Toolkits from 2006-2009 instruct managers that "[y]our divisional HCM team will provide you with guidance on whether it is appropriate to communicate to the employee his/her manager performance rating."<sup>81</sup> However, testimony from the divisional HCM witnesses indicates that Goldman Sachs' practice has been not to inform employees of their Manager quartile as part of the performance review process.<sup>82</sup>

93. The firmwide 'Manager Compensation Communication Guides' include the following sample question and talking point for managers communicating compensation to employees: 'Question: What is my performance quartile? Answer: Generally employee ranks are not shared. However, I can tell you that your performance, relative to your peers, is [better, on a par with, or below] what we would expect at someone of your level.'"

<sup>81</sup> GS0153290 at 293; GS0153007 at 016; GS0109390 at 394; GS0119973 at 976.

<sup>82</sup> Larson Tr. at 167:9-19 ("Q. In the investment banking division, is it true that in communicating, compensation managers are not supposed to tell employees what their performance quartile is? A. In general, the compensation communication conversation is meant to communicate compensation, and managers don't share the specific performance Manager quartile. Q. Are there exceptions to that? A. Not that I'm aware of."); Heller-Sberloti Tr. at 308: 5-17 ("Q. ... at any point from 2000 to the present, have the quartiles been part of the review-delivery process? A. I believe quartiling has been separate from the review-delivery process during the period. Q. So people are not told what quartile they're in? A. That's not consistent. So sometimes people are told what quartile they're in, but that wouldn't necessarily happen in the performance-review delivery.").



94. There is a big distinction between volunteering that information and providing a partial answer it only if asked. At Goldman Sachs, as stated above, the firm's practice has been *not* to inform employees of the quartiles their managers assigned to them as part of the performance-review process.

**C. The 360-Degree Performance-Review Process.**

95. Goldman Sachs provides no assessment of inter-rater agreement in the 360-degree review process, as implemented in practice, and does not ensure that raters are calibrated to a common behavioral standard. There is a lack of adequate implementation, accountability, and transparency.<sup>83</sup>

**1. The 360-Degree Performance Reviews, as Implemented at Goldman Sachs, are Not Valid.**

96. First, it appears to be undisputed that women are rated lower than men on the 360 review, and that there are statistically significant pay differences associated with this practice. It is my opinion that this result requires Goldman Sachs, consistent with the SIOP Principles and the Uniform Guidelines, to take a close look at the procedure (not only the input metrics, but the *entire process*) to reduce or eliminate the adverse impact.

97. Second, Goldman Sachs itself acknowledges that the 360-degree review scores were too clustered and *were decoupled from performance*.<sup>84</sup> This is another red flag that the 360-degree review process is not reliable or valid. Moreover, the reliability and validity problems are exacerbated rather than cured when those same scores are used, in part, to create forced quartiles that dramatically widen possibly non-existent differences between employees.

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<sup>83</sup> See, e.g., GS0180545-558; GS0216793-94.

<sup>84</sup> See also GS0204344 (comparing male and female performance in their relative performance on 360-review categories and showing pronounced differences by gender in categories such as “commercial effectiveness” and “technical skills”); compare GS0205124 (“We are hiring talented women”).

98. That evidence of how the 360-review process was actually working, at least as of 2009, is contained in the previously discussed October 5, 2009 memo from Edith Cooper (Head of HCM) to all managers who will be delivering performance reviews based on the 360-degree performance-review process (Ex. 255, GS 0143794). She said, in part, “For some groups there has been a noticeable inflation of scores over time, and this year the gap between the scores of top and bottom performers has become particularly compressed. You may, for example, encounter situations where bottom performers received high scores, or where strong performers received relatively low scores. It is more important than ever to avoid over-reliance on scores when forming a view of an individual’s performance.” *Id.* Further, in an email sent to all managers, Cooper explained that “[we are] expanding the rating scale from 5 to 9 points to achieve greater differentiation in ratings.” Ex. 252, GS0003436.

99. According to the *Standards for Educational and Psychological Measurement*,<sup>85</sup> validity refers to the inferences that are drawn from scores on a measurement procedure. In this case, the scores in question are the 360-degree reviews. If the gap between top and bottom performers is “particularly compressed,” then there is little variance in scores, and hence they are not useful in distinguishing relative levels of performance, or in making employment-related decisions. In the extreme, if all individuals rated were to receive the same rating, then the scores would not be useful for any employment purpose.

100. Further, to the extent that it is true that bottom performers receive high scores, or strong performers receive relatively low scores, then by definition the scores would neither be reliable nor valid, and any inferences drawn from those scores would not be appropriate (valid).

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<sup>85</sup> American Educational Research Association, American Psychological Association, and National Council on Measurement in Education, *Standards for Educational and Psychological Testing*. Washington, DC: American Educational Research Association (1999).

This is a strong argument for looking at the actual *effects* of the performance reviews, and not simply features of their design or their correspondence with best practices. In my view, therefore, there is strong evidence of lack of validity of the 360-degree performance review scores, where validity is defined as the appropriateness of the inferences from those scores, as used at Goldman Sachs.

**2. An Employee's Rank on the 360-Degree Performance Review Can Deviate Substantially from the Manager's Quartile Assessment.**

101. There is no official limit on how far the Manager quartile can differ from the performance-review rank.<sup>86</sup> For example, an employee may earn a 360-degree rank that places her in quartile 1, but a Manager quartile of 4. *See, e.g.*, GS0123267 at 290. Absent any documentation to justify the bases for a manager's quartile ranking, there is no way to know if the deviation is logical, justifiable, and legitimate or not. This makes auditing difficult, at best.

**3. The Need for Reliable Data from 360-Degree Reviews.**

102. While both of Goldman Sachs' validity studies addressed the inter-rater *reliability* of the competency behaviors in the 360-review instrument, neither study addressed the inter-rater *agreement* of the five or nine dimension ratings assigned to employees by their raters. That was not within the scope of those studies. GS0112986; GS 0113184; GS0116319.

103. Evidence indicates that Goldman Sachs did no such study of the inter-rater reliability or inter-rater agreement of the 5 or 9 dimension ratings assigned to employees by their supervisors. As a result, there is no evidence that the items in the 360 actually generated reliable data. As is well known in the field of I/O psychology, unless ratings are reliable, they cannot be valid.

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<sup>86</sup> Kung Tr. at 321:23-323:9; Heller-Sberlati Tr.at 106:11-107:6; Larson Tr. at 160:11-20.

**D. Compensation-Setting.**

104. Goldman Sachs has a lack of clear standards for decision-making in the compensation-recommendation process; Goldman Sachs does not ensure that raters are calibrated to a common behavioral standard; managers' inputs to their quartiling decisions are unweighted and undocumented; there is a lack of adequate monitoring; especially before 2011, and also after, managers were not required to follow reliable, valid measures to reward performance in that there was not a written list of compensation metrics.<sup>87</sup>

105. Goldman Sachs exacerbates the unfairness of its system by how it uses performance assessments in compensation decisions. According to the "2011 Compensation Communication Guide: For IBD Business Unit Leaders," employee total compensation reflects a combination of four factors: firm performance, divisional performance, individual performance (including the relative value of roles across the division), and the competitive environment. GS0116957 at 959. For similarly situated individuals, firm and divisional performance should affect all such employees equally. A key driver of differences in compensation recommendations among similarly situated individuals is therefore assessments of individual performance untethered to the 360-degree review. As the IBD document notes, "The Division strives to have a strong correlation between compensation and performance and to differentiate appropriately based on relative performance indicators." *Id.* The performance assessments incorporate all of the problems noted above, and, as I understand the results of the statistical analyses, the outcomes of the compensation-recommendation process have an adverse impact against women.

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<sup>87</sup> The production metrics subsumed within the individual performance category were never written until 2011, and then only as a result of a requirement from the Federal Reserve, and even those metrics were not required to be distributed to managers. *See* Kung Tr. at 217:1-221:12; Responses and Objections to Plaintiffs' First Set of Requests for Admission, No.2, Response at p. 5.

106. As stated above in para. 50, prior to 2011, there were no written lists of compensation metrics in any of the divisions.<sup>88</sup> This meant that managers were not required to follow reliable, valid measures to reward performance. Goldman Sachs witnesses testified that the belief was that managers would know which metrics were relevant in their own businesses, because in order to operate in their line of work, managers regularly review top-level financial reports that include a roll-up of results consisting of organizational metrics.<sup>89</sup> Goldman Sachs' witnesses confirmed that there were no guidelines or training sessions provided to managers on which metrics to follow or how the metrics should factor into compensation.<sup>90</sup> Moreover, to the extent divisional metrics were a guidepost, there was no requirement that they be followed in reliable and valid ways, leaving open to untethered interpretation such ambiguous metrics as the net profits of undifferentiated teams or indirect performance measures relating to risk.”<sup>91</sup>

107. In 2011, the divisions created written lists of metrics used to evaluate an employee's financial performance. GS0122913 (Securities); GS0122904 (IBD); GS0122937 (IMD). The framework documents that accompany these metrics charts contain guidelines on how the metrics are supposed to factor into compensation. *See* GS0115138 (Securities); GS0115057 (IBD); GS0122653 (IMD). However, the frameworks and metrics charts were not distributed to managers; they were intended for the eyes of the senior leadership.<sup>92</sup>

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<sup>88</sup> Kung Tr. 142:12-143:7; Heller-Sberloti Tr. 130:9-135:20; Larson Tr. 90:7-91:10.

<sup>89</sup> Kung Tr. 219:15-221:12; Heller-Sberloti Tr. 130:9-131:4; Larson Tr. 90:7-22. The regularly run financial reports tend to be aggregate level—that is, reports on the performance of the particular business unit, or desk within business unit. The testimony is that if a manager wanted individual or team data, he or she could request it or could look it up. Kung Tr. 127:16-135:4; Heller-Sberloti Tr. 161:18-164:17; Larson Tr. 91:23-92:16.

<sup>90</sup> Kung Tr. 192:7-194:3; 226:18-25; Heller-Sberloti Tr. 159:1-160:11; Larson Tr. 142:22-143:4.

<sup>91</sup> GS0122913 (Securities); GS0122904 (IBD); GS0122937 (IMD).

<sup>92</sup> Kung Tr. at 217-221; Responses and Objections to Plaintiffs' First Set of Requests for Admission, No. 2, Response at p. 5.

108. There was no requirement that managers document the specific metrics they relied on for bonus-recommendation decisions, and there is no documentation of the relative weights they assigned to those metrics.<sup>93</sup> Indeed, there is no way to know whether any given manager used some, none, or all of these metrics in formulating his or her compensation-recommendation decisions because the divisions do not monitor whether managers have considered the appropriate performance metrics in their compensation-recommendation decisions.<sup>94</sup>

109. Quartiling decisions, a major input into bonus-recommendation decisions, were not shared with employees and were woefully undocumented, as were the bonus decisions themselves. To the extent that documentation of HR practices is a best practice, then I conclude that Goldman Sachs failed to follow this best practice with respect to compensation-setting decisions.

110. The quartiling process places individuals into pay groups that are supposed to be similarly situated in terms of performance. The flaws in the performance-assessment process as described above translate into the forced-rank quartiling, and then into compensation recommendations, resulting in large, unjustified differences in outcomes for men and women. As a result, similarly situated women in the quartiling process do not receive equitable pay outcomes. Therefore, the extreme disparity between the size of the gender difference seen in the compensation recommendations in comparison to size of the gender difference seen in the quartiling procedure cannot be justified.

111. Based on these concerns, I conclude that the compensation-setting process at Goldman Sachs is not reliable or valid.

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<sup>93</sup> Kung Tr. at 134:18-136:14; Heller-Sberloti Tr. at 161:18-164:17; Larson Tr. at 93:11-98:4.

<sup>94</sup> Kung Tr. at 127:16-135:4; Heller-Sberloti Tr. at 161:18-164:17; Larson Tr. at 91:23-92:16.

**E. Training.**

**1. Goldman Sachs Does Not Ensure that Raters are Calibrated to a Common Standard.**

112. VP's and MD's receive mandatory training upon promotion to their new positions, and this training covers a variety of topics, including review writing and quartiling of employees under them. However, there is no evidence to suggest that the training was focused on teaching managers to reach a common understanding and rating of different types or levels of behavior, for example, regarding teamwork or commercial effectiveness. After this mandatory training, there was other training *available* to them, but there was no other requirement to seek out and attend further training on those topics.<sup>95</sup>

113. Quartiling does force raters to spread out their ratings into various "buckets," and that might help a given rater to distribute his or her ratings from high to low if the rater was supervising a group of truly differently performing employees (which, as indicated by the clustering of 360-degree review scores, was not present here). However, it still does not address the issue of calibration across all raters. That is, its objective is not to help managers to reach a common understanding and rating of different types or levels of behavior, for example, regarding teamwork or commercial effectiveness. Nor does it help managers to develop a common framework for assigning employees to any particular "bucket."

**F. Absence of Meaningful Auditing**

**1. Goldman Sachs has Not Responded Adequately to the Gender Differences in Performance Evaluation and Pay.**

114. As discussed in Section VII, an employer the size and sophistication of Goldman Sachs must monitor for adverse impact. However, inconsistently with the SIOP Principles and

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<sup>95</sup> Heller-Sberloti Tr. at 93:16-94:2; 96:5-13; 97:13-98:3; Larson Tr. at 171:14-18. *See also* GS187864-78; GS0251447-89.

the Uniform Guidelines, Goldman Sachs does not seek to validate its practices, as implemented in practice, and/or take steps to reduce or eliminate adverse impact.

115. Dr. Farber's report indicates adverse impact against women in the revenue-producing Divisions at Goldman Sachs in performance evaluation, pay, and promotion.

116. There is no documented audit of how managers use objective performance metrics. It therefore appears that there is no effective firm-wide or divisional auditing of how quartiling or compensation-recommendation decisions are actually made, and no requirement for managers to document those decisions. This makes this system open to bias.

**2. There is No Evidence of Standard Training of Senior Managers on How to Review Quartiling Results or Compensation Recommendations with Lower-Level Managers.**

117. As previously discussed, there is no requirement at Goldman Sachs that the bases or weights of contributing factors to quartiling decisions be commonly understood, much less documented. Nor do the training materials address the content of higher-level reviews of quartiling results or compensation recommendations with lower-level managers.

**3. Goldman Sachs Was Indifferent to Known Disparities.**

118. To assess the implementation of performance-rating systems, experts recommend ongoing monitoring. A key feature of such monitoring is the analysis of ratings data. Thus, for example, Pulakos recommends analysis of average rating scores and distributions of ratings by race/gender group to evaluate the equivalency of ratings across groups.<sup>96</sup> Similarly, Aguinis notes, "As a precautionary measure, data should be gathered on an ongoing basis regarding performance scores obtained by members of various groups, broken down by the categories

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<sup>96</sup> E.D. PULAKOS, PERFORMANCE MANAGEMENT: A NEW APPROACH FOR DRIVING BUSINESS RESULTS 119 (2009).



indicated by the law (*e.g.*, sex, ethnicity). A periodic review of these data can help detect the presence of adverse impact, and the organization can take corrective action if necessary.”<sup>97</sup>

119. The ELG follows up each year with some managers to discuss their compensation decisions or quartile decisions, and managers make changes to those as a result.<sup>98</sup>

120. The existence of these review processes indicates that Goldman Sachs knew that women were being disadvantaged by the quartiling process, and also that they were underpaid relative to similarly situated men, but the statistical analyses in this case show that it has failed to correct the problem.

**a. HCM Reviews of Quartiling**

121. Here is what the deposition testimony of Divisional representatives actually tells us about HCM reviews:

a. Sberloti Tr. at 321:8-20: HCM aggregates quartiles to make sure business units properly bucketed people (by business unit, region, and title)—*i.e.*, percentages are correct.

b. Sberloti Tr. at 322:24-323:7: If the buckets are basically right, HCM does not revisit quartiling.

c. Larson Tr. at 70:17-21: “The managers submit their quartile recommendations to HCM, who looks at that to ensure that there has been a mathematical—mathematical compliance with the parameters around the quartiling process.”

d. Kung Tr. at 140:2-5: “We believe that quartiling is a manager’s best judgment, and to be so formulaic about it might not be the best approach.”

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<sup>97</sup> Aguinis, *supra* note 77, at 258.

<sup>98</sup> Kung Tr. 161:16-163:1 (“As I stated before, I’m aware of changes that have resulted from this process ... Legal has an opportunity to ask questions and engage in a dialogue with the business managers after their review and changes may come out of it, but again, it’s not legal making the change without their knowledge and agreement, it’s a discussion.”).

122. Here is what the deposition testimony of Divisional representatives tells us about rules to identify discrepancies between 360 and Manager quartiles:

a. Kung Tr. at 89:13-90:14: Discussion of employees who have a Manager quartile of 4 or 5, but a 360 quartile of 1, 2, or 3. Witness would not answer direct question (“Are you aware of any report that compares compensation to 360 quartile four and five?”)—This seems to support the position that HCM did not flag instances of large discrepancies between manager and 360 quartiles.

b. Sberloti Tr. at 36-48: witness unable to articulate any process for finding outliers beyond the fact that these numbers are listed together on reports.

c. Larson Tr. at 161:25-162:10: “IBD and HCM team” do an initial review for differences between 360 results and the proposed Manager quartile. (*See also* Plaintiff’s Depo. Ex. 141, IBD compensation guidelines—page marked I-6—“Non-routine differences between 360 degree review results and the proposed manager and performance quartile rank are noted and followed up on as necessary.”).

d. Larson Tr. at 187:9-12: “Q—Are there any restrictions on how far a Manager quartile can deviate from the performance review quartile? A—No.”

e. Larson Tr. at 190:18-24: IBD HCM might flag a difference that was more than one adjacent quartile from the other.

123. I conclude from this that the Divisional HCM review was a high-level review that generally did not consider individual cases. In addition, it does not appear that there are uniform rules regarding when Divisional-level HCM must consider a discrepancy between the 360 quartile and Manager quartile large enough to investigate further.

**b. Senior-Management and Business-Unit Audits of Quartile Reviews; ELG Review.**

124. Here is what the deposition testimony of Divisional representatives tells us about the content of senior-management reviews, and this testimony confirms my conclusions that senior managers did not meaningfully audit individual-level quartiling decisions, and that limited-purpose review of quartiling decisions does not amount to an audit.

125. Senior-Management's limited-purpose review of quartiles does not amount to an audit of quartiling decisions:

a. Sberloti Tr. at 327:7-10: "divisional leadership doesn't direct changes on individual quartiles. They just direct changes about the aggregate information."

b. Sberloti Tr. at 85:9-11: quartiling information is available in the Round One Compensation Meeting, "but the decisions are not discussed. Those decisions were made earlier."

126. ELG Review:

a. Kung Tr. at 161:20-23, 163:12-17: Changes in quartiles (or compensation) based on legal review are "quite rare" and if there are any changes, "it would only be a handful of individuals."

127. I conclude from this testimony that there is no evidence that senior-management reviews focused on decisions at the level of each individual's quartile assignment. At the business-unit level, at least in the Investment Management Division (represented by Ms. Kung), it does not appear there was in-depth discussion of quartile and compensation recommendations. In the Securities Division, it appears that there was discussion among managers of their quartile assignments. *See also* GS0212609-11 (plan for compensation committee to spend "on average, 1 minute per senior banker and highlight any outliers on the juniors").

128. Of overriding significance for my conclusions, is that whatever may or may not have happened from Goldman Sachs' legal review of certain quartiling or pay decisions, adverse impact against women persisted year after year.

4. **Self-Audits: Admonitions to Self-Monitor for Stereotypes and Biases Do Not Prevent Raters from Allowing Their Biases to Influence Their Ratings.**

129. Manager Quartiling Guidelines, 2005-2011 each contain generally the same admonition to managers who will be assigning employees to quartiles, namely "As in past years, an independent review process, with special focus on women, historically underrepresented groups, and certain other groups will be applied to the Performance Quartile Process. Ensure that you are able to validate any substantial differences between 360 review data and the performance quartile you assign, and that the performance quartiles are fair and factually grounded for women, historically underrepresented groups, and certain other groups."

