Gender Pay Disparity In the Legal Profession: Trends and Developments
Pay Equity - Overview

| The Wage Gap – Defined | • Median Wage Gap  
|                        | • Pay Gap v. Adjusted Pay Gap |
| Changes In the Pay Equity Landscape | • Overview |
| Starting Salary Bans | • Importance of Starting Pay  
|                        | • Jurisdictional Issues |
| Tougher State Laws | • Comparison Groups  
|                        | • Explanatory Variables |
| Pay Equity Implications in the Legal Industry | • Recent Litigation Against Law Firms  
|                        | • Impact of Pay Equity Trends in the Legal Industry |
| Law Firm Compensation | • Current State  
|                        | • Best Practices |
The “Wage Gap” Defined

Gender Pay Gap: ratio of female-to-male median or average (depending on the source) yearly earnings among full-time, year-round workers.

• Women earned 82% of the median usual weekly earnings of male (FT salary workers.  Source BLS Report 8/2018)

There are two distinct numbers regarding the pay gap:

• Unadjusted pay gap.
• Adjusted pay gap. Takes into account certain differences that are key to understanding pay including hours worked, occupation, education and job experience.
Current Population Survey Data – What is Missing?

Legal occupations

- Women earn 62.8% pay earned by men

Lawyers

- Women earn 83.2% of pay earned by men

Judges, Judicial Clerks, Paralegals, Other Legal Support

- Insufficient data to run separately
- Paralegals & Miscellaneous Legal Support – no data for men
Changes in the Pay Equity Landscape

The Legal Landscape Is Changing Rapidly

The “Wage Gap” is being addressed in numerous ways
Importance of Starting Salary Decisions