130. In fact, three separate studies have shown that when an organization is explicitly presented as meritocratic (that is, everyone has an equal chance to advance and to obtain rewards based on their individual merits and efforts, regardless of their gender, race, class, or other non-merit factors), individuals in managerial positions favor a male employee over an equally qualified female employee by awarding him a larger monetary award.<sup>99</sup> The authors manipulated both the gender of the employees being evaluated and whether the company's core values emphasized meritocracy in evaluation and compensation. The authors did not specifically use forced ranking or 360-degree feedback in their studies, but their results clearly show that the pursuit of meritocracy may be more difficult than it first appears. Indeed, admonitions to self-

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<sup>99</sup> Emilio J. Castilla and Stephen Benard, *The Paradox of Meritocracy in Organizations*, 55 ADMINISTRATIVE SCIENCE QUARTERLY 543, 543-576 (2010).

monitor for stereotypes and biases may not prevent raters from allowing their biases to influence their ratings. Paradoxically, they may have the opposite effect.

131. Thus, the record of the auditing and reviews further confirms my conclusions that, pursuant to the SIOP Principles and the Uniform Guidelines, Goldman Sachs must monitor for adverse impact and it must address the unknown reliability and validity of its systems, as actually implemented in practice. It also further confirms my conclusions that Goldman Sachs does not meet best practices as relates to monitoring.

**IX. CONCLUSION**

132. Based on the methodology in my field, I have identified policies and practices that are inconsistent with, and disregard, basic standards of reliability and validity, and are not adequately monitored. These failings are predicted to create unreliable or possibly biased outcomes, which is consistent with the evidence here. The gender differences in performance evaluation and pay are therefore not justified.

  
Wayne F. Cascio, Ph.D.  
February 18, 2014

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## Appendix A

### Curriculum Vitae of Wayne F. Cascio

September 2013

- Current Position:** Distinguished University Professor, University of Colorado, and Robert H. Reynolds Chair in Global Leadership, The Business School, University of Colorado Denver, Campus Box 165, P.O. Box 173365, Denver, Colorado 80217-3364. Telephone: (303) 315-8434.
- Awards:** Society for Industrial and Organizational Psychology, Distinguished Scientific Contributions award, 2013; University of Geneva, Switzerland, IOMBA professor of the year, 2013; elected by the Australian Human Resources Institute as a Life Fellow, 2012; named by the Board of Regents as a Distinguished University Professor, 2011; Society for Human Resource Management, Michael R. Losey Human Resource Research Award, 2010; Methodology prize, Work, Employment and Society conference, British Sociological Association, 2010; named in 2008 by the *Journal of Management* as one of the most influential scholars in the field of management over the past 25 years; in 2009 the Australian Human Resources Institute established an annual Wayne Cascio Award for Responsible Restructuring; Professor of the year, 11-month MBA, 2012, 2011, 2007, and 2004; University of Geneva, Doctor honoris causa, 2004; outstanding teacher, Masters in HR program, University of Hawaii, 2009; 1999 Heneman Career Achievement Award, Human Resources Division, Academy of Management; Best article award, *Academy of Management Executive*, 1994 and 2003; Bemis Award for Excellence in HRM PMA Assessment Council, 1994; Best paper award, Human Resources Division, Academy of Management, 1992; Outstanding teacher, U. of Colorado Executive MBA Program, 1993-1994, 2005-2006; Outstanding Researcher, CU-Denver College of Business, 1983 and 1990; The Distinguished Faculty Award, Personnel/Human Resources Division, Academy of Management, 1988; Outstanding Young Men in America Award, 1980; listed in: Who's Who in America; Who's Who in American Men of Science; Who's Who in the West; Community Leaders of the World; International Man of the Year Award 1992/1993 for contributions to education (Cambridge, England International Biographical Centre).
- Career Timeline:** 1981 (August) to present: The Business School, University of Colorado Denver  
1980-1981 Visiting Associate Professor of Management and Psychology, University of California, Berkeley  
1973-1980 School of Business and Organizational Sciences, Florida International University, Miami, Florida
- Other Visiting Positions  
Visiting Professor, Vietnam Executive MBA program (Saigon), University of Hawaii, February 2012-2013.  
Visiting Scholar, National University of Singapore, February, 2010  
Visiting Professor, University of Hawaii, March 2009, 2011, and 2013 (2009 sabbatical; guest lectures)  
Visiting Professor, University of Geneva (Switzerland), IOMBA Program, December 2006-2011 (one week, following the end of the Fall term in Denver).  
Visiting Professor, Rotterdam School of Management, July 2003, 2004.  
G. T. Kok Distinguished Professor of Management, Nanyang Business School, Singapore (30 days during summer, 2004-2005).  
Visiting Professor, Hong Kong Baptist University, January 2003-2012 (two weekends each January).

Visiting Professor, Hong Kong Baptist University, January 2003-2012 (two weekends each January).  
Visiting Professor, University of Hong Kong, Dept. of Psychology, Spring semester, 2002 (sabbatical).  
Visiting Scholar, Macquarie Graduate School of Management, Macquarie University, Sydney, Australia, Fall semester, 2001 (sabbatical).  
Summers, 1991 - 1995: Visiting Professor, Faculté des Sciences Economiques et Sociales, Université de Genève, Geneva, Switzerland  
Summer, 1989 - Visiting Professor, Institut für Führung und Personalmanagement, University of St. Gallen, Switzerland.  
Visiting Scholar, The Wharton School of the University of Pennsylvania, Philadelphia, PA, August 1987 - June 1988 (sabbatical).  
Summer, 1984, 1986, 1988, and 1990, Visiting Professor of Management, University of Hawaii at Manoa.

**Professional Certifications:**

Fellow, National Academy of Human Resources; Academy of Management; American Psychological Association, Division of Industrial/Organizational Psychology; Australian HR Institute; Diplomate in Industrial/Organizational Psychology, American Board of Professional Psychology.

**Education:**

1987-1988 Graduate-level courses in financial analysis, The Wharton School, University of Pennsylvania.

1970-1973 University of Rochester, Rochester, New York. Major area of concentration in industrial/organizational psychology; minor areas of specialization in psychometrics and social psychology. Doctoral qualifying exams passed with distinction, June 1972. Ph.D. received, July 1973.

1968-1969 Emory University, Atlanta, Georgia. M.A. in experimental psychology with a concentration in quantitative methods and learning theory. Received a U.S. Public Health Service 4-year fellowship for graduate work.

1964-1968 Holy Cross College, Worcester, Massachusetts Majored in psychology (Dean's list, 2, 3, 4), Woodrow Wilson Fellowship finalist, chapter president, Psi Chi, National Honor Society in Psychology.

**Teaching Experience:**

Graduate (includes MBA, Executive MBA, and doctoral-level courses): Managing People in Global Markets, Valuing and Costing Human Resources, Managing People in the Global Energy Environment, Research Methods in International Business, Managing Global Talent, Statistics for Business and Economic Decisions, Multinational Management, HRM, Managing People for Competitive Advantage, Compensation Administration, Organizational Behavior, Staffing, Training and Development, Management and Leadership, Visionary Leadership and Change Management.

Undergraduate: Compensation Administration, Managing Cultural Diversity, Intermediate Business Statistics, Legal and Social Issues in Human Resource Management, Industrial/Organizational Psychology, Personnel Psychology, Organizational Behavior, Human Resource Management, Recruitment and Selection, Business and Its Environment, Methods in Applied Behavioral Science, and Athletics and Applied Psychology.

**Publications (Books):**

*Short Introduction to Human Resource Strategy* (with J. Boudreau). (2012). Cambridge, UK: Cambridge University Press.

*Managing Human Resources: Productivity, Quality of Work Life, Profits* (9th ed.). (2013). Burr Ridge, IL: Irwin/McGraw-Hill.

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*Human Resources Management: An Information Systems Approach* (with E. Awad). Reston, VA: Reston, 1981.

**Book Chapters, Cases,  
Encyclopedia Entries:**

An evidence-based perspective on emerging HR measurement standards (with J.W. Boudreau). (In press). In S. Jackson and M. Hitt (Eds.), *Oxford Research Reviews*, Oxford, UK.

Costing human resources. (In press.) Volume 5, *Encyclopedia of Human Resource Management*, D. Guest and D. Needle (Eds.), in *The Wiley Encyclopedia of Management*, 3rd edition, Cary L. Cooper, Editor-in-Chief. Chichester, UK: Wiley.

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*U. of Maryland, College Park.* One-hour audio interview played for 1,000 students in response to their questions about current issues in human resources and about the future of the field, April, 2005.

*Responsible restructuring.* Webcast through HR.com, Thought Leader interview as part of “The Changing World of Work,” January 17, 2005.

*Globalization: Implications and impact.* (Interviewed by A. Hosking). *HR Future* (South Africa). January, 2005.

*HR in Alignment.* Hosted and wrote DVD (in-depth examination of the alignment of business and HR strategies and metrics at Sysco, Inc.), plus discussion guide, for the Society for Human Resource Management Foundation. August, 2004.

*HR Role Models, HR in Sync, HR in High Tech (large companies), HR in High Tech (small companies).* Hosted and wrote four-part DVD series (interviews with CEOs and Chief HR Officers from leading companies), plus discussion guides, for the Society for Human Resource Management Foundation. June, 2003.

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*Creative and responsible restructuring: Options for a no-layoff payoff.* The Concours Group HR Staff Meeting Teleconference (18 companies participating), April, 2003.

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**Publications:**

**(Papers and Symposia)** Global talent management: Integrating regional perspectives. In D. Collings & V. Vaiman (Co-Chairs). Discussant. Annual conference of the Academy of Management, Orlando, FL, August 2013.

Institutional Work and positive psychology: Drivers of radical change. Master lecture presented at the invitation of the Board of Scientific Affairs, American Psychological Association, Honolulu, August 2013.

When it comes to practice, do applicant reactions matter? (Co-Chair and discussant). Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Houston, April 2013.

I-O in the legal context: Inconsistencies in understanding and application. (Discussant, C. Hanvey & K. Sady, Co-Chairs). Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Houston, April 2013.

Storytelling: I-O as comedy, tragedy, and theater of the absurd. (Presenter, P. Yost, Chair). Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Houston, April 2013.

Managing HR risks: Dangers as well as opportunities for innovation. Keynote address, 12<sup>th</sup> International HRM conference, MDI, Gurgaon, India, December 2012.

Strategic HR and proactive employees. In C. Freese (Chair), *Managing job crafters and idiosyncratic work arrangements: A blessing or a nightmare for HRM?* Symposium presented at the annual conference of the Academy of Management, Boston, August 2012.

*Managing people, managing risks.* Keynote address, International Federation of Scholarly Associations of Management (IFSAM), Limerick, Ireland, June 2012.

Faculty participant, doctoral consortium, IFSAM, Limerick, Ireland, June 2012.

The business case for reducing workplace discrimination. In R. Dipboye & Nishii, L. (Chairs), *Reducing workplace discrimination: Legal, training, and business-case perspectives.* Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, San Diego, CA, April 2012.

*New technology meets classic training design: Maximizing your ROI.* Keynote address, 8<sup>th</sup> Annual International ASTD Conference, Drakensburg, South Africa, March 2012.

*On-boarding: What leading-edge companies are doing.* Workshop presented at 8<sup>th</sup> Annual International ASTD Conference, Drakensburg, South Africa, March 2012.

*Personnel decisions: Are economic and social objectives incompatible?* Keynote address, conference on The science and practice of fairness in talent decisions, Pretoria, South Africa, March 2012.

Socially Responsible Restructuring. Symposium participant, guest of European Commission, and one of two representatives from the USA. Brussels, Belgium, November 4-5, 2011.

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SIOP Leading-Edge Consortium. Keynote address: "The virtual global workforce: Leveraging its impact." Louisville, KY: October 15, 2011.

HR strategy as risk mitigation. In W. Schiemann (Chair), *Using talent analytics to mitigate risk and drive business results*. Symposium presented at the annual Thought Leaders Conference, SHRM Foundation, Chicago, October 2011.

*Taking stock and looking forward: The HR-performance research agenda over the next 20 years.* In D. Lewin (Chair), facilitator, "Beyond the resource-based view: Other theoretical frameworks for strategic HRM research." Annual conference of the Academy of Management, San Antonio, TX, August, 2011.

*Current and future inclusion efforts in the Academy of Management.* In L. Shore (Chair), facilitator, "Non-academic members and inclusion." Annual conference of the Academy of Management, San Antonio, TX, August, 2011.

*Learning in action: Leveraging data from the employee experience to drive performance* (with A. Herman). Paper presented at the annual conference of the Society for Industrial and Organizational Psychology, Chicago, April 2011.

Downsizing: Factors to consider. In (M. Campion, Chair), *Downsizing: One of the dominant trends of the decade*. Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Chicago, April 2011.

Doing research that influences theory and practice: Two examples of science-practice in action. In (E. Lawler, Chair), *Doing research that influences theory and practice*. Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Chicago, April 2011.

*Methodological issues in international HR management research*. Paper presented at the Work, Employment, and Society conference, British Sociological Association, Brighton, UK, September 2010. Winner of the methodology prize at the conference.

*Human capital issues in the energy industry*. Panelist, Energy, Moving Forward conference, September 14, 2010, Denver, CO.

Keeping HR teaching relevant in a management curriculum (with T. Calo & L. Parks). Professional Development Workshop presented at the annual conference of the Academy of Management, Montreal, Canada, August 2010.

Leadership succession and retention: What do we know? (Discussant, W. Schiemann, Chair). Symposium presented at the annual conference of the Academy of Management, Montreal, Canada, August 2010.

Professional associations: Pathways to bridging the research-practice gap. In S. A. Mohrman (Chair), *Alternative pathways to practice: Actor networks in research that impacts theory and practice*. Symposium presented at the annual conference of the Academy of Management, Montreal, Canada, August 2010.

*Teaching using the case methodology: The Aetna diversity case*. Presented at annual conference of the Society for Human Resource Management, San Diego, CA: June 2010.

*SHRM's new assurance of learning assessment for HR students*. Panelist and presenter at town-hall meeting, annual conference of the Society for Human Resource Management, San Diego, CA: June 2010.

*Leadership succession and retention: what do we know?* In (W. Schiemann, Chair), symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Atlanta, GA, April 2010.

*SIOP's next 25 years: What lies ahead in staffing?* In (G. Greenberg, Chair), symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Atlanta, GA, April 2010.

*Staffing High-Stakes Jobs: Implications of the Ricci Supreme Court Case for I/O Psychology*. (W. Cascio, Chair), symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Atlanta, GA, April 2010.

*Making HR measurement strategic*. In (A. Herman, Chair), symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Atlanta, GA, April 2010.

*21<sup>st</sup>-Century Organizations: Key employee competencies, links to outcomes, and ongoing challenges in assessment*. Keynote address presented at the annual conference of the Personnel Testing Council of Northern California, Berkeley, CA, March 2010.

*If you must downsize, do it right*. Business-school faculty colloquium presented at National University of Singapore, February 2010.

*Managing in difficult times: Alternatives to layoffs*. Seminar presented at the World Economic Forum, Geneva, Switzerland, on December 16, 2009.

*Management and employee-selection research*. Paper presented at conference on 21<sup>st</sup> century competencies and workplace outcomes. National Academy of Sciences, Washington, D. C., February 2010.

*Professional Associations: Supporting Useful Research*. Paper presented at the conference: "Doing Research that is Useful for Theory and Practice – 25 years later (Chairs: E. Lawler & S. Mohrman). Los Angeles: University of Southern California, December, 2009.

*Managing people in a post GFC world.* Faculty seminar presented at University of Pretoria (South Africa) Business School on November 12, 2009.

*Making HR measurement strategic* (with J. Boudreau). Two-hour seminar presented at the annual conference of the Society for Industrial and Organizational Psychology, New Orleans, April 2009.

*The limits of employee engagement.* In M. Frese (Chair), symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, New Orleans, April 2009.

*Methodological approaches to wage-and-hour cases: I-O expert relevance.* In C. Banks (Chair), symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, New Orleans, April 2009.

*Best practice versus legal defensibility: How much validity is enough?* In H. Kriek (Chair), symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, New Orleans, April 2009.

*Staffing 21<sup>st</sup>-century organizations: Finding the right people in a changing world of work.* Keynote address: HR Doctoral consortium, Academy of Management conference, Anaheim, CA: August, 2008.

*The questions we ask and don't ask: Where should we go from here?* All-Academy Professional Development Workshop. Theme leader: "External effectiveness." Academy of Management conference, Anaheim, CA: August, 2008.

*Academy leadership forum.* Invited participant. Academy of Management conference, Anaheim, CA: August, 2008.

*Using the SHRM Foundation DVDs, slide decks, and discussion guides in graduate and undergraduate teaching.* Plenary session, HR/IR Innovations in Teaching conference, Carlson School, University of Minnesota, Minneapolis, April 2008.

*Individual-organizational health: Consequences of mergers, acquisitions, and downsizing.* (2008, April). Invited address presented at the annual conference of the Society for Industrial and Organizational Psychology, San Francisco.

*Bridging the scientist-practitioner gap: Senior executives identify critical research needs.* (2008, April). Panelist; interactive discussion presented at the annual conference of the Society for Industrial and Organizational Psychology, San Francisco.

*Shifting the paradigm: Work in the 21<sup>st</sup> century.* Keynote address, IOOB Graduate Student conference, Denver, March 2008.

*The global dispersion of work and its impact on HR management: Framing the issues.* Keynote address, International conference on strategic HRM, Coimbatore, India, July 31, 2007.

*Academy of Management Public Affairs Forum on Immigration in the U. S.* (Co-Chair, with Cary Cooper). All-Academy symposium, Annual meeting of the Academy of Management, Philadelphia, August, 2007.

*To prosper, organizational psychology should bridge application and scholarship. In To prosper, organizational psychology should...*(J. Greenberg, Chair). Symposium

presented at the annual conference of the Society for Industrial and Organizational Psychology, New York, April, 2007.

*Personality correlates of leniency bias in performance ratings* (with H. Hui and K. Cheng). Paper presented at the annual conference of the Society for Industrial and Organizational Psychology, New York, April, 2007.

*New standards for retaliation claims: What I/O practitioners should know* (A. Gutman, Chair). Discussant. Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, New York, April, 2007.

*SHRM Foundation grant funding: Working to advance HR* (Chair). Panel discussion presented at the annual conference of the Society for Industrial and Organizational Psychology, New York, April, 2007.

*Burnout*. Facilitator, interactive poster session presented at the annual conference of the Society for Industrial and Organizational Psychology, New York, April, 2007.

Ethics and business: Where are we and where do we need to go? (2006, November). Discussant. New York: National Academy of Human Resources.

Decency means more than "Always Low Prices": Comparing Costco to Wal-Mart's Sam's Club. In P. Cappelli (Chair), The Wal-Mart effect on business and society. All-Academy symposium presented at the annual conference of the Academy of Management, Atlanta, August, 2006.

Economic impact of employee behavior on organizational performance. In D. Cohen (Chair), Thirty-five years of workplace reform and research. All-Academy symposium presented at the annual conference of the Academy of Management, Atlanta, August, 2006.

HR education: Its present and its future. Paper presented at the annual conference of the Academy of Management, Atlanta, August, 2006.

Managing change in turbulent times (with L. Fogli). Paper presented at the 6<sup>th</sup> International Conference on Knowledge, Culture and Change in Organizations, Prato, Italy, July 2006.

The new human capital equation. Keynote address presented at the 14<sup>th</sup> International Employment Relations Association Conference, Family-Friendly Employment Policies and Practices. Hong Kong, June 20, 2006.

Weight-based discrimination in employment: Legal and psychological considerations. In M. Harris, Chair, Recent developments in employment discrimination law, and I/O psychology. Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Dallas, May, 2006.

Expert witness discussion hour (co-host and discussant). Annual conference of the Society for Industrial and Organizational Psychology, Dallas, May, 2006.

From business partner to driving business success. In W. F. Cascio (Chair), A new vision of HR management in the 21<sup>st</sup> century. Annual conference of the Academy of Management, Honolulu, August, 2005.

Is the field of HR advancing as a science? (Presenter and discussion leader). Annual conference of the Academy of Management, Honolulu, August, 2005.



HR metrics – Measuring what matters (Chair and discussant). Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Los Angeles, April, 2005.

Analyzing compensation practices for class certification. In M. Harris (Chair), Wal-Mart, Costco, and UPS: I-O psychology and class-certification lawsuits. Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Los Angeles, April, 2005.

Change and challenge: Dominant issues in 1992-1993 and in the future of SIOP. In A. DeNisi (Chair), Past presidents reflect on SIOP's past and project its future. Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Los Angeles, April, 2005.

Reflections on major issues in employment litigation. In F. Landy (Chair), Major issues in employment discrimination litigation. Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Los Angeles, April, 2005.

The changing face of work. (Chair and discussant). Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, Los Angeles, April, 2005.

Workforce measurement: The role of human capital metrics. Paper presented at the 2005 Human Resource Planning Society Global Conference, Miami, April, 2005.

Using the "HR in Alignment" DVD and CD in graduate and undergraduate teaching. Keynote address, HR/IR Innovations in Teaching conference, Park City, UT, April, 2005.

Recent developments in test-score use in personnel selection (presenter; M. Shaffer, Chair). Hong Kong Baptist University, Hong Kong, February, 2005.

"HR in alignment: The link to business results." Human Resource Institute, University of Tampa, 33rd annual issue management conference, Tampa, Florida, February, 2005.

Economic impact of effective human capital management. Keynote address, ASTD South Africa, Cape Town, South Africa, February, 2005.

Globalization and workforce development (Chair). Symposium presented at the Asia Pacific Economic Cooperation (APEC)/U.S. Dept. of Commerce conference on "National Innovation Competencies and Interests in a Globalized World," Broomfield, CO, May, 2004.

HR Metrics – Continuing the journey (Chair). Symposium presented at the annual meeting of the Society for Industrial and Organizational Psychology, Chicago, April 2004.

Managing a downsizing process. In *Resizing the organization* (K. DeMeuse, chair). Symposium presented at the annual meeting of the Society for Industrial and Organizational Psychology, Chicago, April 2004.

Proactive avoidance of legal challenges to employment procedures and practices. In *Expert witness discussion hour* (Co-host), presented at the annual meeting of the Society for Industrial and Organizational Psychology, Chicago, April 2004.

Foundations of Workforce Measurement: Concepts and an Example. Paper presented at the annual Thought Leaders Conference, SHRM Foundation, Chicago, October 2003.

Crafting a value statement for HR scholars and educators. (In D. Stone, R. Klimoski, and M. Watson, chairs). (Facilitator). Second Annual HR Town Hall Meeting, annual conference of the Academy of Management, Seattle, August 2003.

What they don't teach you in graduate school. In E. Salas (Chair). Panelist. Symposium presented at the HR doctoral consortium, annual conference of the Academy of Management, Seattle, August 2003.

Role of the I/O psychologist from the defendant's perspective. In J. D. Arnold (Chair), I/O psychologists' roles in defending and questioning validity in litigation. Symposium presented at the annual meeting of the Society for Industrial and Organizational Psychology, Orlando, FL, April 2003.

Implementing HR metrics: Best practices, lessons learned, and future directions. Chair. Symposium presented at the annual meeting of the Society for Industrial and Organizational Psychology, Orlando, FL, April 2003.

I/O psychologists in business schools (H. Aguinis, Chair). Panelist. Symposium presented at the annual meeting of the Society for Industrial and Organizational Psychology, Orlando, FL, April 2003.

Work-Family Balance: Does the Market Reward Firms That Respect It? (with C. Young). Paper presented at the Leadership in Work/Family Balance conference, Claremont Graduate School, Claremont, CA, February 2003.

Strategic HR leadership in internal and external markets. Keynote address presented at the HR doctoral consortium, annual conference of the Academy of Management, Denver, August 2002.

Combining rigor and research in HR. In P. Wright (Chair), Rigor and relevance in HR science and practice. Symposium presented at the annual conference of the Academy of Management, Denver, August 2002.

Influencing management education and learning through textbook publishing and writing (Chair and presenter). Symposium presented at the annual conference of the Academy of Management, Denver, August 2002.

Educating the HR professional and general manager on key issues in International HRM. In V. Scarpello (Chair), HR education: Is it dead or just sleeping? Symposium presented at the annual conference of the Academy of Management, Denver, August 2002.

The changing world of work: Trends and challenges for applied psychology. Keynote address presented at the 29<sup>th</sup> Interamerican Congress of Psychology, Santiago, Chile, August, 2001.

Enhancing the adoption of HR technologies – A strategic framework. In The gap between science and practice in HRM: Sources of the problem and potential remedies (R. L. Dipboye & K. C. Wooten, Chairs). Symposium presented at the annual conference of the Academy of Management, Washington, D. C., August, 2001.

How technology facilitates virtual work arrangements. In Human resources technology and privacy (D. L. Stone, Chair). Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, San Diego, CA: April, 2001.



On being an expert witness. In Everything you wanted to know about being an expert witness (M. Connerley, Chair). Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, San Diego, CA: April, 2001.

Work workers, and organizations for the new millennium. Keynote address presented at the annual conference of the Assessment Center Study Group, Stellenbosch, South Africa, March, 2001.

Managing a virtual workplace. Paper presented at the annual conference of the Assessment Center Study Group, Stellenbosch, South Africa, March, 2001.

Recruiting and retaining top talent in a tight labor market. Paper presented at the conference on global recruiting sponsored by the Frankfurter Allgemeine Zeitung, Frankfurt, Germany, September, 2000.

On managing a virtual workplace. Paper presented at the 5<sup>th</sup> International Telework conference, Stockholm, Sweden, August, 2000.

Executive education as a vehicle for organizational change (M. Seitchik, Chair). Discussant. Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, New Orleans, April, 2000.

Societal factors impacting the future world of work. In Factors of Change: Reflections and Predictions From Three Past SIOP Presidents (L. Koppes and L. Aiman-Smith, Co-Chairs). Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, New Orleans, April, 2000.

Taking the pulse of workers in a changing world of work. In International Perspectives on the Evolving Role of Human Resource Management ( J. Cleveland, Chair). Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, New Orleans, April, 2000.

Competency models and emotional intelligence: Are they useful constructs? (R. Page, Chair). Discussant. Symposium presented at the annual conference of the Society for Industrial and Organizational Psychology, New Orleans, April, 2000.

Work, workplaces, and workers for the new millennium. Career Creativity conference, London Business School, March, 2000.

Vertical and horizontal individualism and collectivism: Implications for HR management. In J. Cheng (Chair), Vertical and horizontal individualism and collectivism: Implications for international comparative management. Symposium presented at the annual meeting of the Academy of Management, Chicago, August 1999.

Pluralism in academic roles: Using one vehicle to make simultaneous journeys (M. Watson, Chair). Discussant. Symposium presented at the annual meeting of the Academy of Management, Chicago, August 1999.

Does age predict declines in work performance among older workers? In C. Maslach (Chair), Work and well-being. Symposium presented at the Interamerican Congress of Psychology, Caracas, Venezuela, June, 1999.

The future world of work: opportunities and challenges for psychological science. Keynote address presented to the American Psychological Society, Denver, June 1999.

Effects of employment-asset change decisions on financial performance: An analysis of covariance approach. In W. F. Cascio (Chair), Making sense of corporate downsizing: Are we opening Pandora's box? Symposium presented at the annual convention of the Society for Industrial and Organizational Psychology, Atlanta, April, 1999.

Big and little brothers: Recent findings on electronic performance monitoring. In J. M. Stanton & L. Sulsky, (Co-Chairs). Discussant. Symposium presented at the annual convention of the Society for Industrial and Organizational Psychology, Atlanta, April, 1999.

Lost time: Whose problem is it anyway? In S. Kaleta (Chair), Going direct to measure indirect costs. Symposium presented at the annual conference of the Risk and Insurance Management Society. Dallas, April, 1999.

New opportunities for the profession in a global economy. Keynote address presented to the California Psychological Association, San Diego, March, 1999.

Downsizing: The financial impact on organizations. In S. Y. Lim (Chair), Organizational downsizing: Is it justifiable and from whose viewpoint? Symposium presented at the APA-NIOSH Conference on Work, Stress, and Health '99: Organization of Work in a Global Economy. Baltimore, March 1999.

On managing a virtual workplace. Colloquium presented at the Wharton School, Department of Management, University of Pennsylvania, Philadelphia, October, 1998.

The future world of work: Implications for human resource costing and accounting. Keynote address presented at the 10<sup>th</sup> anniversary conference of the Personnel Economics Institute, University of Stockholm, Stockholm, Sweden, September, 1998.

Is age a proxy for declines in performance among workers over 65? In J. W. Daum (Chair), We all get older, so what exactly is the problem? Issues relating to an aging workforce. Symposium presented at the 24<sup>th</sup> International Congress of Applied Psychology, San Francisco, August, 1998.

Emerging HR issues in five Latin American countries. Paper presented at the IberoAmerican Academy of Management, Academy of Management meeting, San Diego, August, 1998.

Key unresearched issues in international HR management. In H. Aguinis (Chair), What matters most in international HR management. Paper presented at the Academy of Management meeting, San Diego, August, 1998.

Work-life issues and economic outcomes. In E. Galinsky, (Chair), Work-life issues and business results: What the latest research tells us. Symposium presented at the 1998 Work & Family conference, New York City, March, 1998.

On managing a virtual workplace. Keynote address presented to the British Psychological Society, Occupational Psychology Division, Eastbourne, UK, January, 1998.

Consequences of downsizing and some alternatives. In D. A. Whetten (Chair), Downsizing: Research progress, and insight from the field. Symposium presented at the annual conference of the Academy of Management, Boston, August, 1997.

Strategic spinoffs: HR implications. In J. C. Quick (Chair), Strategic spin-offs in the 1990s and their human resource implications: The second-stage separation of EDS from

General Motors. Showcase symposium presented at the annual conference of the Academy of Management, Boston, August, 1997.

Civility in organizational downsizing: Antecedents and consequences of fairness in layoff practices. In D.P. Skarlicki & Folger, R. (Co-Chairs). Discussant. Symposium presented at the annual conference of the Academy of Management, Boston, August, 1997.

Whither industrial and organizational psychology in a changing world of work? Keynote address presented at the annual meeting of the British Psychological Society, Edinburgh, Scotland, April, 1997.

Internal and external accounting for human resources: Shifting the paradigm. In H. M. Schoenfeld (Chair), Accounting and human resources - An unresolved issue. Symposium presented at the 20th Annual Congress of the European Accounting Association, Graz, Austria, April, 1997.

HR effectiveness: The structural perspective. In R. Jacobs (Chair), Measuring HR effectiveness: So how are we doing? Symposium presented at the 12th annual meeting of the Society for Industrial and Organizational Psychology, St. Louis, MO, April, 1997.

Can we send her there? A theoretical model to predict the outcomes of female expatriate assignments (with P. Caligiuri). In W. Cascio (Chair), Global Assignments. Symposium presented at the 12th annual meeting of the Society for Industrial and Organizational Psychology, St. Louis, MO, April, 1997.

The impact of downsizing on the financial performance of firms (with C. Young and J. Morris). In B. Gerhart (Chair), Employment practices and organizational performance in the midst of change. Showcase symposium presented at the annual convention of the Academy of Management, Cincinnati, OH, August, 1996.

Responsible restructuring: Alternatives to downsizing. Distinguished invited speaker, Human Resources Division, annual convention of the Academy of Management, Cincinnati, OH, August, 1996.

Patterns of work motivation in 24 countries. (1996, April). In R. Page (Chair), Going global: issues in applying I/O psychology across cultures. Symposium presented at the eleventh annual conference of the Society for Industrial and Organizational Psychology, San Diego.

Updating the use of an existing multi-aptitude test battery for selecting employees in widely differing jobs. (1996, April). In M. H. Haucke (Chair), Validation of a multiple aptitude test battery. Symposium presented at the eleventh annual conference of the Society for Industrial and Organizational Psychology, San Diego.

Company policies on severance agreements. (1995, October). In P. Gabrault (Chair). Severance agreements: Doing them the right way. Heartland Labor and Employment Conference, Law School, University of Missouri, Kansas City, MO.

Utility theory as a decision-making tool. (1996, April) Discussant for symposium presented at the eleventh annual conference of the Society for Industrial and Organizational Psychology, San Diego.

Responsible restructuring. (1995, October). Keynote address, Heartland Labor and Employment Conference, Law School, University of Missouri, Kansas City, MO.

Utility analysis: Its current and future role. In H. Theeke (Chair), Should the research on utility theory continue: Why and why not? Symposium presented at the annual conference of the Academy of Management, Vancouver, B.C., August, 1995.

End-games in international alliances (with M. Serapio). Papers and Symposia Paper presented at the annual conference of the Academy of Management, Vancouver, B.C., August, 1995.

4th Asia-Pacific Conference on Human Resources, Keynote address: "Organizational Restructuring." May, 1995, Singapore.

Society for Industrial and Organizational Psychology. Master tutorial: "Restructuring organizations: Practices, policy issues, and guidelines for action." Also, symposium participant: "Research strategies: Personal secrets and perspectives." Also, symposium discussant, "The Dutch approach to the study of work and organizational psychology." May, 1995, Orlando, FL.

National I/O and OB Graduate Student Conference. Keynote address: "Making IO/OB Relevant in a Changing World of Work." March, 1995, Denver.

The Cost of Downsizing. Paper presented at the third annual Utility and Energy Industries Conference, Institute of Industrial Engineers, St. Petersburg, FL, February, 1995.

Discussant, in H.J. Bernardin (Chair), Legal and organizational consequences of downsizing. Symposium presented at the annual convention of the Academy of Management, Dallas, August, 1994.

Long-term impacts of downsizing organizations on people and markets. Keynote address presented at the 23rd International Congress of Applied Psychology, Madrid, Spain, July, 1994.

Are there rewards that universally motivate behavior? The role of performance definition, facilitation, and encouragement. In H.Thierry (Chair), "Are there universals in compensation?" Symposium presented at the 23rd International Congress of Applied Psychology, Madrid, Spain, July, 1994.

Selecting managers in an international context: Assumptions and practices. In I.L. Goldstein (Chair), "Emerging issues in selection research in complex organizational environments." Symposium presented at the 23rd International Congress of Applied Psychology, Madrid, Spain, July, 1994.

I/O Psychology in a Changing World. Presidential address, eighth annual conference of the Society for Industrial and Organizational Psychology, San Francisco, April, 1993.

Implications of Alternative Methods of Test Score Use in Personnel Selection (with J.G. Veres, III). In I.L. Goldstein (Chair), Issues Concerning Test Validity and Adverse Impact. Symposium presented at the eighth annual conference of the Society for Industrial and Organizational Psychology, San Francisco, April, 1993.

Soroka v. Dayton Hudson and Implications for Personality Assessment in Employment (D.C. Brown, Chair). Discussant. Symposium presented at the eighth annual conference of the Society for Industrial and Organizational Psychology, San Francisco, April, 1993.

Staffing research and practice: A macro, strategic perspective (with R. Schuler). Pre-conference workshop, Academy of Management, Atlanta, August, 1993.

The 1991 Civil Rights Act and the Americans With Disabilities Act of 1990: Requirements for Psychological Practice in the Workplace. Master Lecture presented at the annual convention of the American Psychological Assoc., Toronto, Canada, August 1993.

New Developments in the Use of the Sliding Band Technique, also, Corporate Due Process in Employee Relations. Papers presented at the conference on "Fairness in Personnel Decisions," March 1993, Pretoria, South Africa.

Performance and Quality in Human Resource Management: What Should We Be Measuring? Keynote address presented at the annual meeting of the Institute of Personnel Management New Zealand, Christchurch, September, 1992.

The Invisible Costs of Turnover and Absenteeism. Also, Change for Change Sake? Gauging the Needs, Counting the Costs. Papers presented at the annual meeting of the Institute of Personnel Management New Zealand, Christchurch, September, 1992.

Downsizing: Economic and Human Perspectives. Keynote address presented at the symposium on personnel economics. University of Stockholm, Sweden, September, 1992.

Uniform Guidelines Revisited: Perspectives from the Past, Present, and Future (M.C. McCulloch, Chair). (1992, August). Symposium presented at the 100th annual convention of the American Psychological Association, Washington, D.C.

Differential Assignment - The Classification-Efficient Job Matching Technology (J. Zeidner, Chair). (1992, August). Symposium presented at the 100th annual convention of the American Psychological Association, Washington, D.C.

Blending the Science and Practice of Industrial and Organizational Psychology. (1992, August). In W.F. Cascio (Chair), Industrial and Organizational Psychology as Science: Past, Present, and Future. Symposium presented at the 100th annual convention of the American Psychological Association, Washington, D.C.

The Relationship of I/O Science and Practice: Challenges and Strategies. (1992, August). Invited science/practice panel discussion presented at the 100th annual convention of the American Psychological Association, Washington, D.C.

The Transnational Generalizability of Knowledge and Practices in the Field of Human Resource Management (with H. Kriek, G. Probst, and J. Y. Mercier). In D.D. Davis (Chair), The Universality of Science and Practice in Industrial and Organizational Psychology. Symposium presented at the 7th annual conference of the Society for Industrial and Organizational Psychology, Montreal, May, 1992.

Chair, Presidential Address. Richard Klimoski presenting: "Revitalizing the Interface Between Science and Practice." Seventh annual conference of the Society for Industrial and Organizational Psychology. Montreal, May, 1992

Costs and Benefits of Training in Organizations: Methods and Results. Presentation to Board of Senior Scholars, National Center on the Educational Quality of the Workforce, U. of Pennsylvania, February, 1992.

International Assessment and the Globalization of Business: Riddle or Recipe for Success? Keynote address presented at the National Assessment Conference, Minneapolis, September, 1991.

Reconciling Economic and Social Objectives in Personnel Selection: Impact of Alternative Decision Rules. Paper presented at the conference on Human Rights and Employment: Interdisciplinary Perspectives. McGill University, Montreal, May, 1991.

Incentive and Performance Appraisal Systems in Eastern Europe. In R. Schuler (Chair), From a Command Economy to a Demand Economy: Emerging Issues in Operations and Human Resource Management in Eastern Europe. Symposium presented at the annual convention of the Academy of Management, Miami, August, 1991.

New Management Visions: Implications for HRM Theory, Research, and Practice. (R. L. Cardy, Chair). Served as discussant for symposium presented at the annual convention of the Academy of Management, Miami, August, 1991.

The Impact of Dynamic Criteria on the Assessment of the Outcomes of Selection and Training Programs. Paper presented at the sixth annual convention of the Society of Industrial and Organizational Psychology, St. Louis, April, 1991.

What Americans Have Learned From 25 Years of Equal Employment Opportunity Legislation and Court Cases. In H. J. Kriek (Chair), Affirmative Action or Equal Opportunity in the New South Africa? Symposium presented at the conference on Fair Personnel Decisions, Pretoria, South Africa, March, 1991.

Personnel Decisions: Are Economic and Social Objectives Incompatible? Also, International HRM Issues for the 1990s, and Managing a Pluralistic, Multicultural Workforce. Papers presented at the conference on Fair Personnel Decisions, Pretoria, South Africa, March, 1991.

The Future Role of Management Assessment and Development (Keynote address), Assessment Centers - International Trends, and The Cost Effectiveness of Assessment Centers. Papers presented at the annual conference of the Assessment Center Study Group, Stellenbosch, South Africa, March, 1991.

Personnel Selection in the Context of Human Resource Management. Keynote address presented at the First All-Germany Conference on Personnel Selection, University of Hohenheim, Stuttgart, Germany, March, 1991.

Methodological Issues in Cross-Cultural HRM Research. Paper presented at the annual meeting of the Society for Organizational Behavior, Berkeley, CA, October, 1990.

Human Resource Management as a Field: Problems and Opportunities. Keynote address, P/HR Division doctoral consortium, Academy of Management National Convention, San Francisco, August, 1990.

International Human Resource Management Issues for the 1990s. Paper presented at the seventh annual colloquium on selected issues in international business. Pacific Asian Management Institute, University of Hawaii, July, 1990.

Selection Models for the 1990s. (with J. Outtz). Master tutorial, Society for Industrial and Organizational Psychology, Miami, April, 1990.

Legal Issues for the 1990s - Challenges and Opportunities for I/O Psychologists. (D. Friedland, Chair). Symposium presented at the fifth annual convention of the Society for Industrial and Organizational Psychology, Miami, April 1990.



International Human Resource Management Issues for the 1990s (with D.L. Stevens). Also, The United States and Taiwan: Two Different Cultures Look at Performance Appraisal (with G. McEvoy). Papers presented at the 2nd biannual conference on International Human Resource Management, Hong Kong, December, 1989.