Starting salary is typically the most important pay decision

- “Start Low/Stay Low” phenomenon
### Long-Term Effect of Starting Pay

<table>
<thead>
<tr>
<th>Year</th>
<th>Female Hire $</th>
<th>Female Merit Increase</th>
<th>Male Hire $</th>
<th>Male Merit Increase</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>$40,000.00</td>
<td>4.00%</td>
<td>$47,000.00</td>
<td>3.50%</td>
<td>($ 7,000.00)</td>
</tr>
<tr>
<td>1997</td>
<td>$41,600.00</td>
<td>4.00%</td>
<td>$48,645.00</td>
<td>3.50%</td>
<td>($ 7,045.00)</td>
</tr>
<tr>
<td>1998</td>
<td>$43,264.00</td>
<td>4.00%</td>
<td>$50,347.58</td>
<td>3.50%</td>
<td>($ 7,083.58)</td>
</tr>
<tr>
<td>1999</td>
<td>$44,994.56</td>
<td>4.00%</td>
<td>$52,109.74</td>
<td>3.50%</td>
<td>($ 7,115.18)</td>
</tr>
<tr>
<td>2000</td>
<td>$46,794.34</td>
<td>4.00%</td>
<td>$53,933.58</td>
<td>3.50%</td>
<td>($ 7,139.24)</td>
</tr>
<tr>
<td>2001</td>
<td>$48,666.12</td>
<td>4.00%</td>
<td>$55,821.26</td>
<td>3.50%</td>
<td>($ 7,155.14)</td>
</tr>
<tr>
<td>2002</td>
<td>$50,612.76</td>
<td>4.00%</td>
<td>$57,775.00</td>
<td>3.50%</td>
<td>($ 7,162.24)</td>
</tr>
<tr>
<td>2003</td>
<td>$52,637.27</td>
<td>4.00%</td>
<td>$59,797.13</td>
<td>3.50%</td>
<td>($ 7,159.85)</td>
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<tr>
<td>2004</td>
<td>$54,742.76</td>
<td>4.00%</td>
<td>$61,890.02</td>
<td>3.50%</td>
<td>($ 7,147.26)</td>
</tr>
<tr>
<td>2005</td>
<td>$56,932.47</td>
<td>4.00%</td>
<td>$64,056.18</td>
<td>3.50%</td>
<td>($ 7,123.70)</td>
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<tr>
<td>2006</td>
<td>$59,209.77</td>
<td>4.00%</td>
<td>$66,298.14</td>
<td>3.50%</td>
<td>($ 7,088.37)</td>
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<tr>
<td>2007</td>
<td>$61,578.16</td>
<td>4.00%</td>
<td>$68,618.58</td>
<td>3.50%</td>
<td>($ 7,040.41)</td>
</tr>
<tr>
<td>2008</td>
<td>$64,041.29</td>
<td>4.00%</td>
<td>$71,020.23</td>
<td>3.50%</td>
<td>($ 6,978.94)</td>
</tr>
<tr>
<td>2009</td>
<td>$66,602.94</td>
<td>4.00%</td>
<td>$73,505.93</td>
<td>3.50%</td>
<td>($ 6,902.99)</td>
</tr>
<tr>
<td>2010</td>
<td>$69,267.06</td>
<td>4.00%</td>
<td>$76,078.64</td>
<td>3.50%</td>
<td>($ 6,811.58)</td>
</tr>
<tr>
<td>2011</td>
<td>$72,037.74</td>
<td>4.00%</td>
<td>$78,741.40</td>
<td>3.50%</td>
<td>($ 6,703.65)</td>
</tr>
<tr>
<td>2012</td>
<td>$74,919.25</td>
<td>4.00%</td>
<td>$81,497.34</td>
<td>3.50%</td>
<td>($ 6,578.09)</td>
</tr>
<tr>
<td>2013</td>
<td>$77,916.02</td>
<td>4.00%</td>
<td>$84,349.75</td>
<td>3.50%</td>
<td>($ 6,433.73)</td>
</tr>
<tr>
<td>2014</td>
<td>$81,032.66</td>
<td>4.00%</td>
<td>$87,301.99</td>
<td>3.50%</td>
<td>($ 6,269.33)</td>
</tr>
<tr>
<td>2015</td>
<td>$84,273.97</td>
<td>4.00%</td>
<td>$90,357.56</td>
<td>3.50%</td>
<td>($ 6,083.59)</td>
</tr>
<tr>
<td>2016</td>
<td>$87,644.93</td>
<td>4.00%</td>
<td>$93,520.08</td>
<td>3.50%</td>
<td>($ 5,873.15)</td>
</tr>
</tbody>
</table>

**Total** $$(143,897.05)$$
Recent Litigation – Legal Industry

700+ Firm
Lawsuit brought by equity partner
Settled in mid-August 2018

375+ Firm
Class action suit brought by non-equity partner
Settled in May 2017

300+ Firm
Class action brought by junior associate
Sent for arbitration in June 2018

400+ Firm
Lawsuit brought by equity partner
Settled in March 2018

800+ Firm
Class action brought by non-equity shareholder
Filed in May 2018

2,400+ Firm
Class action brought by equity partner
Filed in June 2018
Pay Equity Considerations In the Legal Industry

Law Firms

• Individual timekeeper statistics
• Credit Allocation system

• Subjective Factors, such as
  • Good Firm citizen
  • Reputation
  • Quality of Work
  • Mentoring Roles
  • Leadership Roles

In-House

• Often tied to prior compensation
• Similar to “traditional” compensation structures (salary bands, career level)
• Less variability in pay as compared to law firms
  • Especially in bonus
  • Different drivers.
Overview of ABA Study and Recommendations

2013 Study: Closing the Gap – Road Map for Achieving Gender Pay Equity in Law Firm Partner Compensation, Lauren Stiller Rikleen

1. Build Transparency Into the Compensation Process
2. Include a Critical Mass of Diverse Members on Compensation Committee
3. Develop Systems to Promote Fair and Accurate Allocation of Billing and Origination Credit
4. Require Diversity in Pitch Teams and Related Business Development Efforts and ensure Diverse Lawyers are part of the Client Team
5. Reward Behaviors that Promote Institutional Sustainability
6. Implement Formal Client Succession Protocols
7. Measure and Report Results
8. Develop a Process to Resolve Allocation Disputes Promptly and Fairly
9. Implement Training for All Involved in the Evaluation and Compensation Process
10. Engage the Client’s Role in Gender Equity
11. Implement System to Ensure Equitable Compensation for Partners on Reduced Hours Schedule
12. Maximize the Effectiveness of Affinity Groups
50 State Pay Equity Desktop Reference
What Employers Need to Know About Pay Equity Laws
2018 Edition
Dear Clients and Friends,