New Challenges for HRM: Can O.B. Theories Help? Showcase session, R. Klimoski (Chair). Annual convention of the Academy of Management, Washington, D.C., August, 1989.

Human Resources and Global Competitiveness. Workshop presented at the conference on "European Integration and Global Competitiveness." University of St. Gallen, Switzerland, May, 1989.

Organizational Preferences for Formal Evaluation, Appraisal, and Selection Systems: A Cross-National Comparison. Paper presented at the conference on "The Individual and Organizational Sides of Selection and Performance Evaluation and Appraisal." Hohenheim University, Stuttgart, Germany, May, 1989.

Alternatives for Dealing with the Demographic Boom-Bust: I/O Psychology's Contribution. (M. Greller, Chair). Symposium presented at the fourth annual convention of the Society for Industrial and Organizational Psychology, Boston, April, 1989.

Legal Burden in Employment Selection: Recent Court Cases. (W. Camarra, Chair). Symposium presented at the fourth annual convention of the Society for Industrial and Organizational Psychology, Boston, April, 1989.

Accounting for Human Resources. Paper presented at the joint UCLA UC-Berkeley Conference, "Employment Issues for the New Administration." School of Business, UC-Berkeley, February, 1989.

Situational Constraints and Dollar-Based Performance Measurement. Invited as distinguished speaker, P/HR Division - Research Methods. Interest Group joint sponsorship, annual convention of the Academy of Management, Anaheim, August, 1988.

Human Resource Management Strategies in the High Technology Industry: Major Issues and a Research Agenda for the Future. In L. R. Gomez-Mejia (Chair), Human Resource Management Strategies in the High Technology Industry. Symposium presented at the annual convention of the Academy of Management, Anaheim, August, 1988.

International HRM - Emerging Areas of Research and Practice. 1988 convention of the Academy of Management, doctoral consortium, Anaheim, CA.

The Use of Utility Approaches as an Evaluation Model. In I. L. Goldstein (Chair), Frontiers in I/O Psychology: Training and Development. Symposium presented at the 3rd annual convention of the Society for I/O Psychology, Dallas, April, 1988.

Assessment - Do the Payoffs Match the Promises? National Assessment Conference, Minneapolis, MN, October, 1988.

Strategic Human Resource Management in High Technology Industry. Plenary address presented at conference on "Managing the High Technology Firm", Boulder, CO, January 13-15, 1988.

Gaining and Sustaining Competitive Advantage: Challenges for Human Resource Management. Keynote address presented at the first annual conference on International Personnel/Human Resource Management, Singapore, December 13-15, 1987.

Demographic and Economic Change, 1980-2020. In P. Pinto (Chair), Trends in the External Environment: Impact on I/O Psychology. Symposium presented at the annual convention of the Society for Industrial and Organizational Psychology, Atlanta, April, 1987.

Guidelines for Defensible Professional Practice in Setting Appropriate Cutting Scores. In R. Alexander (Chair), Setting Cutting Scores: Psychometric, Legal, and Professional Issues and Guidelines. Symposium presented at the annual convention of the Society for Industrial and Organizational Psychology, Atlanta, April, 1987.

Integrating International Issues Into the HRM Curriculum. All-Academy Symposium, annual convention of the Academy of Management, New Orleans, August, 1987

Utility Analysis and Strategic Business Decisions. Workshop, annual I/O Psychology Graduate Student convention, University of Tennessee, Knoxville, April, 1987.

Impact of Selection and Training Research on Productivity, Quality of Work Life, and Profits. Paper presented at the conference, Psychology and White-Collar Productivity: Bringing Together Research and Practice. University of Arkansas at Little Rock, August, 1987.

Disciplinary development and the editorial process (with F. Aven and R. Zammuto). Proceedings of the Southwest Region of the Academy of Management, 29, 225-229, Houston, March 1987.

The Role of Subjective Decision Making in Employment Decisions: The State of the Art. In N. Thompson Powers (Chair), Subjective Decision Making and Employment Discrimination Law. Symposium presented at the annual convention of the Defense Research and Trial Lawyers Association, Palm Beach, FL, November 1986.

Integrating H. R. Program Decisions with Strategic Business Decision Making. Paper presented at the annual convention of the Society for Organizational Behavior, San Diego, October 1986.

Estimation of the Standard Deviation of Job Performance in Dollars: A Comparative Study of Two Behaviorally-Based Methods with a Cost Accounting Approach (with O. L. Greer). Paper presented at the annual convention of the Academy of Management, Chicago, August 1986.

Revising the Uniform Guidelines on Employee Selection Procedures. In H. Wing (Chair), Testing: APA Confronts the Issues. Symposium presented at the annual convention of the American Psychological Association, Washington, D.C., August 1986.

Costs and Benefits of Employee Behaviors. Invited address, Canadian Psychological Association, Toronto, June 1986.

Boundary Conditions on the Role of the I/O Psychologist as Expert Witness. In R. Downey (Chair), I/O Psychology in the Courtroom. Symposium presented at the first annual Conference of the Society for Industrial and Organizational Psychology, Chicago, April 1986.



An Agenda for Research in Utility Analysis. In J. Ledvinka (Chair), Current Issues in Utility Analysis. Symposium presented at the first annual conference of the Society for Industrial and Organizational Psychology, Chicago, April 1986.

Identifying and Selecting Management Talent. Presentation to Business Roundtable, Denver, March 1986.

Turnover and Employee Performance: A Meta-Analytic Review (with G. McEvoy). Paper presented at the annual convention of the Academy of Management, San Diego, 1985.

Extension of Utility Analysis Research to Turnover Reduction Strategies. In S. Wroten (Chair), Overcoming the Futilities of Utility Analysis: Methods, Models, and Management. Symposium presented at the annual convention of the American Psychological Association, Toronto, 1984.

Marketing Behavioral Science Research. Invited presentation, Committee on Scientific Affairs, annual convention of the American Psychological Association, Toronto, 1984.

Contributions of Personnel Professionals to the Bottom Line. Paper presented at the annual convention of the IPMA Assessment Council, Seattle, May 1984.

One Year's Turnover Costs in a Major Brokerage Firm. In M. Quaintance (Chair), Cost Analyses of Human Resource Interventions: Are They Worth It? Symposium presented at the annual convention of the American Psychological Association, Anaheim, 1983.

Psychological Issues in Personnel Decisions: A Critical Analysis and Commentary on Current Research. In I. Goldstein (Chair), Conversation with the 1984 Annual Review Authors. Symposium presented at the annual convention of the American Psychological Association, Anaheim, 1983.

Productivity Improvement: New Directions for the 1980's (Chair). Symposium presented at the annual convention of the American Psychological Association, Washington, D. C., 1982.

The Use of Job Content Information in Personnel Recruitment and Selection. In P. Pinto (Chair), The Use of Job Content Information in Human Resource Management. Symposium presented at the annual convention of the Academy of Management, New York City, 1982.

A Quantitative Approach to Fairness in Personnel Decisions. In D. Petersen (Chair), The Measurement of EEO. Symposium presented at the annual convention of ORSA-TIMS, San Diego, 1982.

Assessment of Mechanical and Technical Job Competency. Paper presented at the Johns Hopkins University National Symposium on Educational Research, Washington, D.C., 1982.

Comparable Worth: Fact or Fallacy? (with C.A. O'Reilly). Paper presented at the annual convention of the American Psychological Association, Los Angeles, 1981.

Value Profiles Among Anglo, Latin, and Black Entrepreneurs (with R. Hodgetts). Paper presented at the annual convention of the Academy of Management, San Diego, 1981.

Making Dollars and Sense Out of Management Development (with G. R. Gilbert). Paper presented at the annual convention of the Academy of Management, Detroit, 1980.

Costing Human Resources. Workshop leader, research roundtable, annual convention of the Academy of Management, Detroit, 1980.

Performance Appraisal and Productivity in an Era of Civil Service Reform (with D. Caldwell and A. Hyde). Full-day workshop presented at the annual convention of the American Society for Public Administration, San Francisco, 1980.

Impact of Performance Appraisal Litigation on Scientists and Practitioners. Invited presentation at the First Annual Scientist/Practitioner Conference in Industrial/Organizational Psychology, Old Dominion University, Norfolk, VA, 1980.

A Value Profile of the Latin Entrepreneur (with R. Hodgetts). Paper presented at the annual convention of the Academy of Management, Atlanta, 1979.

Assessment Centers: A Return on Investment Perspective. Invited presentation at the Seventh International Congress on the Assessment Center, New Orleans, 1979.

The Legal Defense of Police Selection and Promotion Systems. Invited presentation, National Workshop on the Selection of Law Enforcement Officers, FBI Academy, Quantico, VA, 1979.

Human Assessment: Where We Are and Where Are We Going. Invited presentation, USAF Human Resources Laboratory Conference on Human Assessment, Brooks AFB, San Antonio, TX, 1979.

Background and Performance Characteristics of the Problem Police Officer. In H. J. Bernardin (Chair), Understanding, Predicting, and Improving Police Performance. Symposium presented at the annual convention of the Southeastern Psychological Association, New Orleans, March 1979.

The Utility of the Assessment Center as a Selection Device (with V. Silbey). Paper presented at the 86th annual convention of the American Psychological Association, Toronto, Canada, 1978.

Validation, Cross-Validation, and Statistical Power: Implications for Applied Research (with E. Valenzi and V. Silbey). Paper presented at the 85th annual convention of the American Psychological Association, San Francisco, 1977.

Implementation of an Employee Relations Information System in Dow Chemical Latin America (Discussant). In D. Robey (Chair), Management Information Systems and Management, Miami, 1978.

Prosper - Increasing Management Awareness in Race Relations. In H. H. Hendrick (Chair), Beyond Equal Employment Opportunity Approaches for Reducing Racism and Sexism in Organizations. Symposium presented at the 84th annual convention of the American Psychological Association, Washington, D.C., 1976.

Biographical Predictors of Police Performance. Paper presented at the National Conference on the Selection of Law Enforcement Officers. FBI Academy, Quantico, VA, 1976.

Social Temperatures Forecast Managerial Climates (with S. DeGroot). Paper presented at the conference on The New U.S. Economy: Challenges and Opportunities, Miami, 1974.

Coping with Problems of Race in Organizational Environments (Chair). Symposium presented at the annual convention of the Southeastern Psychological Association, Hollywood, FL, 1974.

Sex Differences, Positive Feedback, and Intrinsic Motivation (with E. Deci and J. Krusell). Paper presented at the annual convention of the Eastern Psychological Association, Washington, D.C., 1973.

Changes in Intrinsic Motivation as a Function of Negative Feedback and Threats: Another Test of a Cognitive Evaluation Theory (with E. Deci). Paper presented at the annual convention of the Eastern Psychological Association, Boston, 1972.

Community Recreation Planning by Computer Simulation - Golf in GPSS (with W. Tullar). Paper presented at the annual convention of the Association of Computing Machinery, Chicago, 1971. Proceedings of the ACM, 1971, 245-252.

**Other Written Work:** Foreword to Bob Kelleher's, *Engagement for dummies*. (In press). Hoboken, NJ: John Wiley & Sons.

Provided endorsement for 2013 book, *Theory building in applied disciplines*, by Richard Swanson and Thomas Chermack. San Francisco: Berrett-Kohler.

Provided endorsement for 2013 book, *Green organizations: Driving change with I-O psychology* by Ann H. Huffman and Stephanie R. Klein. New York, NY: Taylor & Francis.

Provided endorsement for 2012 book, *The psychology of workplace technology* by Michael Coover and Lori F. Thompson, (Eds.). San Francisco: Jossey-Bass.

Provided endorsement for 2012 book, *Effective human resource management: A global analysis* by Edward. E. Lawler and John W. Boudreau. Stanford, CA: Stanford University Press.

Provided endorsement for 2012 book, *Cultural agility: Building a pipeline of successful global professionals* by Paula Caligiuri. San Francisco: Jossey-Bass.

Provided endorsement for 2012 book, *HR at your service: Lessons from benchmark service organizations* by Gary Latham and Bob Ford. Alexandria, VA: Society for Human Resource Management.

Provided endorsement for 2012 book, *Calculating success: How the new workplace analytics will revitalize your organization* by Carl Hoffmann, Eric Lesser, and Tim Ringo, Harvard Business Review Press.

Provided endorsement for 2011 book, *Good company: Business success in the worthiness era* by Laurie Bassi, Ed Frauenheim, and Dan McMurrer, with Larry Costello. San Francisco: Berrett-Koehler.

Provided endorsement for 2011 book, *RESPECT: Delivering results by giving employees what they really want*, by Jack Wiley and Brenda Kowske.

Provided endorsement for 2009 book, *Work in the 21<sup>st</sup> century* (3<sup>rd</sup> ed.) by Frank Landy and Jeffrey Conte.

Provided endorsement for 2008 book, *Performance management: A new approach for driving business results*, by Elaine D. Pulakos.

Foreword to D. Lowery's *Battling the corporate giants*. (2006). Salt Lake City, UT: American Book Publishing.

Foreword to Graeme Martin and Susan Hetrick's, *Corporate reputations, branding and managing people: A strategic approach to HR*. (2006). Oxford, UK: Blackwell.

Preface for W. von Schneyder's *Metrics in Human Resource Development – A Bibliography* (2006). Berlin: DeGruyter.

*From Downsizing to Responsible Restructuring*. (2002). Research in action section, in L. K. Stroh, G. B. Northcraft, & M. A. Neale, *Organizational Behavior: A Management Challenge* (3<sup>rd</sup> ed.), p. 410. Mahwah, NJ: Lawrence Erlbaum Associates.

*The Development of a Police Personnel Information System*, (with M. J. Fitzgibbons). Unpublished manuscript, Dade County Public Safety Dept., Miami, 1975.

*Intrinsic-Extrinsic Motivation: Some Parameters for Job Design*. Unpublished manuscript, Management Research Center, University of Rochester, 1972.

*The Selection Interview: Its Functional Utility*. Unpublished manuscript, Management Research Center, University of Rochester, 1972.

*DBSIM - A Computer Simulation of the International Research Groups on Management (IRGOM) Data Bank at the Management Research Center*. Unpublished manuscript, University of Rochester, 1971.

**Grants and Field Work:** 10/95 - 3/96: U.S. Dept. of Labor, Office of Policy Analysis. Received a grant (with C. Young) to conduct original research on the prevalence and consequences of downsizing.

10/94 - 3/95: Office of the American Workplace, U.S. Dept. of Labor. Received a grant to identify "best practices" in restructuring organizations, and to write a guide to responsible restructuring.

10/93 - 2/94: National Center for the Educational Quality of the Workforce, University of PA. Grant to identify public policy issues in training and to document training effectiveness in terms of worker adaptability.

5/89-9/89: Title VI Dept. of Education Grant to develop an MBA-level course in International Human Resource Management.

7/87 - 1/88: Principal investigator, "Performance Measures Cost-Benefit Analysis," USAF Human Resources Laboratory, Brooks AFB, Texas.

5/86-5/91: Principal investigator, chosen as a neutral third party acceptable to plaintiffs and defendants to provide a critical analysis and review of evidence for the validity of 27 employment tests and 10 sets of educational requirements used by the City of Dallas.

5/86-5/87: Principal investigator, "The Relative Effects of Internal and External Labor Markets as Determinants of Pay Levels Within the Firm." University of Colorado research grant.

6/86 - 10/86: Principal investigator, "Developing a Research Agenda for Validation of the Civilian Promotion, Placement, and Referral System Using the USAF Job Performance Measurement System." USAF Human Resources Laboratory, Brooks AFB, Texas.

12/85-6/86: Co-principal investigator (with S. Zedeck). "Validation of the Job Orientation Inventory." Bell South Corp. in cooperation with the seven regional telephone companies.

9/84 - 4/85: Principal investigator, "A Critical Assessment of the Validity and Vulnerability to Legal Challenge of USAF Civilian Selection Procedures." USAF Human Resources Laboratory, Brooks AFB, Texas.

6/83 - 6/84: Principal investigator, "An Update, Critical Analysis, and Commentary on Court Decisions Relevant to Employment". USAF Human Resources Laboratory, Brooks AFB, Texas.

12/79 - 8/80: Principal investigator, "Management Development and Training in Support of the Dade County HUD's Management Assistance Program." Federal HUD grant.

8/79 - 12/80: Principal investigator, "Federal Case Law Related to Personnel Selection and Promotion: An Annotated Bibliography". U.S. Air Force Human Resources Laboratory.

1/79 - 12/79: Principal investigator, "Assessment and Validation of Employment and Promotional Processes used by the City of Hollywood, Florida". IPA grant #H-94-24.

1/78 - 12/78: Principal investigator, "Analysis and Update of Employee Selection Criteria used by Metro Dade County, Florida, Focusing on the Job-Relatedness and Fairness of Personnel Procedures". IPA grant #G-45-36. The project involved a thorough review, update, and in some cases, development of personnel policies and procedures in areas as diverse as recruitment, affirmative action, personnel record keeping, the application blank, background investigations, testing, interviewing, job analysis methods, validation strategies, performance appraisal systems, and discipline. In 1978, Dade County employed 24,000 people in 1,200 job classifications.

9/76 - 6/77: Principal investigator, "Social, Economic, Political, and Ecological Issues Associated with Nuclear Plant Siting". Grant #1E-7005 from the FIU-FAU Joint Center on Environmental and Urban Problems.

1/74 - 1/76: Principal investigator, "Police Officer Selection and Performance Analysis". Police Foundation grant #73-12, Dade County Public Safety Dept., Miami, Florida.

1/72 - 6/73: Director of field research, "On Increasing the Intrinsic Reward Value in Jobs and Careers". Office of Naval Research grant #N00014-67-A-0015 NR151-351.

6/71 - 9/71: Summer internship in organization development at Heublein, Inc., Hartford, Connecticut.

### **Speaking Engagements and Consulting**

Towers Watson. "Talent analytics." Session 3 of TW's Cornerstone program. Chicago, September 2013.

Association for HR Management in International Organizations (AHRMIO). "Making HR measurement strategic." Keynote address, Dublin, Ireland, September 2013.

Personnel Testing Council of Metropolitan Washington, D.C. "Using HR metrics to improve strategic organizational decisions." Washington, D.C., August 2013.

Joint AoM-SHRM “Innovations in HRM Teaching” conference. Keynote presentation, “Teaching HRM: Moving from good to great.” Chicago, June 2013.

Brighton, U.K. Business School, University Forum on HRD conference. Keynote presentation, “Investing in HRD in uncertain times.” Brighton, U.K., June 2013.

Health Sciences Library Staff, Anschutz Medical Campus, University of Colorado. Presentation: “Inter-generational teams at work.” Denver, April 2013.

St. John Fisher College, Rochester, NY. Presented 4-hour workshop on HR risk management and HR analytics to practitioners and masters students in HRD, April 2013.

US Bank. Presentation to top sales-team executives: “Inter-generational teams at work.” Denver, February 2013.

Hong Kong Polytechnic University Business School, Center for Leadership and Innovation. Presentation: “How Institutional Work and Positive Psychology Led to Radical Change at Robben Island.” January 2013.

Nanyang Technological University Business School, Singapore. Presentation: “Seizing the Future: Developing Global HR Standards and Global HR Certification.” January 2013.

Hong Kong Division of I/O Psychology (DIOP) conference. Keynote presentation: “Global HR Standards and Challenges for HR Leaders in Asia.” January 2013.

Anschutz Medical Center, Leadership in Innovative Team Sciences Program, University of Colorado. Presentation: “Working with inter-generational teams.” November 2012.

UCD Business School. Presentation: “Using interviewing techniques with senior executives to generate research hypotheses. November 2012.

Mountain West Credit Union Association. Presentation: “HR analytics: Investing in people.” Aurora, CO October 2012.

World HR Congress. Keynote address: “HR strategy: Optimizing risks, optimizing rewards.” Melbourne, Australia, September 2012.

HARRT at UCLA (Human Resources Roundtable for Senior Executives). Presentation: “Rethinking the performance appraisal/performance management process.” Los Angeles, September, 2012.

Institute for International Business, CIBER Advisory Council. Presentation: “The virtual global workforce: Leveraging its impact.” Denver, September 2012.