For organizations that operate in multiple state or local jurisdictions, tracking the ever-changing requirements related to pay equity can pose daunting challenges. To simplify the process, we are pleased to provide you with our *50 State Pay Equity Desktop Reference: What Employers Need to Know about Pay Equity Laws*.

This one-stop desk reference provides answers to these five common questions: (1) who is protected? (2) what type of work must be compared? (3) may employers rely on geographic location to explain pay differences? (4) what is the statute of limitations? (5) may employers ask about salary history? This is based on review of state law except for the salary history ban information and addresses only laws that impact private employers. We also provide more information about undertaking a proactive equity audit and the lifecycle of such an audit. The information contained in the booklet is purposely condensed and simplified, and thus, while it provides a convenient point of reference, always consult with your attorney before making any decisions as the law is constantly changing.

In addition to this desktop reference, Seyfarth Shaw at Work (SSAW), in association with Seyfarth Shaw LLP, offers a more comprehensive 50 state survey, updated quarterly, covering (1) citations to the current statute (2) citations to pending amendments/bills (3) protected status (4) comparison group (5) whether location can be considered (6) burden of proof (7) affirmative defenses (8) statute of limitations (9) damages (10) length of back pay (11) remediation and (12) comments or other notable differences from federal law. For additional information, please email payequity@seyfarth.com.

We hope this booklet proves a useful and informative tool. This does not however constitute legal advice or create an attorney-client relationship. Please do not hesitate to contact payequity@seyfarth.com if you have any questions.
Initial Contact: Identify Goals and Protect the Privilege

We will kick off the analysis by first identifying your organization’s key goals and objectives, including whether to coordinate the timing of the audit with any typical annual review process. We will also identify the appropriate and right-sized internal and external resources necessary to conduct the analysis. Before the substantive components of the project begins, Seyfarth’s Pay Equity Group (PEG) will work with you to implement attorney-client privilege protocols to safeguard the analysis to the maximum extent possible.

Team Kick-Off Call: Identify Scope and Resources

During our first discussion with the audit team, we will define the scope of the analysis, including identifying the workforce and the components of pay under review. In order to better understand your organization, we will ask for information about compensation structure and pay philosophy and discuss the drivers of employee compensation. Together, we will determine the most appropriate way to group employees for the statistical analysis and identify the job-related factors that are relevant to employee pay.

Gather the Data

Our next step will be to partner with the key stakeholders responsible for data collection and maintenance (e.g., HRIS team) to gather relevant data regarding employee pay from the organization’s electronic and physical data systems. Because the key data to be analyzed in an audit (such as time with the organization, time in role, job, grade/level, date of hire, performance metrics, and, of course, pay information) may be stored in a variety of systems, we will suggest efficient ways to gather the data.
**Initial Statistical Analysis and Identification of “Hot Spots”**

Once we have gathered the data, we will partner with statistical experts to conduct the statistical analysis. We will interpret the results and identify any “hot spots” within the organization that require further review.

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**Deeper Dive and Further Analysis**

Often the initial analysis brings to light errors in the data, individual employees who were slotted in the wrong job or level, or additional factors that drive employee compensation that were not identified initially. We will help your organization identify these issues by leveraging the full force of the statistical tools to identify potential employees or groups of employees that are driving any apparent disparities. We can then work with you to explore additional factors that we may wish to include in the statistical model and data errors that need to be addressed in the further analysis.

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**Potential Pay Adjustments and Reclassifications**

After the full investigation of pay differences is complete, we will provide advice related to mitigation strategies if needed. We will present our assessments and preliminary recommendations, and will work with you to develop solutions that stand the greatest chance of success in light of applicable legal, operational, and corporate-culture considerations and constraints. These recommendations may include pay adjustments or reclassification of employee levels or job titles.