International Personnel Management Association. Keynote address: Risk management in HR and assessment. Las Vegas, July 2012.

World Economic Forum, Geneva, Switzerland. Presentation: “Managing people, managing risks.” June 2012.

International HR Community (IHRC), Geneva, Switzerland Chapter. “Managing people, managing risks.” June 2012.

Tilburg University, The Netherlands. Taught HR Analytics in Advanced HR Program, June 2012, 3013.



Union Pacific Railroad. (2010-2012). Consulted on the validation of physical ability tests for five broad groups of jobs within the Engineering and Mechanical Departments.

Velez v. Novartis Pharmaceuticals Corporation. (2011-2012). In the settlement of a gender-discrimination lawsuit, served as joint neutral expert in the redesign of sales-incentive compensation plans to facilitate approved leaves of absence by team members.

Gateway I/O Psychology Association (GIOP). The virtual workforce: Leveraging its impact. Keynote address, March 2012, St. Louis, MO.

Garcia v. Oracle (2012). Served as consulting expert for defendants in wage/hour litigation.

International Organization for Standardization (ISO). HR standards: American national status and global perspectives. Head of U. S. delegation, Washington, D. C., November 10-11, 2011; Melbourne, Australia, September 24-25, 2012.

Personnel Testing Council of Southern California. Keynote address: Embracing challenges and solutions in HR and assessment. Los Angeles, November 4, 2011.

World Economic Forum, Geneva, Switzerland. Half-day workshop on HR Professionals' Day, "Strategic HR and Future Challenges," May 25, 2011.

Employee Engagement Group. "Investing in people." Keynote address presented at HR Summit, Orlando, FL, March 16, 2011.

SHRM India. Presentation – "21<sup>st</sup> century organizations: Key trends and emerging competencies." Mumbai, India, 5 February 2011.

Colorado HR Association. Two presentations – "Strategic HR and Future Challenges," and also "Managing the Post-Merger Integration Process." Denver, 16 February 2011.

Human Resource Planning Society. "Making HR measurement strategic." Half-day workshop, Denver, CO, Sept. 30, 2010.

Rocky Mountain Compensation Association. "Executive compensation: Closing the trust gap." Denver, CO, Oct. 14, 2010.

Northern Trust Bank. "Leadership lessons from the greatest survival story ever told." Presentation to wealth-management advisors, Denver, CO, Oct. 14, 2010.

11<sup>th</sup> HR Congress, Warsaw, Poland. Keynote address: "HR analytics: Using HR data to make strategic decisions. April 27, 2010.

University of Texas at Arlington, Faculty Colloquium: "21<sup>st</sup>-century organizations: Key employee competencies and links to outcomes." Dallas, TX, April 20, 2010.

Front Range Management Seminar (U. of Colorado Boulder, Denver, Colorado Springs; Colorado State University; U. S. Air Force Academy, U. of Denver): Presentation: "21<sup>st</sup>-century organizations: Key employee competencies and links to outcomes." Denver, CO April 16, 2010.

St. John Fisher College, Rochester, NY. Presented 4-hour workshop on HR Analytics to practitioners and masters students in HRD, April 17, 2010.

Nanyang Technological University, Singapore. Served as one member of a 5-person international panel to provide an external evaluation of five research centers at NTU and prepare a report for the Provost. March 25-26, 2010.

Australian HR Institute. Presentation, “21<sup>st</sup>-century organizations: Key trends and emerging competencies. University of Melbourne Business School, March 24, 2010.

Association of HR Managers in International Organizations (AHRMIO). HR analytics: Using data to make strategic HR decisions (with J. Boudreau). Full-day workshop. Wharton School, U. of Pennsylvania, January 2010.

Indian School of Business. Three-day seminar, “Linking HR with business strategy.” Hyderabad, India, January 2010.

World Economic Forum. “Managing in difficult economic times.” Presentation to staff and Fellows. December 2009.

University of Geneva (Switzerland). Taught 5-day module to international organizations MBAs: “Managing people in global markets,” 2009-2013.

University of Pretoria (South Africa), College of Economic and Management Science, Department of Human Resource Management. Served as Chair of three-person external evaluation team, November 2009.

KPMG Global Enterprise Institute. “Globally distributed workforces: Managing people, managing risks.” Denver, October 2009.

Institute for International Business, Global Advisory Board. Lessons from the global crisis in financial services. Denver, July 2009.

Tilburg University, The Netherlands. Taught HR Metrics in Advanced HR Program, also presented colloquium, “Managing in Difficult Economic Times,” June 2009-2011.

Australian Human Resources Institute. Presented workshops in Brisbane, Melbourne, and Sydney on “Managing in Difficult Times,” February 2009.

Hong Kong Baptist University. Taught two-week module on HR Measurement. March 2009, February 2010.

University of Geneva, Switzerland. International Organizations MBA Program. (2008, December). Taught one-week module on “Managing People in Global Markets.”

World Economic Forum. Presentation, 2008, December: “Management lessons from the crisis in financial services.” July, 2008: Conducted three days of workshops for Global Leadership Fellows on “Organizational Renewal: Leadership Strategies for Mergers, Acquisitions, Downsizings, and Succession Planning.” Geneva, Switzerland.

Metro NY Association of Applied Psychologists. “Business value of employee selection.” New York, November, 2008.

Personnel Testing Council of Southern California. Keynote address, “Staffing 21<sup>st</sup>-century organizations.” Huntington Beach, CA, October, 2008.

SHRM Foundation, Thought Leaders’ conference. Keynote presentation: “20/20 vision: Emerging issues facing organizations and HR.” Palm Springs, CA, September, 2008.



Ingersoll Rand, Inc. “Evolving roles of HR and communications.” 2008 HR and Communications conference, Chicago, May, 2008.

Mayflower Group. “Making HR measurement strategic.” Miami Beach, May 2008.

Google, Inc. Presentation: “Got innovation? New ways to think about HR, assessments, and surveys.” Mountain View, CA. April, 2008.

Interdisciplinary Center, Herzliya, Israel. International MBA program: Taught one-week module on “Managing people in global markets.” March, 2008

Technion University, Haifa, Israel, Dept. of Industrial Engineering and Management. Seminar: “Some emerging research needs to address changes in the world of work.” March, 2008.

Western Regional CIBER meeting. Keynote address: “Some Challenges in Managing a Globally Dispersed Workforce,” Denver, March, 2008.

Aditya Birla Group. Keynote address, “Making a World of Difference in HR,” also “Developing Scaleable HR Processes at Global, Regional, and Local Levels,” and “Role of Trust in Building a One-Company Feeling.” HR Summit, Hyderabad, India, January, 2008.

World Economic Forum. Presented two workshops for two different classes of Global Leadership Fellows, one on “Managing Talent” and one on “Organizational Renewal: Leadership Strategies for Mergers, Acquisitions, Downsizings, and Succession Planning.” Geneva, Switzerland, July 12-18, 2007.

International Personnel Management Association Assessment Council (IPMAAC). Keynote address, “Do Employee Behaviors Matter? Some Economic Effects.” National conference, St. Louis, MO, June 12, 2007.

The Conference Board, Work-Life 2007 Conference. Workshop: Meaningful metrics: Measurement tools for HR professionals. New York City, June 13, 2007.

Colorado HR Association. Presentation, “Ethics, The Fabric of Business.” Denver, April 18, 2007.

Shidler College of Business, University of Hawaii. Faculty colloquium, “Decency means more than ‘Always Low Prices:’ A comparison of Wal-Mart’s Sam’s Club to Costco.” Honolulu, HI: Feb. 23, 2007.

Personnel Testing Council of Northern California. Keynote address: “The Human Capital Imperative.” Sacramento, CA, March 22, 2007.

St. John Fisher College. Half-day workshop for faculty and master’s students in HRD: “Valuing HR.” Rochester, NY: March 24, 2007.

University of Southern California, Marshall School of Business. Faculty colloquium, “Decency means more than ‘Always Low Prices:’ A comparison of Wal-Mart’s Sam’s Club to Costco.” January, 2007.

University of Geneva, Switzerland, International Organizations MBA Program. (2006-2010, December; 2011, May). Taught one-week module on “Managing People in Global Markets.”

Instituto de Empresa, Madrid, Spain. (2006, December). Faculty seminar: “The Economic Impact of Employee Behaviors on Organizational Performance.”

More than “Always low prices”: A comparison of Wal-Mart’s Sam’s Club to Costco. Rutt Bridges Seminar Series, UCDHSC, The Business School, October 30, 2006

The new human capital equation. Keynote address presented at the 2006 Work-Life conference, Global economic solutions: Framing work-life’s contributions. New York, NY: June 13, 2006.

Mountain States Employers Council, HR Best Practices Conference. Keynote address, “The economic impact of employee behavior on organizational performance.” Denver, April, 2006.

The Business School, University of Colorado-Denver and Health Sciences Center. Faculty research seminar: “The economic impact of employee behavior on organizational performance.” Denver, April, 2006.

TNT Corp. Taught full-day workshop to HR staff on “Financial impact of human resource management” for Cornell University’s, Center for Advanced Human Resource Studies, Amsterdam, March, April, 2006.

Indian School of Business. Taught 3-day executive education course, “Linking HR strategy to business results,” Hyderabad, India, January, 2007 and January, 2006.

Personnel Testing Council of Southern California. Keynote address: “Test development and use: New twists on old questions,” Long Beach, CA, October 2005.

Washington Group International, HR Leadership Summit. Keynote address: “From business partner to driving business success – The next stage in the evolution of HR management. Denver, September, 2005.

AstraZeneca, PLC. Taught full-day workshop to HR staff on “Costing human resources” for Cornell University’s, Center for Advanced Human Resource Studies, Wilmington, DE, September, November, 2005.

California State Personnel Board. Keynote address: “Economic Impact of Employee Behaviors on Organizational Performance.” HR Metrics conference, Sacramento, September, 2005.

American Express, Inc. Taught two-day module on “Costing human resources” for Cornell University’s, Center for Advanced Human Resource Studies, New York City, June 2005.

Family Business Center, University of Hawaii. “Retirement and health benefits: Changes ahead.” Honolulu, May, 2005.

North Carolina I/O Psychology Assoc. “Trends and changes in the world of work.” Greensboro, NC, April, 2005.

Colorado HR Thought Leaders. “Talent management.” Denver, April, 2005.

School of Business, Nanyang Technological University. Faculty seminar: “Economic impact of effective human capital management,” March, 2005.

University of Johannesburg, Center for Work Performance. Workshop: “Aligning HR strategy with general business strategy: The case of SYSCO Corporation.” Johannesburg, South Africa, February, 2005.

Hong Kong Baptist University. Taught 32-hour module on quantitative methods for HR professionals. February, 2003-2006, 2008-2012, Hong Kong.

SHL, South Africa. Half day workshop: “New realities of recruitment and retention.” Pretoria, South Africa, January, 2005.

Bard Center for Entrepreneurship, U. of Colorado. “Managing a downsizing process.” Sixth Rutt Bridges Business Seminar Series, November, 2004.

International Military Testing Association – NATO. Keynote address: “New realities of recruitment and retention.” Brussels, Belgium, October, 2004.

Westinghouse Corp. Served as consulting expert for Westinghouse Savannah River Company RIF procedures, July-October, 2004.

SK Group (Korea). Workshop: “Exit-Management Strategies.” Cornell University, Center for Advanced Human Resource Studies, Ithaca, NY, August, 2004.

Society for Human Resource Management. Presentation: “Responsible Restructuring: Creative and Profitable Alternatives to Layoffs.” New Orleans, LA: June, 2004.

Colorado Human Resources Association. Presentation: “HR Role Models: Business partnerships for courageous leaders.” Denver, June, 2004.

Employment Law Alliance. Keynote address: “Restructuring organizations: Strategies for success.” Charleston, SC: May, 2004.

University of Hawaii, College of Business – taught 3-week module on compensation and benefits. April, 2004; June, 2005; June, 2007; April, 2009.

Miami University, Oxford, Ohio – Presentation: “Foundations of workforce measurement: Human capital metrics.” Richard T. Farmer School of Business, March, 2004.

National HR Assoc. – Denver. Presentation: “How HR professionals can assist management in responsible restructuring,” February, 2004.

Beck v. Boeing and Nouri v. Boeing. Testified for plaintiffs in cases of alleged gender discrimination (Beck) and national-origin discrimination (Nouri) (Sept., 2000 – May, 2004).

International Personnel Management Association - Colorado Chapter. Presentation: “Responsible Restructuring: Creative and Profitable Alternatives to Layoffs.” Denver, Sept. 2003.

Rotterdam School of Management, Erasmus University. Taught 21-hour module in HR Masters Degree program, “Value Creation in HR.” Rotterdam, The Netherlands, June 2003; July 2004; July 2005.

Creating a sustainable future: Integrating restructuring with the needs of people. Panel member, Anderson School of Management, UCLA, sponsored by National HR Association, Los Angeles, May, 2003.

Responsible restructuring: Creative and profitable alternatives to layoffs. Keynote address presented to HR Houston. Houston, TX May 2003, and the Australian HR Institute, national conference, Sydney, May 2003.

University of Puerto Rico, Psychology Department. Two half-day presentations: “Work, workers, and organizations for the 21<sup>st</sup> century,” and “Strategies for responsible restructuring.” May, 2003.

Drake, Beam, Morin. “Crash course in responsible restructuring.” Denver, April, 2003.

Hong Kong I/O Psychology Group. Address: Role of the I/O Psychologist in Responsible Restructuring. March, 2003.

Lawrence Livermore National Laboratories. Selected as joint neutral expert to review critically existing performance-management and salary-adjustment processes for scientists and engineers, and to consult with top management in the development of new ones. January-November, 2003.

Beverly Enterprises. Consulted with top management team on restructuring. January, 2003.

Personnel Testing Council of Southern California. Address: “Responsible Restructuring: Creative and Profitable Alternatives to Layoffs.” Los Angeles, November, 2002.

Rocky Mountain Compensation Assoc. Address: “Strategies for Responsible Restructuring.” Denver, October, 2002.

Korean Airlines. Airline labor relations. Full-day workshop presented to senior executives. Honolulu, October, 2002.

Better business through responsible restructuring. Presentation to HR Directors and faculty of City University of Hong Kong, May, 2002.

How do CEOs sustain their companies’ reputations during restructuring? Presentation at CEO Exclusive Forum, Employers Federation of Hong Kong, May, 2002.

Restructuring responsibly: What to do and what to avoid. Presentation to Senior HR Executives, Management Development Center of Hong Kong, Hong Kong, May, 2002.

Strategies for responsible restructuring. Presentation to 250 MBA students and faculty of Hong Kong Polytechnic University, Hong Kong, May, 2002.

Financial and human consequences of restructuring. Faculty research seminar, Hong Kong University Department of Psychology, March 2002. Also presented to Hong Kong Baptist University, Faculty of Management, April 2002.

Test-score banding for employment decisions. Faculty research seminar, Hong Kong University Department of Psychology, February, 2002.

Finding and keeping top talent in growing and slowing economies. Keynote address presented at the People and Leadership conference, Sydney, Australia, September 2001; also presented to faculty of the International Graduate School of Management, University of South Australia, Adelaide, Australia, October 2001, and to the faculty of the Department of Organizational Psychology, University of New South Wales, Sydney, Australia, October 2001.

Measuring the \$ Impact of Human Resources. Workshop presented at the People and Leadership conference, Sydney, Australia, September 2001.

Organizational restructuring in a rapidly changing world. Presentation to the global law firm, Baker & McKenzie, Sydney, Australia, October 2001.

Strategies for responsible restructuring. Keynote address presented at the National Manpower Summit, Singapore, October 2001.

Valuing and costing intellectual capital. Presentation to the business school faculty at Nanyang Technological University, Singapore, October 2001.

Mergers and acquisitions: The strategic importance of people. Full-day seminars presented in Sydney and Melbourne, Australia, October 2001.

Airline labor relations. Full-day workshop presented to Korean airlines executives, Honolulu, HI, June 2001.

Work, workers, and organizations for the new millennium. Invited address to Association of Bay Area Applied Psychologists, San Francisco, June 2001.

Knowledge creation for practical solutions. Keynote address presented at the inauguration of the Center for Work Performance, Rand Afrikaans University, Johannesburg, South Africa, March 2001.

What Progressive Companies Are Doing to Attract and Retain Talent. Dean's business breakfast presentation. Rand Afrikaans University, Johannesburg, South Africa, March, 2001.

Current developments in HR and I/O psychology. Presentation to the HR/I-O psychology faculty of the University of South Africa, Pretoria, March, 2001.

Beck et al. v. Boeing et al. Testified for plaintiffs in case of alleged gender discrimination in hiring, promotions, and pay. July, 2000 – May, 2004. Case settled.

Lang v. Kansas City Power and Light Co. Retained by defendants in case of alleged racial discrimination in all facets of employment. Summary judgment granted for defendants. November, 2000 – March, 2001.

Brown v. Kellogg's Corporation. Consulting expert for defendants in case of alleged racial discrimination in testing. Summary judgment granted for defendants. October, 2000 to March, 2001.

Kaminski et al. v. First Union Corporation. Expert witness for plaintiffs in case of alleged age discrimination in layoffs. October 2000 – October, 2003. Case settled out of court.

Quintanar et. al. v. Ashcroft. Testified for for plaintiffs in case of alleged national origin discrimination in the U.S. Immigration and Naturalization Service. May, 2000 – 2002. Case settled.

USA v. City of Garland, Texas. Consulting expert for U. S. Department of Justice in case of alleged racial discrimination in the hiring of police officers and firefighters. July, 2000 – 2003. Case settled.

Conanan v. Federal Deposit Insurance Corporation. Expert jointly selected by plaintiffs and defendants in a racial discrimination case to work with FDIC to improve HR management processes in promotions, assignments, and career development. June, 2000 – 2004.

Bullington v. United Airlines. Expert witness for plaintiff in case of alleged gender discrimination in pilot selection. February-October, 2000. Decision for defendant.

Personnel Testing Council of Southern California – Keynote address: “Current and Emerging Trends in the World of Work,” Los Angeles, May 2000.

Research Triangle Institute. Member of 3-person outside panel to review work to date on O’Net Occupational Information Network. March, 2000 – present).

I/O-OB Graduate Student Conference, keynote address: Banding with racial preferences: The Chicago Firefighters case. University of Tennessee, Knoxville, March 2000

Northern Illinois University, HR Masters Series. Presented full-day workshop on “Economic Impact (Value-Added) of Human Resources. McDonald’s Corporation, Hamburger University, Oak Brook, IL, February 2000.

National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston. Member of interviewing team to assess job-person fit for long- and short duration flights among finalists for the job of astronaut. October, 1999; January, 2000.

Northern California HR Association. Keynote presentation: “Preparing Yourself and Your Organization for the Road Ahead - Emerging Issues in the Future World of Work.” Also facilitated 4-hour “think tank” among senior HR executives. Oakland, September, 1999.

USA et al. v. City of Milwaukee. Expert consultant to League of Martin plaintiff group, September, 1999 – 2001.

Lott et al. v. CBS/Westinghouse et al. Testified for defendant in case of alleged racial discrimination in employment. Class certification denied. (March, 1999 – December, 2001).

Nadeau v. Ford Motor Company. Testified for defendant in case of alleged disability discrimination. Summary judgment granted for defendant, October, 1999.

British Columbia HR Management Association. Presented 3-hour workshop, “Measuring the Value of Human Resources.” Whisler, B.C., May, 1999.

Missouri State Highway Patrol. Consultant to MSHP to oversee development of a new selection system for troopers being developed by an outside consulting firm. April, 1999 to August, 1999.

OFCCP v. Ford Motor Company. Testified for defendant in case of alleged gender discrimination in hiring at Ford’s Louisville Truck Plant. Case settled out of court, August, 1999.

RHR International. Keynote address: “The Future World of Work – Implications for Applied Psychologists.” Miami Beach, February, 1999.

U.S. Office of Personnel Management. Member of working group on future generation assessments. Washington, D. C., February, 1999.

Alexander v. Pennzoil. Wrote expert reports for plaintiff in case of alleged racial discrimination. Case settled out of court. October, 1997 to March, 1999.

ITESM (Monterrey Institute of Technology), Monterrey, Mexico. Video-based lecture, "The Financial Impact of the HR Function," November, 1998.