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**Potential Changes to Policies and Practices**

After reflection on the results of the assessment, we may provide additional recommendations with respect to modifications to policies or practices regarding hiring and starting pay, performance reviews, promotions and bonuses in order to best position the organization for future compliance.

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**Follow-Up**

After the audit is complete, we will work with your organization to identify desirability and frequency of routine follow-up analysis, including real-time analysis of pay and promotion decisions. There is no one-size fits all with respect to the audit or follow-up — we have seen nearly every possible pay issue and are able to provide real-time and real-life recommendations on how to ensure that your pay practices are in line with your corporate culture and business objectives.
<table>
<thead>
<tr>
<th>State</th>
<th>Who is protected?</th>
<th>What type of work must be compared?</th>
<th>May employers rely on geographic location to explain pay differences?</th>
<th>What is the statute of limitations?</th>
<th>May employers ask about salary history? (State and Local)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL</td>
<td>No law</td>
<td>No law</td>
<td>No law</td>
<td>No law</td>
<td>No law</td>
</tr>
<tr>
<td>AK</td>
<td>Gender</td>
<td>Work of comparable character or work in the same operation, business, or type of work in the same locality</td>
<td>Yes, must compare employees in the same locality</td>
<td>Not addressed within equal pay law</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>AZ</td>
<td>Gender</td>
<td>Same quantity and quality of the same classification of work</td>
<td>Yes, must compare employees in the same establishment</td>
<td>6 months</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>AR</td>
<td>Gender</td>
<td>Comparable work</td>
<td>Not addressed</td>
<td>Within 2 years of the accrual of the wages</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>CA</td>
<td>Gender, race, and ethnicity</td>
<td>Substantially similar work, when viewed as a composite of skill, effort, and responsibility, and performed under similar working conditions</td>
<td>Not explicitly permitted in the statute. However, Senator Beth-Jackson’s May 2015 letter clarified that geographic location may potentially be a bona fide factor other than gender. She specified that it was never the legislature’s intent to make this factor unavailable to an employer responding to an equal pay complaint</td>
<td>2 years from the date of the violation (each paycheck counts as a violation); 3 years if willful</td>
<td>No. Unless offered voluntarily and without prompting, employers may not seek an applicant’s salary history or rely on it to determine whether to offer employment or what salary to offer. Prior salary will not justify disparities in compensation San Francisco (Eff. 7/1/2018 penalties 7/1/2019): Same as above, but also may not retaliate due to failure to disclose salary history; may not release salary history of current employee to prospective employer without written consent (with limited exceptions); and must post notice of rights. May discuss compensation that applicant would forego in order to take the new job (e.g. unvested equity, deferred comp or bonus)</td>
</tr>
<tr>
<td>CO</td>
<td>Gender</td>
<td>Not addressed</td>
<td>Not addressed</td>
<td>1 year to file a complaint with state DOL</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>State</td>
<td>Who is protected?</td>
<td>What type of work must be compared?</td>
<td>May employers rely on geographic location to explain pay differences?</td>
<td>What is the statute of limitations?</td>
<td>May employers ask about salary history? (State and Local)</td>
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</tr>
<tr>
<td>CT</td>
<td>Gender</td>
<td>Equal work on jobs the performance of which requires equal skill, effort and responsibility, and which are performed under similar working conditions</td>
<td>Not addressed</td>
<td>Two years after act or within 3 if violation is intentional or committed with reckless indifference</td>
<td>State law (Eff. 1/1/2019): No, unless a prospective employee has voluntarily disclosed such information, or unless the request is pursuant to any federal or state law that specifically authorizes the disclosure or verification. The law does not prohibit an employer from inquiring about components of a prospective employee’s compensation structure, so long as employer does not inquire about the value of the elements of such compensation structure</td>
</tr>
<tr>
<td>DC</td>
<td>There is no equal pay law. There is a general wage discrimination law</td>
<td>No law</td>
<td>No law</td>
<td>No law</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>DE</td>
<td>Gender</td>
<td>Not addressed</td>
<td>Yes, must compare employees in the same establishment</td>
<td>Not addressed within equal pay law</td>
<td>No, employers cannot seek the compensation history of an applicant or seek the same from the applicant’s current or prior employer prior to offer acceptance (after offer acceptance, may request only for purposes of confirming compensation history). Employers cannot screen an applicant based on their compensation history, including requiring that compensation history meets minimum or maximum criteria</td>
</tr>
<tr>
<td>FL</td>
<td>Gender</td>
<td>Equal work requiring equal skill, effort, and responsibility, performed under similar working conditions</td>
<td>Not addressed</td>
<td>Within 6 months after termination of employment</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>GA</td>
<td>Sex</td>
<td>Equal work requiring equal skill, effort, and responsibility, performed under similar conditions</td>
<td>Yes, must compare employees in the same establishment</td>
<td>One year after the cause of action accrues</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>State</td>
<td>Who is protected?</td>
<td>What type of work must be compared?</td>
<td>May employers rely on geographic location to explain pay differences?</td>
<td>What is the statute of limitations?</td>
<td>May employers ask about salary history? (State and Local)</td>
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</tr>
<tr>
<td>HI</td>
<td>Sex</td>
<td>Equal work on jobs the performance of which requires equal skill, effort, and responsibility, and that are performed under similar working conditions</td>
<td>Yes, must compare employees in an establishment</td>
<td>Employee must file complaint with Human Rights Commission within 180 days</td>
<td>Pending (Eff. 1/1/2019): No. Unless offered voluntarily and without prompting, employers may not inquire about, search public records for, or rely on salary history of applicants in the hiring process</td>
</tr>
<tr>
<td>ID</td>
<td>Sex</td>
<td>Comparable work on jobs that have comparable requirements relating to skill, effort and responsibility</td>
<td>Yes, must compare employees in the same establishment</td>
<td>Not addressed within equal pay law</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>IL</td>
<td>Sex</td>
<td>Same or substantially similar work on jobs the performance of which requires equal skill, effort, and responsibility, and which are performed under similar working conditions</td>
<td>Yes, must compare employees in the same county</td>
<td>All complaints shall be filed with the state Department of Labor within one year from the date of the underpayment. Civil actions shall be brought within 5 years from the date of underpayment</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>IN</td>
<td>Sex</td>
<td>Equal work on jobs the performance of which requires equal skill, effort, and responsibility, and which are performed under similar working conditions</td>
<td>Yes, must compare employees in the same establishment</td>
<td>3 years after the cause of action arises</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>IA</td>
<td>For state employers: Sex For all employers: Age, race, creed, color, sex, sexual orientation, gender identity, national origin, religion, or disability</td>
<td>For state employers: Comparable as measured by the composite of the skill, effort, responsibility, and working conditions normally required in the performance of work For all employers: Equal work on jobs which require equal skill, effort, and responsibility, and which are performed under similar working conditions</td>
<td>For state employers: Not addressed For all employers: Yes, must compare employees within the same establishment</td>
<td>Typically employee must file a charge within 300 days after the alleged unlawful practice</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>KS</td>
<td>Sex</td>
<td>Work on jobs requiring equal skill, effort, and responsibility, performed under similar working conditions</td>
<td>Yes, must compare employees in the same establishment</td>
<td>Not addressed within equal pay law</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>State</td>
<td>Who is protected?</td>
<td>What type of work must be compared?</td>
<td>May employers rely on geographic location to explain pay differences?</td>
<td>What is the statute of limitations?</td>
<td>May employers ask about salary history? (State and Local)</td>
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</tr>
<tr>
<td>KY</td>
<td>Sex</td>
<td>Comparable work on jobs that have comparable requirements relating to skill, effort and responsibility</td>
<td>Yes, must compare employees in the same establishment</td>
<td>6 months</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>LA</td>
<td>The state equal pay act only applies to public employers. There is a general wage discrimination law that applies to all employers and prohibits sex discrimination</td>