International Personnel Management Association Assessment Council. Keynote address: Banding with racial preferences: The 1997 Chicago Firefighters case. Chicago, June, 1998.

Oxford Psychometrics Forum, Oxford, UK. Keynote address: "On managing a virtual workplace. Also, Oxford University conference of graduate students in applied psychology. Address: "Current trends and emerging issues in American Applied Psychology." June, 1998.

Arjo Wiggins Appleton, Inc. – Full-day workshop on "Working and Managing in a Dynamic Environment." Southampton, UK, June, 1998.

Australian Human Resources Institute. Keynote address at national convention, Canberra: "Valuing and Costing Intellectual Capital." Addresses and workshop on the same topic in Darwin, Alice Springs, and Melbourne. Pre-conference workshop: "Responsible Restructuring." May, 1998.

Institute of Personnel Management, New Zealand. Full-day workshops on: "Valuing and Costing Intellectual Capital," and "Responsible Restructuring." Wellington and Auckland, May, 1998.

Institute for International Business, U. of Colorado – Denver. Lead instructor for 5-day program for college faculty, "Faculty Development in International Human Resources." Denver, June, 1998 through June, 2001.

TCI Media Services. Developed selection system for account executives, including interviewer training manual, Power Point presentation for hiring managers, RJP video, situational interview video, and rating forms. Denver, January-April, 1998.

Personnel Testing Council of Northern California. Banding with racial preferences: The 1997 Chicago Firefighters case. Concord, CA, March, 1998

Colorado Human Resources Association. Responsible restructuring. Half-day workshop, Denver, February, 1998.

Alvarez v. Widnall. Testified for U. S. Air Force in class-certification hearing. San Antonio, TX, February, 1998. Certification denied.

Hines v. Widnall. Testified for U. S. Air Force in case of alleged racial discrimination. February, 1998 to March 2000 (class certification denied).

Global Advisory Board, Center for International Business Education and Research. Presentation: "Leadership in the context of an executive MBA program." Aspen, CO: February, 1998.

Colorado-Wyoming Association of I/O Psychologists. Presentation: "Scientific and Social Issues in Assessment." Denver, January, 1998



Coors Brewing Co, Doing Business in a Global Economy. Presented 4-hour workshop: “Cultural environment of international business.” Denver, November, 1997.

London Business School. Presented two lectures to faculty and corporate sponsors of the HR Business Exchange: “New Models of HR for the 21st Century,” and “Managing a Virtual Workplace.” London, October, 1997.

Central States Compensation Association. Speech: “Balancing Internal And External Equity: A Total Compensation Perspective.” Denver, October, 1997.

Personnel Testing Council of Southern California. Keynote address: “HR Effectiveness - Alternative Models. Newport Beach, CA, October, 1997.

Local 2 v. City of Chicago. Testified for City regarding the use of test-score banding in fire department promotions (September, 1997). Judgment in favor of City, December, 1999.

Chicago Society of Industrial and Organizational Psychology - invited address: “Financial Consequences Of Employment-Change Decisions In Major U. S. Corporations.” Chicago, September, 1997

Leadership Development Consortium, Inc. Full-day workshop: “People, Profits, And Restructuring” for #2 and #3 operating executives of the 16 largest companies in Australia. Melbourne, August, 1997.

Brown-Forman Beverages Worldwide - Wine Group. Top management seminar: “People-Related Business Issues In International Markets.” Louisville, KY, July, 1997.

Charles et al. v. Dalton, Secretary of the Navy. Hired by defendants to assist in job analysis and validation of promotional procedures for computer specialists. March, 1997 – December, 1999. Case settled.

Kirkland v. Safeway, Inc. Provided expert report and deposition testimony for defendant in case of alleged wrongful termination. Summary judgment issued for defendant, July, 1997.

Williams v. Ford Motor Co. Wrote expert reports for defendant. Summary judgment issued for defendant, September, 1997; upheld on appeal, August, 1999.

Ergometrics and Applied Personnel Research, Inc. v. Seattle Post-Intelligencer et al. Wrote expert report for plaintiff in case of alleged racial bias in a video test for police officers. Case settled out of court, June, 1997.

Canadian Society for Industrial and Organizational Psychology. Presented full-day workshop on “Responsible Restructuring.” Toronto, June, 1997.

Institute for International Business, U. of Colorado-Denver. Administered and taught in week-long program, Faculty Development in International Human Resource Management. Denver, June, 1997.

New models of HR for the 21st century. Keynote address, Spring meeting of the corporate partners and faculty of the University of Illinois, Center for Human Resource Management, Chicago, April, 1997.

American Institutes for Research, 50th anniversary celebration. Invited address: "Changes in The World Of Work: Implications For Assessing Human Performance." Washington, D. C., March, 1997

National Science Foundation, Executive Development workshop: "The Workplace of The Future: Preparing Yourself And Your Employees For The Road Ahead." Washington, D. C., March, 1997

Association of Legal Administrators, Mile High Chapter. Presentation: "Trends in Compensation And Incentives." Denver, February 20, 1997.

APA Division 13, Consulting Psychology - presented keynote address: "Delivering and Demonstrating Value-Added Consultation." Phoenix, Arizona, February 8-10, 1997.

Personnel Testing Council of Northern California - address, "The Changing World Of Work - Implications For Testing Professionals." Berkeley, CA: February 7, 1997.

Tele-Communications, Inc. - conducted statistical analyses of the impact of nationwide layoff decisions on protected groups in a 39,000-employee organization. Denver, November, 1996 - January, 1997.

Australian Human Resources Institute - conducted full-day workshops on responsible restructuring and performance management in Sydney, Melbourne, Adelaide, Perth, and Brisbane, October, 1996.

Institute of Personnel Management, New Zealand - presented keynote address, "High-Performance Work Systems And Organizational Performance," and conducted a workshop on responsible restructuring. Palmerston North, NZ, October, 1996.

National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston. Serve on a 3-member advisory board overseeing the development of selection procedures for astronauts whose missions will involve deep-space travel (more than 3 months) in a multinational environment. August, 1996-present.

University of California, Berkeley, Worldwide Programs. Taught 5-day seminars on Advanced Human Resources Management in Lima, Bogota, Buenos Aires, Sao Paulo, and Santiago, May-November, 1996.

SL Saúde (Health Insurance). Presented half-day workshop on global issues in human resource management, Sao Paulo, Brazil, September, 1996.

Gateway I/O Psychology Association. Speech: "The Changing World Of Work: Implications For Research And Practice." St. Louis, MO, September, 1996.

University of Hawaii, Advanced Management Program. Taught 6 modules on management control systems to 40 executives from 18 countries. Honolulu, July, 1996.

U.S. Office. of Personnel Management. Human Capital Showcase Session, keynote address: "The Changing World of Work." Washington, D.C., June, 1996.

Human Resource Management Association of Greater Kansas City. Workshop (with I. Blank): "Turning The Tables: Using The Bottom Line To Design Human Resources Programs And Sell Them To Your CEO." Kansas City, June, 1996.

Colorado Public Personnel Association, speech, "Organizational and Individual Impacts of Downsizing." Denver, May, 1996.

Hobson v. Nordstrom (February, 1996 - April, 1996). Retained by plaintiff in case alleging retaliation and racial discrimination. Case settled prior to trial.

Guyton v. Nordstrom (August, 1995-January, 1996). Testified for plaintiff in federal district court case alleging retaliation and racial discrimination. Case settled at trial.

University of Wisconsin-Milwaukee. Delivered the Bradley Lecture, "Managing People in Global Markets." Also made a presentation to faculty on "Responsible Restructuring," February 15, 1996.

American Psychological Association, Division of Consulting Psychology. Keynote address: "The Changing World of Work - New Challenges for Consulting." Keystone, Colorado, February 18, 1996.

HR Roundtable - Georgia State University. Presentation "Strategic HRM - Putting Theory Into Practice." Also made a presentation to faculty on "Responsible Restructuring," February 21, 1996.

Cornell University, Center for Advanced Human Resources Studies. Presentation: "The Impact of Downsizing on The Financial Performance of Firms." November, 1995.

Executive Programs, University of Colorado. Executive MBA Update Program: "Responsible Restructuring" (co-taught with Edmundo Gonzales, CFO of U.S. Dept. of Labor), Denver, November, 1995.

Personnel Testing Council of Southern California, Fall conference. Keynote address: "The Changing World of Work." Los Angeles, October, 1995.

Hewlett-Packard International Sales Division. Full-day workshop for computer wholesalers and resellers from 24 Middle-Eastern and African nations: "Finding, Retaining, and Rewarding Top Talent in International Markets." Lugano, Switzerland, September, 1995.

Paquin v. Federal National Mortgage Association. (May, 1995-October, 1995). Retained by defendant in case of alleged age discrimination. Ruling for defendant upheld on appeal.

Personnel Testing Council of Metropolitan Washington D.C. Half-day workshop: "The Changing World of Work - Implications for Research and Practice," July 1995.

Nanyang Technological University, Singapore - presentation to faculty, "The Changing World of Work," May, 1995.

Changi International Airport Services, Singapore - consulted with top management on organizational restructuring, May, 1995.

TCI, Inc., Englewood, CO Conducted validation studies in 14 markets of structured pre-employment interviews for customer service representatives and installer/technicians. November, 1994 - August, 1996.

U.S. Dept. of Labor, Office of the American Workplace. Panel member: "Downsizing and restructuring in the federal government." Washington, D.C., May, 1995.

Federation of Behavioral, Psychological, and Cognitive Sciences. Speech: "Responsible Restructuring." May, 1995, Washington, D.C.

Schuller International, Inc. Two-day workshop on domestic and international issues in human resources management. April, 1995, Denver.

Coors Doing Business in a Global Economy Program. Half-day module: "Cross-cultural issues in international business communication." April, 1995, Denver.

Illinois State Police Merit Board. Developed and implemented a validation strategy for promotional assessment procedures for Lieutenants, Captains, and Majors. April, 1995 - September, 1995.

Executive Advisory Board, Graduate Program in Health Administration, U. of Colorado. Speech: "Downsizing and Restructuring." March, 1995, Denver.

Intel Corporation - provided expert consulting advice in the development and validation of a selection battery for manufacturing technicians doing wafer fabrication, December, 1994-June, 1995 (Rio Rancho, NM).

Tele-Communications, Inc. (TCI) - developed research design to validate structured interviews for Customer Service Representatives and Installer/Technicians, Nov., 1994-Dec., 1995. (Englewood, CO).

Consulting Psychologists Press, Inc. - consulted on issues of selection, appraisal, and reward systems, November, 1994, and May, 1995, Palo Alto, CA.

Rand Afrikaans University, Johannesburg, South Africa. Presented a condensed course in "Costing Human Resources" to masters-level students, also speech, "Emerging Trends in International HRM," for 300 undergraduates, September - October, 1994.

South African Airways, Johannesburg, South Africa. Presented full-day workshop on "Assessing the Value-Added Contribution of the HR Function," September, 1994.

ABSA Bank, Johannesburg, South Africa. Three-hour presentation, "HR Practices That Add Value and Those That Don't - The Measurement and Management of HR systems."

Mountain States Employers Council. Half-day workshop on "Downsizing: myths, facts, and alternatives." Denver, September, 1994.

Southern California Edison Co. Briefed top management on alternative approaches to restructuring, Los Angeles, September, 1994.

HRM Association of Kansas City. Presented half-day workshop on "Costing human resources - the financial impact" (with M. Huselid), September, 1994.

Delta Air Lines, Inc. Provided critical review and analysis of employment practices; wrote manual for interviewers, conducted focus groups, and wrote scripts for videotapes for training interviewers - Atlanta, July 1993 - August, 1994.

Canadian Imperial Bank of Commerce - provided critique and advice on re-engineering check-processing operations. Toronto, April - August, 1994.

Central Intelligence Agency - served as member of 3-person team of experts to critique the agency's plan for redeveloping its HR system in light of reorganization. Washington, June-July, 1994.

Allstate Insurance Co. - served as member of 5-person panel of outside experts to critique the firm's plan for re-inventing itself - Northbrook, IL, July, 1994.

Australian Human Resources Institute. Presented full-day workshops in Sydney, Brisbane, Perth, Adelaide, and Melbourne on "Measuring the Dollar Impact of HR Practices," March, 1994.

Davis v. General Mills Restaurants, Inc. - testified for plaintiff in case of alleged racial discrimination in employee discharge. Tacoma, WA, February - April, 1994.

Office of Educational Research, Dept. of Education. Public Policy Forum: "What Works With Training," Washington, D.C.: November, 1993.

Colorado State Selection Forum. Keynote address: "The Sliding Band Approach to Promoting Workforce Diversity - New Legal and Psychometric Developments." May, 1993, Denver.

Ali v. City and County of San Francisco. Expert witness for defendant in case of alleged cheating on multiple-choice tests. January-May, 1993.

Mountain States Employers Council. Full-day workshops on "Job Analysis Under the Americans With Disabilities Act," Denver, July, October, 1992; April, 1993.

Colorado Human Resource Association (Nonprofit Sector). Speech, "Costing Human Resources," Denver, April, 1993. Personnel Testing Council of Southern California. Keynote address: "Downsizing: Economic and Human Perspectives." April, 1993, Los Angeles.

Metropolitan New York Association for Applied Psychology. Half-day workshop, "Costing out Absenteeism, Turnover, and Downsizing," New York City, May 1993.

Administrative Sciences Association of Canada. Keynote address: "Application of OB Theories to Organizations." May, 1993, Banff, Alberta, Canada.

IPMA Assessment Council. Keynote address: "Utility Analysis - A Broad Perspective." June, 1993, Sacramento, CA.

University of Geneva, College of Commerce and Industry. Conducted a two-day MBA seminar, "Leadership for the 21st Century." Val du Ferret, Switzerland, June, 1993, and in Grimentz, June, 1994.

Southern California Gas Co. Consulted with senior managers on downsizing strategies. Los Angeles, April, 1993.

University of South Africa. Two full-day workshops on Costing Human Resources. Pretoria/Stellenbosch, March, 1993.

Johannesburg Consolidated Investments, Inc. Consulted on job analysis, personnel selection, program evaluation. Johannesburg, March, 1993.

Rand Afrikaans University. Presentation, "New developments in Personnel Psychology and Human Resource Management." March 1993, Johannesburg, South Africa.

Stellenbosch University. Presentation, "Changes in Graduate Education and Training in I/O Psychology." March 1993, Stellenbosch, South Africa.

Institute of Personnel Management (South Africa-Boland Branch). Presentation, "Human Resource Management - An International Prospective." March 1993, Stellenbosch, South Africa.

Personnel Testing Council of Arizona. Presented full-day workshop on downsizing causes, consequences, and strategies. Phoenix, March, 1993.

Manville Corporation (Accelerated Management Program). Taught intensive human resource management module to senior managers. Denver, October, 1992; February, 1993.

Sisters of Charity Health Care Systems, Inc. Consulted on attitude survey design, implementation, and evaluation methodologies. Surveys administered to over 30,000 employees in a nation-wide chain of hospitals, October, 1992.

American Society for Training and Development. "Training Trends: Domestic and International." Speech presented to Rocky Mountain Chapter, Denver, October, 1992.

University of Canterbury (New Zealand). Presentation, "Human Resource Management: A Field in Transition," September, 1992.

Trust Bank, Canterbury, New Zealand. Consulted with senior management on the implementation of a financial incentive system to promote service quality, September, 1992.

Macy V. Secretary of the Navy. Expert witness for defendants in class action suit challenging a reduction in force at Mare Island Naval Shipyard, Vallejo, CA, January, 1992-March, 1995.

Daniels V. State of Washington. Expert witness for plaintiffs in class action suit alleging racial discrimination in employment. July 1992-December, 1992.

University of Geneva, Presented five three-hour case studies on management and leadership, May-June, 1992.

Beebe Institute of Personnel and Employment Relations, Georgia State University Presentation: "The Economic Benefits of Selection: What We Don't Know," Atlanta, May, 1992.

Society for Human Resource Management (Atlanta Chapter). Presentation, "Human Resource Management: A Field in Transition," May, 1992.

Houston Area I/O Psychologists (HAOP). Presentation, "Downsizing: Economic and Human Perspectives," May, 1992.

University of Amsterdam, Dept. of Work and Organizational Psychology. Speeches, "The Economic Benefits of Selection: What We Don't Know;" "Costing Human Resources: Three New Applications," March 1992.

University of Tilburg (Netherlands). Presentation, "The Legal and Social Contexts of Equal Employment Opportunity in America," March, 1992.

American Psychological Association. Served as Chair of the subcommittee to write a brief to the California Supreme Court summarizing the scientific issues in Soroka v. Target Stores, February-August, 1992.

Bell Atlantic Corp. Served as a member of a 3-person external review committee overseeing the development of Bell Atlantic's computer-based Universal Test Battery by Personnel Decisions Research Institute, Minneapolis, September, 1991 - March, 1992.

Illinois State Police Merit Board. Assessed content-oriented evidence of validity for promotional examinations for Sergeants and Master Sergeants (Sept. - December, 1991); also developed weighting system for components of promotional examinations for Lieutenants, Captains, and Major, January - March, 1992.

National Security Agency. Served as member of a 3-person review team to provide critical analysis of past research, plus a long-range plan for validation research involving selection procedures for several hundred jobs, June, 1991 - June, 1996.

Mountain States Employers Council. Full-day workshop on "Principles of Pre-Employment Testing: Professional and Legal Requirements." Denver, September, 1991; June, 1992.

Advanced Management Program, University of Hawaii. Presented six modules on "Management Control Systems - Effects on Behavior in Organizations." Honolulu, July, 1991; 1992.

Bank of Hawaii. Presented top-management briefing on "The Employment Marketplace: Cultural Diversity in the 1990s." Honolulu, July, 1991.

Hawaiian Society of Corporate Planners, Speech, "Management Control Systems," Honolulu, July, 1991.

Blue Cross and Blue Shield of Colorado. Provided critical review of recruitment, selection, and assessment procedures. Denver, April, 1991.

University of South Africa. Presentation: "The Sliding Band - A Method of Setting Cutoff Scores That Accommodates Merit Hiring and Affirmative Action." Pretoria, South Africa, March, 1991.

Standard Bank of South Africa. Consulted with top line and staff managers on emerging HR issues in the U.S., plus costing procedures for HR recruitment, selection, and training activities. Johannesburg, South Africa, March, 1991.

Old Mutual Life Insurance Co. Consulted with corporate HR staff on HR planning, and costing human resources. Cape Town, South Africa, March 1991.

Wayne State University and also Michigan I/O Psychology (MIOP) Association. Presentation: "Personnel Decisions - Are Economic and Social Objectives Incompatible?" Detroit, February, 1991.

U.S. Air Force Human Resources Laboratory. Presentation: "New Developments in Costing Human Resources." Brooks AFB, San Antonio, February, 1991.

Southwestern Public Service Co. Testing Consultant, February 1991 - 1995. Amarillo, Texas.

Financial Executives Institute. Presentation: "The Impact of Changing Demographics in the U.S. on Business Staffing." Denver, January, 1991.



Mountain States Employers Council. Full-day workshop on "Safe Testing: A Seminar on the Design of Work Simulation Tests." Denver, November 1990; April and October, 1991.

R.M. et al. v. McDonald's Corporation. Expert witness for defendant in case of alleged negligent hiring. September 1990 - January, 1991.

Colorado Department of Labor. Speech, "Selection in the 1990s: Challenges for the Public Sector," Denver, October 1990.

Exabyte Corporation. Speech, "International Dimensions of Human Resource Management in the 1990s," Boulder, CO, September 1990.

Fetzer Vineyards, keynote address at national sales meeting, "The Changing World of Business in the 1990s - Local and Global Markets, Local and Multinational Challenges." Mendocino, CA, August 1990.

Pacific Asian Management Institute, University of Hawaii. Presented workshops to visiting academics and senior executives on "International Dimensions of OB/HR,"

University of Hawaii, Advanced Management Program, Lecture, "Management Control Systems" July, 1990.

Institute of Personnel Management Australia. Invited to present full-day workshops on "Costing Human Resources" to senior HR and financial executives in Sydney, Brisbane, Melbourne (2), Adelaide, and Perth, June, 1990.

Nassau County Guardians Association, Inc. et al. v. Nassau County et al. Expert witness for plaintiffs, February - April 1990.

Johns v. Civil Service Commission of the City and County of Denver. Expert witness for defendants, March - June 1990.

U.S. Office of Personnel Management and U.S. Merit Systems Protection Board. Member of advisory committee on the measurement of quality of the federal workforce, May, 1990 - May, 1992.

Public Service Co. of Colorado. Presented top management briefing on employment recruitment and testing. April, 1990.

San Diego State University. Visiting scholar, April 17, 1990.

New York State Dept. of Taxation and Finance. Presented full-day briefings for top management on "Management Control Systems," February, 1990.

SsangYong Business Group, Seoul, Korea - consulted on HRM strategies of high technology firms. February, 1990.

Citibank/Citicorp, New York City - designed study to assess alternative staffing and retention strategies for professional hires, January - May, 1990.

Concordia University, Montreal, Canada - invited as Distinguished International Speaker to address "Assessment Data and Personnel Decisions: Are Economic and Affirmative Action Objectives Incompatible?", February, 1990.

Personnel Testing Council of Northern California - Keynote address, "The Strategic Role of Human Resources," spring workshop, Sacramento, CA, March, 1990.

The College Board - commissioned to develop a detailed description of the undergraduate major in personnel/human resource management. New York, December, 1989.

Executive Study Conference, presented workshop, "Measuring the Impact of Human Resources," November, 1989, Orlando, FL.

Personnel Testing Council of Arizona - invited address, "Selection Challenges for the 1990s: Is There a Better Way?", Phoenix, November, 1989.

Keenan Center for Management Studies, U. of North Carolina, Chapel Hill, invited address, "Assessing the Role, Mission, and Economic Impact of Human Resource Management - A Top Management View," November, 1989.

Hawaiian Electric Company. Presented top management briefing and a mid-level management workshop on "Employment Issues for the 1990s," Honolulu, November, 1989.

University of Western Ontario, Dept. of Psychology - presented colloquium on current and emerging issues in I/O psychology, Ontario, Canada, October, 1989.

1989 National Assessment Conference. "Assessment Data and Personnel Decisions: Are Economic and Affirmative Action Objectives Incompatible?" Minneapolis, October, 1989.

Colo. Society for Personnel Admin. "Costing Human Resources: Is R.O.I. Fact or Fiction?" Breckenridge, CO, October, 1989.

Colorado Hospital Assoc. "Changing Demographics: Their Impact on Employment." Vail, CO, September, 1989.

Cable TV Admin. and Marketing Society, Inc. "Measuring the Bang for Your Training Buck," Chicago, August, 1989.

Swiss Credit Corp. (Schweizerische Kreditanstalt). Consulted on costing labor turnover in worldwide markets. Zurich, July 1989.

University of Konstanz. Conducted seminar on "What Americans Have Learned from 25 Years of EEO Legislation and Court Cases." Konstanz, Germany, July, 1989.

Mountain States Employers Council. Full-day workshop on "New Developments in Personnel Testing." Denver, May, 1989.

U.S. Office of Personnel Management - U.S. Merit Systems Protection Board. Invited participant in jointly-sponsored conference on "Assessing the Quality of the Federal Workforce." Washington, D.C., May, 1989.

Colorado State University. Two invited presentations - "The Sliding Band - A Method of Setting Cut-off Scores that Accommodates Merit Hiring and Affirmative Action." Also, "Human Resource Management Issues for the New Administration." April, 1989.

National American Wholesale Grocers' Assoc. "Finding and Getting Quality Employees" (February 1989, New Orleans). "Finding and Keeping Quality Employees" (CEOs only - Nashville, March 1989).

East Bay Municipal Utility District, Oakland, CA. Served as part of a 3-person team to review and redesign employment procedures throughout the district. February, 1989 - August, 1994.

Personnel Testing Council of Southern California. Invited presentation, "Cutoff Scores: Legal Issues, Professional Issues, and New Developments." Los Angeles, November, 1988.

Davis-Francois v. Pennsylvania Power and Light Co. Served as expert witness for the company in case of alleged sex discrimination in termination, August, 1988 - November, 1988.

Williams V. Secretary of the Air Force. Served as expert witness for the U.S. Air Force in case of alleged race discrimination in promotion; Federal District Court, Seattle, WA, September, 1988 - August, 1989.

Personnel Associations of Dade, Broward, and Palm Beach Counties, FL Speech: "Improving the Management of Service: Challenge for Human Resources." June, 1988.

Educational Testing Service, Princeton, NJ. Provided critical review of job analysis procedures used by the Division of Measurement Research and Services, May, 1988.

U.S. Department of Justice, U.S. Attorney's Office, Salt Lake City. Served as expert witness for the government in Wahlquist v. United States, September, 1987 - September, 1989; Federal District Court case of alleged age discrimination in promotion.

U.S. Department of Justice, Washington, D.C. Served as expert witness for the U.S. Air Force in Keith v. Aldridge, August - December, 1987 (out of court settlement).

Pepsi-Cola Bottling Company, Tucson, AZ. Analyzed the job of Quality Control Technician in terms of the requirement to speak, read, and write English, Feb. - April, 1988.

New York University, Graduate School of Business. Presented colloquium, "Integration of Expected Payoffs from HRD with Strategic Business Decisions." April, 1988.

Wharton School, U. of PA. Presented colloquium, "Integration of Expected Payoffs from Human Resource Systems with Strategic Business Decisions." February, 1988.

University of South Carolina, College of Business, October, 1987 - April, 1988. Consultant on internationalization of HR curriculum.

Visiting Scholar, Department of Psychology, University of California, Berkeley, January 26-28, 1988.

Mountain States Employers Council. Full-day workshop on "Costing Human Resources," November, 1987.

Visiting Scholar, School of Business, Louisiana State University, October 14-15, 1987.

National Academy of Sciences. Member of Liaison Group for the National Research Council's Committee on the General Aptitude Test Battery, July, 1987 - June, 1989.

Salazar v. Orr. Served as expert witness for the U.S. Air Force. Federal District Court, Salt Lake City, Utah, July 1987. (Provided earlier critical review and analysis of EEOC decision, September, 1985 - April, 1986.)

City of San Francisco, March, 1987 - May, 1989. Served as one member of a 6-person team to develop selection/promotion procedures for entry-level and lieutenant jobs in the fire department.

People's Bank of China, Beijing. Member of an official State of Colorado delegation to establish educational exchanges and trade initiatives, May - June, 1987.

Ontario Board of Examiners in Psychology v. Franklin. Toronto, Canada. Served as expert witness for the defendant in case of alleged malpractice, May, 1986.

Visiting Scholar, School of Business, San Jose State University, May 11-12, 1987. Presented workshop on future trends in HRM, and consulted on curriculum design.

Morrison vs. State of Wyoming. Served as expert consultant for plaintiff in age discrimination case. (Settled out of court.) January-March 1987.

The Writer Corporation. "Developing a Customer-Oriented Housing Project." Denver, January 1987.

The Writer Corporation. "Building a Service-Oriented Management Team." Winter Park, CO, December 1986.

Contemporary Management Institute, University of Colorado. "Contemporary Issues in Human Resource Management." Full-day workshop, Denver, November 1986, March and November, 1987, April, 1988.

Metropolitan N.Y. Association for Applied Psychology. "Integration of Expected Payoffs from HRD With Firm-Specific Capital Budgeting Decisions." New York, October 1986.

Executive Management Program, University of Oregon. "Strategic Human Resource Management." Eugene, OR, August 1986.

Bank of Hawaii. "Developing a Service-Oriented Management Team." Honolulu, August 1986.

Advanced Management Program, University of Hawaii, "Identifying and Selecting Management Talent." July 1986.

The Executive Study Group. "Costs and Benefits of Employee Behaviors." Chicago, May 1986.

Personnel Testing Council of Southern California. "What Price People?" Full-day workshop (with E. Flamholtz and J. Fitz-enz), Los Angeles, May 1986.

Exxon Corp - Critical analysis of employee relations practices, October 1985.

National Systems & Research Co. Provided expert advice in employment-at-will case. Colorado Springs, September 1985.

City of San Francisco. Testified before Civil Service Commission regarding derivation of cutoff scores for employment tests, September 1985; Advisor to the City on personnel testing issues, 1985 - 1990.

Mountain States Employer's Council, Denver. Presented full-day workshops, "Current Issues in Personnel Testing." October - November 1985, October 1986; also "What Do Successful Managers Do?" May 1986.

City of Rochester, N.Y. Member of panel of experts on employment testing (R.M. Guion, Chair). Task: assess the postdictive validity of a test that is the subject of a lawsuit. March, 1986.

U.S. House of Representatives, Education and Labor Committee, Subcommittee on Employment Opportunity. Testified on behalf of the 76,000 members of the American Psychological Association regarding the possible need for revision of the 1978 Uniform-Guidelines on Employee Selection Procedures. July 1985.

Human Resource Planning Society, workshop leader, "Performance Planning." Vail, CO, June 1985.

Center for Executive Development, University of Hawaii. Conducted 40 hours of training for executives on HRM topics. Honolulu, January, May, 1985; March 1986.

International Congress on the Assessment Center. Invited keynote address: "Economic Payoffs Associated with the Use of Assessment Centers." Colorado Springs, April 1985.

Occupational Safety and Health Administration, U.S. Dept of Labor. Facilitated top management strategic planning meeting. Williamsburg, VA, April 1985.

Economics Institute, University of Colorado - Boulder. Speech: "International Dimensions of Personnel/Human Resource Management." March 1985.

KN Energy, Lakewood, CO. Developed selection systems for exempt and non-exempt jobs in natural gas production, transmission and distribution. January 1985 - 1988.

Munoz v. U. S. Air Force. Expert witness for defendant in class action lawsuit regarding all aspects of USAF civilian employment, 1984 - July, 1997. Summary judgment granted for defendant.

Zeman v. Exxon. Consultant to Exxon in case of alleged age discrimination. 1984, case settled out of court.

Human Resource Planning Society - Denver chapter. Speech: "Legal Issues in Performance Appraisal and Succession Planning." January 1985.

Public Service Company of Colorado. Consultant to company on all matters related to employee assessment and EEO/AA challenges. 1984 - 1995.

Williams v. Public Health Trust. Consultant to Dade County, Florida, Attorney's Office regarding alleged negligence in the hiring and retention of an employee who committed a violent offense. December 1984 - January 1985.

Personnel Testing Council of Southern California. "Estimating the Value of Job Performance in Dollars." Newport Beach, CA, October 1984.

Institute for Industrial Relations, University of California, Berkeley. "Assessing the Costs and Benefits of HRM Activities in Behavioral/Economic Terms." October 1984.

Institute for Retail Management, New York University. "Dollar Benefits of Valid Recruitment and Selection Programs." September 1984.

American Society of Mechanical Engineers. "Managing Job Stress." Denver, March 1984.

Toronto Psychological Association. Full-day workshop on methods for assessing the costs/benefits of HRM activities. March 1984.

U.S. Dept. of Labor, OSHA Training Institute, Chicago. Two-day workshops on "Communication, Negotiation, and Conflict Resolution;" "Managing On-the-Job Stress;" and "Coaching and Problem Solving." March, June, September, 1984; May, July, 1985.

Colorado/Wyoming Association of I/O Psychologists. Speech: "Contributions of I/O Psychology to the Bottom Line." Denver, February 1984.

Boulder Area Personnel Association. Full-day workshop (with R. Hackathorn) on human resource information systems. October 1983.

City and County of San Francisco. Retained by the city as an expert witness in case challenging the validity of the city's police lieutenant exam. October 1983 to April 1984.

Mountain States Employers' Council. Full-day workshops on costing human resources. Denver, September, November, 1983.

Famous Footwear. Consultant on compensation and benefits matters. Madison, WI, June, October, 1983.

Governor's Office of Employee Relations - New York State. Presented annual three-day workshops on management control and performance appraisal systems. Cortland, NY, 1983 - 1990.

University of Minnesota, invited research presentation, "Economic Benefits of Alternative Managerial Selection Strategies." May 1983.

Peterson v. U. S. Air Force. Expert witness for defendant in class action suit by black civilian employees of the USAF challenging performance appraisal and promotion systems. March 1983 - April 1984.

Florida Atlantic University, Boca Raton, FL. Presented the Eugene K. Lynn Distinguished Lecture, "Design and Implementation of Human Resource Information Systems." March 1983.

Colorado Society for Personnel Administration. Invited speech, "Contributions of Personnel Administrators to the Bottom Line." Denver, November 1982.

Cornell University, New York State School of Industrial and Labor Relations. Invited presentation, "Utility Analysis of Management Assessment Centers - A Field Study." October 1982.

American Telephone and Telegraph Co. Research project: "Developing a Dollar-Based Decision System for Evaluating the Costs/Benefits of AT&T's Management Assessment Program." July 1979 to October 1982.

U. S. Occupational Safety and Health Administration (OSHA). Workshop leader in "Managing Change: Technical, Social, and Political Considerations." Greensboro, Denver, Chicago, San Francisco, Oklahoma City, 1982 - 1985.

Public-private sector partnerships: Myth or Reality? (with D. Stevens) workshop entitled, "Opportunity Costing for Public-Private Partnerships." Denver, April 1982.

Berkman et al v. New York City et al. Expert witness for plaintiff in sex discrimination lawsuit involving physical abilities required for fire fighting. October 1981 to January 1982.

Rocky Mountain program for senior executives in state and local government. Joint Harvard - University of Colorado program. Workshop leader: "Management Control Systems." Estes Park, Snowmass, Keystone, Copper Mountain, and Crested Butte CO, 1982-1987.

Productivity and Public Management: Challenge for the Eighties. Workshop leader, "Management Control Systems in Organizations." Denver, October 1981.

Metropolitan Dade County, FL. Working with County Attorney's office, Office of Affirmative Action, and Employee Relations Division, wrote RFP for validation research and training. July 1981.

General Development Corporation. Workshop, "Legal Responsibilities of the Supervisor." Miami, May 1981. UC Berkeley - Dept of Psychology. Colloquium, "Discrimination and Pay: The Issue of Comparable Worth." February 1981. Colorado Society for Personnel Administration. Workshop, "Costing Human Resources." Denver, March 1981.

Institute of Personality Assessment and Research (IPAR) - UC, Berkeley. Colloquium: "Problems and Payoffs from the Use of Personality Measures in Organizational Research." December 1980.

Virginia Hospital Personnel Association. Workshop, "Improving the Performance Appraisal Process," Williamsburg, VA, September 1980.

Small Business Development Center FIU. Workshop, "Selection and Retention of Personnel," in Buying, Selling, and Financing a Small Business. Miami, May 1980.

U.S. Immigration and Naturalization Service. Three-day workshop, "Organizational Communications and Conflict Resolution." Miami, July 1980.

Prudential Insurance Co. Provided assessment of the validity and fairness of Prudential's agent selection program. February 1980.

Krannert School of Management, Purdue University. Invited speaker at research colloquium, "Dollar-Based Decision Systems for Human Resource Management." April 1980.

Safeway v. Safeway. Designed and implemented market research survey; served as expert witness in trademark infringement case. U.S. District Court, Miami, October 1979 to March 1980.



Jackson Memorial Hospital, Miami. Trained over 1,250 management personnel in "Interviewing and Selecting" and "Performance Appraisal, Counseling, and Discipline" in 280 hours of training. 1980 - 1983.

Cayado et al v. City of Hialeah, FL. Expert witness for plaintiff in Title VII class action suit against the City's selection practices. October 1979 to December 1981.

Florida Dept. of Transportation. Workshop on "Organizational Communication." Lake Worth, FL, February 1980.

U. S. Office of Personnel Management. Workshop, "The Decision to Make or Buy Appraisal System Development Resources," and "A Unified View of the Appraisal System Development Process". In Performance Appraisal: Systems Design and Implementation, a 4-day symposium. Washington, D.C., 1979.

American Society for Health Manpower Education and Training of the American Hospital Association. Workshop, "Human Resource Planning Systems." Denver, June 1979.

U. S. Air Force. Member of 4-person scientific advisory board reviewing the development and implementation of a multi-level performance appraisal system and a promotion potential system for USAF civilian employees. Brooks AFB, TX, 1979.

City of Des Moines, IA. Expert witness in Title VII case involving a nationally validated promotional test. Patch et al v. City of Des Moines. U.S. District Court, 1979.

Personnel Association of Greater Miami. Speech, "Employee Orientation: Evaluating its Effectiveness." February 1979.

College of Business Administration, University of Tennessee. Invited speaker at research colloquium, "Evaluating the Utility of Assessment Centers." January 1979.

Farm Stores, Inc. Workshop, "The Impact of Management Philosophy on Organizational Climate." December 1978.

Dade's Employ the Handicapped Committee. Speech, "Affirmative Action for the Disabled: Impact of Changes in Policies and Practices." November 1978.

Personnel Association of Greater Miami. Speech, "Practical Impact of the 1978 Uniform Guidelines on Employee Selection Procedures." October 1978.

Farm Stores, Inc. Workshop, "What Every Manager Should Know about Personnel Selection." September 1978.

State of Florida, Dept. of Health and Rehabilitative Services. Workshops for top management on communication, group effectiveness, role clarification, and performance appraisal. June-September 1978.

First National Bank of South Miami. Workshop, "Barriers and Gateways to Communications." February 1978.

FIU Dept of Conferences and Short courses. "Communicating for Progress and Profit," a two-day workshop for nursing home administrators. October 1977, May 1978.

Florida Public Personnel Association. Invited address, "Testing as a Component of the Merit System." March 1977.

Dade County School Board. Expert witness in sex discrimination case, Olafson v. Dade County School Board. U.S. District Court, Miami, May 1977 - January 1979.

City of Miami Beach. Designed survey and trained interviewers for consumer survey of beach and beach facilities usage. June 1977 - July 1978.

Royal Trust Bank, N.A. Workshop for all managers, "Communications and Report Writing." November 1976.

City Manager, City of Miami. Member of 3-person panel of experts to review and report on the validity and fairness of the University of Chicago's testing program for the selection and promotion of Miami police officers. July-September 1976.

Deltona Corporation. Wrote booklet, "Promoting Racial Awareness Among Sales and Administrative Personnel." May-June 1976.

City of Miami Beach. Served as outside reviewer for research proposals on rent control survey of apartment vacancies. Testified as expert witness before City Council. June 1976.

FIU Dept of Conferences and Short Courses. Three-day workshop, "Management-by-Objectives for Nursing Home Administrators." March 1976.

Coulter Electronics, Hialeah, FL. Job analysis and job evaluation for electronic technicians, laboratory, and R&D personnel using the PAQ, January 1976 - January 1977. Top management address: "Management Time: Who's Got the Monkey?"

Greater Miami Chamber of Commerce. Workshop, "Implementing EEO Awareness - Legal, Technical, and Organizational Climate Aspects." February 1976.

FIU Institute for Women. Workshop, "Managing Conflict." July 1975.

Jackson Memorial Hospital, Miami. Lecturer and consultant on personnel matters to emergency medical care personnel. July 1975.

U.S. Office of Education. Statistical evaluation of a human relations training program in midwestern U.S. high schools, June-September 1975.

National Civil Service League, Center for Public Personnel Management. Workshops on validation of oral and written selection tests for entry level and promotional examinations for police officers and firefighters, Mystic, CT; Chicago; Washington, D.C.; Atlanta; New Orleans; Miami; 1976 - 1977.

Police Foundation, National Conference on Police Personnel Administration. Workshop, "Police Personnel Information Systems," also panel discussant on police selection and performance appraisal. Miami, February 1975.

IPMA - ASPA Joint Conference. Speech: "The Future of Test Validation." Miami, May 1975.

Dade County Personnel Dept. Testified as expert witness for the County in a case of alleged reverse discrimination. Perry v. Dade County. U.S. District Court, June 1974.

International Personnel Management Assoc. Speech, "Beyond Affirmative Action." Miami, April 1974. Miami Police Dept. Workshop, "A Behavioral Approach to Designing Work." March 1974.

FIU Labor Institute. Job analyses and training needs for union stewards. January-March 1974.

U. S. Navy, Quonset, RI, Mayport, FL. Job analyses, psychological assessment, and job design research for supervisors of electronics technicians, February - September, 1973.

Xerox, Inc. Developed a company-wide training program for coping with problems of race in the working environment. Rochester, NY, February-May 1972.

Heublein, Inc. Assessment center feasibility study, and organization development for sales management personnel using survey feedback. Hartford, CT, August-December 1971.

Genessee Hospital, Rochester, NY. Organizational development workshops for nurses and hospital administrators. January 1971.

**Memberships in Professional Societies:**

Academy of Management; American Psychological Association, Division 14 (Society for Industrial/Organizational Psychology), National Academy of Human Resources, Society for Human Resource Management.

**Editorial Board Memberships:**

Senior Editor, *Journal of World Business* (2008-present), Associate Editor, *Handbook of Industrial and Organizational Psychology* (2008-2010), *Academy of Management Annals* (2006-2011), *Science You Can Use: Evidence-Based Principles and Practices* (2009-2011), *Journal of Applied Psychology* (1983 – 1988; 2002-2007), *Academy of Management Review* (1984 - 1990), *Human Performance* (1987-2000), *Organizational Dynamics* (1988-1999; 2002-2007), *Asia-Pacific Journal of Human Resources* (Australia, 1989-present), *International Journal of Selection and Assessment* (U. K., 1992-1997), *Journal of World Business*, (1995-1998); *Journal of Management* (1995-1999), *Journal of Industrial Psychology* (South Africa, 1999-present), *Zeitschrift für Personalpsychologie* (Germany, 2002-present), *Human Resource Development Quarterly* (2002-2010).

**Board Memberships:**

CPP, Inc, Mountain View, CA, 1996-present (Chair, Audit Committee, 2001-2004; Chair, Compensation Committee, 2009-present); Academy of Management (2003-2006); Society for Human Resource Management Foundation (November, 2000 – 2008; Chair, 2007); Personnel Decisions Research Institute, Minneapolis, 1993-1998.

**University, College of Business Service**

Academic Chair, University of Colorado Executive MBA program (7/1/13 to present); Faculty advisor, redesign of officer and exempt professional employee compensation system, University of Colorado (2012 to present); Denver Campus representative, Executive MBA Redesign Committee (2011-2012); Bard Center, Continuing Professional Education Committee (2009-2011); College of Business: Chair, Reappointment, Promotion, and Tenure Committee (2002-2005, reelected, 2005-2008); Chair and Moderator of Panel of Deans, "International Initiatives at UCD: Opportunities for Collaboration." (2006, October); Chair, People Committee, Business School, UCD, 2006-2007 Strategic Planning Project; Internal Affairs Committee (2000-2003); UCD Mentorship Program (2006-present); Chair, Subcommittee on People, Strategic Planning Process, 2000-2001; Dean's Search Committee, Chair (June, 1999 – 2000); Performance

Appraisal Redesign Team (1999); Primary Unit Reengineering Team, Chair, 1997-1998; College of Business Reorganization Task Force (1996-1997), Center for International Business Education and Research (CIBER) Advisory Council, 1994-present; lead author, proposal for a M.S. degree in International Business, 1992-1995; Program Manager, CU-Denver -IBM Certificate Program in International Business, September, 1992; Chair, Task Force on International Business Curricular Issues, Fall 1992; Director of International Program Faculty, College of Business, 1991-present; University of Colorado President's Academic Advisory Committee, 1988 - 1994; College Outreach Committee (1989-1990); College Sabbatical Leave Committee (1989-1991); Member, UCD Chancellor's Subcommittee on Research, January - May 1989; Chair, College of Business Promotion and Tenure Committee 1985-1987; University-Wide Faculty Benefits Committee 1982-1985; College of Business Dean's Review Committee 1985; Chair, College of Business Recruitment Committee 1984; 1986; Educational Policy Committee 1984; Faculty Advisor, Student Personnel Association 1982-1986.

**Service to the Profession:**

Chair, HR Impact Award Committee, joint SIOP-SHRM award (2013-present); U. S. Technical Advisory Committee Chair, ANSI/SHRM, development of HR standards, and U. S. representative to ISO (2011 – August, 2013); Academy of Management: Member, HR Division's Distinguished Executive Award Committee (2012-2013); Member, HR Division's Herbert G. Heneman Distinguished Career Award (2012-present); Member, Losey Award selection committee, SHRM (2011); Chair, Technical Advisory Committee, HR Outcomes Assessment, Society for Human Resource Management, 2010-present. Member, SIOP Fellowship Committee, 2008-2011; Academy of Management, Board of Governors (2003-2006; Chair, Journals Committee, 2004-2005; Chair, Ethics Committee, 2005-2006); Society for Human Resource Management Foundation Board of Directors (2000-2008; Chair, 2007); Chair, Thought Leaders conference on employee engagement, SHRM Foundation, Scottsdale, AZ, October, 2006. Member of selection committee, Heneman Career Achievement Award, HR Division, Academy of Management, 2003-2006. Editorial Board, Professional Practice Book Series (SIOP), 1994-2003; Editorial Board, Frontiers Book Series (SIOP), 1994-1997; President, Society for Industrial and Organizational Psychology, 1992-1993; Representative to APA Council of Representatives, Div. of I/O Psychology (1990-1993); Member of Executive Committee, Society for I/O Psychology (1990-1994). Member of special review committee to provide critical analysis of the Principles for the Validation and Use of Employee Selection Procedures (3rd ed.). 1985-1986. Chair, Human Resources Division of the Academy of Management 1984-1985. National Program Chair, Academy of Management Convention, Human Resources Division, Dallas, 1983; American Psychological Association, Committee on Psychological Tests and Assessment 1983 - 1985.

**Public Service:**

Reviewer, Alfred P. Sloan Foundation (2013); reviewer, National Science Foundation, National Research Council (National Academy of Sciences), 2008, 2009. Member, selection committee, *See the Future Fund* (raises money and awards college scholarships to visually impaired high school students). 2005-2011. Member, *Committee to Assess the Quality of the Federal Workforce*, U.S. Office of Personnel Management - Merit Systems Protection Board, 1990 - 1992. Member, *Board of Senior Scholars*, National Center on the Educational Quality of the Workforce, University of Pennsylvania, October, 1991-1996.

**Invited Workshops for the Profession:**

Building a compelling brand: Guidebook for I-Os (with C. Banks). Pre-conference workshop (AM and PM). Annual conference of the Society for Industrial and Organizational Psychology, Houston, April 2013.

Making HR measurement strategic. Full-day pre-conference workshop, 14<sup>th</sup> World HR Congress. Melbourne, Australia, September 2012.

Creating strong links: Connecting strategy, talent management, and organizational outcomes (with W. A. Schiemann & S. Ginsburgh) Pre-conference workshop (AM and PM). Annual conference of the Society for Industrial and Organizational Psychology, Chicago, April 2011.

Using HR data to make smarter organizational decisions (with B. Welle, Google). Pre-conference workshop (AM and PM). Annual conference of the Society for Industrial and Organizational Psychology, Atlanta, April 2010.

The impending workforce crisis: What I/O psychologists can do. (with P. Cappelli). Pre-conference workshop (AM and PM). Annual conference of the Society for Industrial and Organizational Psychology, San Francisco, April 2008.

Talent acquisition: New realities of attraction, selection, and retention (with L. Fogli). Pre-conference workshop. Annual conference of the Society for Industrial and Organizational Psychology, Chicago, April 2004.

Gaining entrée into organizations. Pre-conference workshop, J. M. Cortina (Coordinator). Annual conference of the Academy of Management, Washington, D. C., August 2001.

New approaches to the teaching of HR. Pre-conference workshop, J. E. Delery & A. M. Ryan, Coordinators. Annual conference of the Academy of Management, Toronto, August 2000.

Mentor to two prospective authors at first Academy of Management Executive/European Management Journal writers' workshop. Annual conference of the Academy of Management, Toronto, August 2000.

Future directions in teaching HR: Where is the field going? Pre-conference workshop, D. Deadrick & L. Shore, Coordinators. Annual conference of the Academy of Management, Boston, August 1997.

A multi- model of HR effectiveness. (with M. Huselid). Doctoral consortium, annual conference of the Academy of Management, Boston, August, 1997.

New Models of HR. Workshop presented at the 12th annual conference of the Society for Industrial and Organizational Psychology, St. Louis, Mo, April, 1997.

Assessing the effectiveness of the HR function. Doctoral consortium, Academy of Management. Workshop leader (with M. Huselid). Vancouver, B.C., August, 1995; Cincinnati, OH, August, 1996.

Downsizing: Before, During, and After (with S. Hartmann and D.M. Noer). Ninth annual conference of the Society for Industrial and Organizational Psychology, Nashville, April, 1994.

Junior Faculty Development Consortium, Academy of Management. Panel moderator and participant: "Identifying and Developing A Productive Program of Research." Vancouver, B.C., August, 1995.

Costing Human Resources - An Update. Seventh annual conference of the Society for Industrial and Organizational Psychology, Montreal, May, 1992.

Selection and Validity Research: An Update (with N. Schmitt) - annual convention of the Society for Industrial and Organizational Psychology, St. Louis, April, 1991.

Integration of Expected Payoffs from HR Systems with Strategic Business Decisions, 1987 convention of the American Psychological Association, New York; 1988 convention, Atlanta.

EEO: An Update and an Examination of Issues (with S. Zedeck) - 1986 convention of the Society for Industrial and Organizational Psychology, Chicago.

Applications of Utility Analysis and Cost Assessment Procedures to HRM activities, 1983 convention of the American Psychological Association, Anaheim, CA. "Utility Analysis" - 1983 Academy of Management Convention, doctoral consortium, New York.

**Ad Hoc Reviewer for:** Academy of Management Review, Academy of Management Journal, Academy of Management Perspectives, Academy of Management Learning & Education, American Sociological Review, Strategic Management Journal, Journal of International Business Studies, National Academy of Sciences, Human Resource Management Journal, Social Sciences and Humanities Research Council of Canada, Institute for Defense Analyses, Administrative Science Quarterly, Organizational Behavior and Human Decision Processes, Journal of Occupational Psychology, Psychological Bulletin, Canadian Psychology, Psychological Review, Personnel Psychology, National Science Foundation, Journal of Personality and Social Psychology, California Management Review, Industrial Relations, Human Relations, Journal of Management, Journal of Management Studies, Journal of Manpower Management, Contemporary Psychology, Operations Research.

**Textbook Publishers:** Harvard Business School Press, Prentice-Hall, Allyn & Bacon, Taylor & Francis, Routledge, Sage, Addison-Wesley, McGraw-Hill, Jossey-Bass, Irwin, Business Publications,



**Appendix B**

**List of Materials Reviewed**

1. Defendants' Answers and Objections to Plaintiffs' First Set of Interrogatories, September 27, 2013.
2. Delivering Effective Feedback, July 2005, GS 0180681-0180749
3. Deposition of Michael Campion, December 30, 2013
4. Deposition of Jennifer Chatman, January 8, 2014
5. Depositions of David Landman, VP, Human Capital Management, 5 September 2013 and 10 October 2013.
6. Deposition of Scott Mehling, VP, Global Head of Firm-Wide Compensation
7. Deposition of Rodney Miller, Chief of Staff for the Heads of the Equities Division Within the Securities Division, and CFO for Prime Brokerage Business.
8. Divisional deposition transcripts and exhibits: Securities (Caroline Heller-Sbleroti); IMD (Jessica Kung); IBD (Bruce Larson); MBD (Lisa Donovan)
9. Exhibit 252, GS0003436
10. Exhibit 255, GS0143793
11. Expert report of Michael Campion, including tables, December 11, 2013
12. Expert report of Jennifer Chatman, December 11, 2013
13. First Amended Class Action Complaint, *Chen-Oster et al., v. Goldman Sachs & Co.*, Filed 19 September 2011.
14. GS 0113184, APT Metrics, Goldman Sachs Competency Behavior Validation Results, June 8, 2011, plus technical documentation.



15. GS 0143885, APT Metrics, Goldman Sachs Validation of Compensation Metrics, Technical Report, October 18, 2012.
16. GS 0116319, PDI, Goldman Sachs Development of a Global Competency Framework for Analysts, Associates, and VPs/EDs, 23 March 2003.
17. GS 0116340, PDI, Goldman Sachs Global Competency Framework Project—Focus Groups, 2002.
18. GS 0116351, PDI, Goldman Sachs Global Competency Framework Project—Analyst/Associate/VP Focus Group Process
19. GS 0116370, PDI, Goldman Sachs Global Competency Framework Project – Draft Global Competency Frameworks, July 2002.
20. GS 0116369, PDI, Goldman Sachs Global Competency Framework Project—Structure of Senior Management Competency Interviews.
21. GS 0116374, PDI, Goldman Sachs Global Competency Framework Project—Competency Framework Survey
22. GS 0116383, PDI, Goldman Sachs Global Competency Framework Project—Competency Survey Framework, introduction for VP participants.
23. GS 0098769, 2003 MD Reviews—Review Discussion Packet
24. GS 0119399, 2003 Firmwide Review Process—FAQs
25. GS 00119396, 2004 Firmwide Review Process—FAQs
26. GS 00122499, Delivering Effective Performance Feedback, Best Practices
27. GS 00119456, 2006 Firmwide Review Process—FAQs
28. GS 00119440, Writing Effective Performance Feedback

29. GS 00119453, Interpreting Feedback Books & Writing Manager Summaries—

Best Practices

30. GS 0122587, Guidelines for the Manager Performance Rank
31. GS 0122590, Manager Guidelines—New Procedures for 2006
32. GS 0122592, Performance Rank and Compensation Recommendations
33. GS 0122593, Manager Performance Rank—FAQs
34. GS 0003404, FAQs—Firmwide Review System
35. GS 0119395, Selecting Your Review List—Best Practices
36. GS 0119427, Firmwide Review Process Feedback Book Interpretation Guide
37. GS 0122537, Performance Review Manager Training Guide
38. GS 0003319, FAQs—Firmwide Review System
39. GS 0119414, Firmwide Review Process Feedback Book Interpretation Guide
40. GS 0047714, Email, Securities Division 2008 Annual Performance Review

Process

41. GS 0015829, Email, 2008 Performance Review Process—Review Writing
42. GS 0004478, 2009 Winter Cycle Performance Review Process Flowchart
43. GS 0003293, FAQs—Firmwide Review System
44. GS 0003383, Frequently Asked Policy, Data & Reporting Questions (5/12/09)
45. GS 0003327, Firmwide Review System (FRS), FAQs
46. GS 0003255, FAQs, Firmwide Review System
47. GS 0003336, Summary of Ratings, FAQs
48. GS 0119402, Firmwide Review Process Feedback Book Interpretation Guide

49. GS 0004968, 2010 Performance Reviews—Milestones, Overview of Changes & FAQs (June, 2010)

50. GS 0004541, 2010 Reviews Hotline Information Session

51. GS 0003436, Email—2010 Performance Reviews, Changes to the Process

52. GS 0000388, Email—2010 Performance Reviews, Review List Creation

53. GS 0003392, Email—2010 Performance Reviews, Review List Approval

54. GS 0003297, Email—2010 Performance Reviews, Review Writing

55. GS 0003533, Email—2010 Performance Reviews, Launch of Manager Summary

#### Writing

56. GS 0003314, Email—2010 Performance Reviews, Year-End Review Discussions

57. GS 0003344, 2010 Performance Reviews, Milestones, Overview of Changes &

#### FAQs (August, 2010)

58. GS 0004149, 2010 Performance Reviews, Process Changes

59. GS 0003498, Firmwide Review System (FRS), 2010 Navigation Guide

60. GS 0004221, Performance Review Training

61. GS 0005049, Writing Effective Performance Feedback

62. GS 0005781, Performance Reviews: Interpreting Feedback Books and Writing

#### Manager Summaries

63. GS 0005436, Interpreting Feedback Books & Writing Manager Summaries

64. GS 0005816, Performance Review Ratings Scale Guide

65. GS 0005380, Firmwide Review Process—Feedback Book Interpretation Guide

66. GS0122531, Securities Division Performance Review Training: Writing Manager

#### Summaries Session

67. GS0122521, Securities Division Performance Review Training: Writing Manager

Summaries

68. GS0122532, Key Messages and Changes to the 2010 Performance Review

Process

69. GS0004821, Key Messages—Review Redesign (2010/2011)
70. GS0113329, PDP Resource Guide for Employees (2010/2011)
71. GS0113320, IMD 2011 Performance Review Process
72. GS0005415, Selecting Your Review List—Best Practices
73. GS0113324, IMD Performance Review Process—Guidelines for Employees
74. GS0113325, IMD Performance Review Process—Guidelines for Managers
75. GS0005425, Reviews Hotline Contact Information
76. GS0004236, Definitions of Key Terms
77. GS0113357, Selecting your Review List—Best Practices
78. GS0004275, Reviews Hotline—Review Writing Phase FAQs
79. GS0004309, Reviews Hotline—Manager Summary Writing Phase FAQs
80. GS0113331, Performance Review & PDP Training Guide
81. GS0113345, Performance Reviews: Writing Effective Feedback
82. GS0113359, Getting the most out of Your Performance Review—Best Practices
83. GS0115837, Delivering Performance Reviews—Best Practices
84. GS0113346, Performance Reviews
85. GS0113348, Performance Reviews—FAQs (2012)
86. GS0113277, GS University—Performance Review Training
87. GS0113317, IMD Performance & Professional Development

88. GS0113318, IMD Performance & Professional Development—April is Informal Feedback Month

89. GS0113322, IMD Performance & Professional Development—Tips and Tricks

90. GS0005067, Delivering Performance Reviews

91. GS0005105, Reviews Communications and Change Management Strategy

92. GS0122483, Performance Review Best Practices—Highlights from Pine Street

#### Panels

93. GS0122509, Interpreting the Feedback Book & Writing a Management Summary

#### Exercise

94. GS0122515, Delivering Performance Reviews

95. GS0122590, Manager Guidelines—New Procedures for 2006

96. GS0122592, Performance Rank and Compensation Recommendations

97. GS0109351, Enhanced Procedures for 2007

98. GS0109386, Email—2008 Performance Quartiling Process—Guidelines and Next

#### Steps

99. GS0113930, Email—CRG Non-EMD Quartiling Kick off

100. GS109402, Manager Performance Quartiling—Process Overview

101. GS0113933, Email—2009 IBD Quartiling Kick off

102. GS0113935, Performance Quartiling—Process Overview

103. GS0113951, Email—Action Required: 2009 Manager Rank Process (Securities Division)

104. GS0109419, Email—2010 Manager Performance Quartiling—HCM Guidelines, LOA Guidelines and Manager Toolkit

105. GS0109421, Manager Performance Quartiling - Process Overview

106. GS0113940, Email—2010 IBD Quartiling Kick off

107. GS0113955, Email—Action Required: 2010 Manger Performance Quartile

Process (Securities Division)

108. GS0113942, Performance Quartiling—Process Overview

109. GS0113941, 2010 IBD Year-End Quartiling Process—EMD and VP Quartiling

Population

110. GS0180545-558 (“Performance Management/Reviews Breakout”; discussing, among other things, the lack of feedback)

111. GS0219480-87 (“Combating Grade Inflation in the Firmwide Review System”)

112. GS0216793-94 (an email chain with at least one participant who appears to be in Europe, but who is discussing the common 360-degree review process

113. GS0212609-11 appeared to address processes to be applied at a compensation-committee meeting

114. GS187864-78 and GS0251447-89, documents that relate to training

115. GS0205124 (“State of Women 2005”)

116. GS0204344, which compares women and men in their relative performance on 360-degree-review categories

117. Partnership Committee Performance Review Debrief, December 7, 2010, GS0165212

118. Performance Review Policies

119. Responses and Objections to Plaintiffs’ First Set of Requests for Admission to Defendants Goldman, Sachs & Co. and the Goldman Sachs Group, Inc.

120. 2005 Manager Guidelines for quartiling and Compensation, GS0153032
121. 2006 Manager Performance Rank Frequently Asked Questions, GS0153290
122. 2007 Manager Performance Rating Toolkit, GS0109353
123. 2008 Performance quartiling and at-Risk Flagging: Process Overviews, GS  
0109390
124. 2009 Performance quartiling Process Overview, GS0126057
125. 2010 Performance quartiling Process Overview, GS0136548
126. 2011 Performance quartiling Overview, GS0153035
127. 2011 Reviews: Goals and Changes, GS0113307
128. 2010 Performance Reviews Process Changes: Divisional Presentation Materials,  
GS0004149