<td>Public employers: Same or substantially similar work on jobs that require equal skill, education, and responsibility that are performed under similar working conditions including the time worked in that position All employers: Jobs that require equal skill, effort, and responsibility and are performed under similar working conditions</td>
<td>Not addressed</td>
<td>Public employers: 1 year, with tolling provisions</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>ME</td>
<td>Gender</td>
<td>Comparable work on jobs that have comparable requirements relating to skill, effort and responsibility</td>
<td>Yes, must compare employees in the same establishment</td>
<td>Not addressed within equal pay law</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>MD</td>
<td>Sex and Gender Identity</td>
<td>Work of comparable character or work on the same operation, in the same business, or of the same type</td>
<td>Yes, must compare employees in the same establishment, which is defined as within the same county</td>
<td>3 years after the employee receives wages paid on the termination of employment</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>MA</td>
<td>Gender</td>
<td>Work of like or comparable character or work on like or comparable operations that requires substantially similar skill, effort and responsibility and is performed under similar working conditions</td>
<td>Geographic location is possible defense</td>
<td>3 years, each pay check is violation</td>
<td>No, cannot seek salary history from a prospective employee or current or former employer before an offer. If a prospective employee has voluntarily disclosed salary history information, the employer can confirm prior wages or salary or permit a prospective employee to confirm prior wages or salary. Cannot require that prior wage or salary history meet certain criteria. Prior wages are not a defense to equal pay complaint</td>
</tr>
<tr>
<td>State</td>
<td>Who is protected?</td>
<td>What type of work must be compared?</td>
<td>May employers rely on geographic location to explain pay differences?</td>
<td>What is the statute of limitations?</td>
<td>May employers ask about salary history? (State and Local)</td>
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<td>---------------------------------------------------------</td>
</tr>
<tr>
<td>MI</td>
<td>Sex</td>
<td>Jobs that require equal skill, effort, and responsibility and that are performed under similar working conditions</td>
<td>Yes</td>
<td>Not addressed within equal pay law</td>
<td>Yes. State law prohibits local jurisdictions from implementing salary history bans</td>
</tr>
<tr>
<td>MN</td>
<td>Sex</td>
<td>Jobs that require equal skill, effort, and responsibility and are performed under similar working conditions</td>
<td>Not addressed</td>
<td>1 year</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>MS</td>
<td>No law</td>
<td>No law</td>
<td>No law</td>
<td>No law</td>
<td>No law</td>
</tr>
<tr>
<td>MO</td>
<td>Female employees</td>
<td>Same quantity and quality of the same classification of work</td>
<td>Yes, must compare employees in the same establishment</td>
<td>Six months after the date of the alleged violation, but in no event shall any employer be liable for any pay due for more than thirty days prior to receipt by the employer of written notice of claim thereof from the female employee</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>MT</td>
<td>Women</td>
<td>Equivalent service or for the same amount or class of work or labor in the same industry, school, establishment, office, or place of employment</td>
<td>Description of work compared includes the same industry, school, establishment, office, or place of employment</td>
<td>Not addressed within equal pay law</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>NE</td>
<td>Sex</td>
<td>Equal work on jobs which require equal skill, effort and responsibility under similar working conditions</td>
<td>Yes, must compare employees in the same establishment</td>
<td>4 years</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>NV</td>
<td>Sex</td>
<td>Equal work which requires equal skill, effort and responsibility and which is performed under similar working conditions</td>
<td>Yes, must compare employees in the same establishment</td>
<td>Not addressed within equal pay law</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>State</td>
<td>Who is protected?</td>
<td>What type of work must be compared?</td>
<td>May employers rely on geographic location to explain pay differences?</td>
<td>What is the statute of limitations?</td>
<td>May employers ask about salary history? (State and Local)</td>
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<tr>
<td>NH</td>
<td>Sex</td>
<td>Equal work that requires equal skill, effort, and responsibility and is performed under similar working conditions</td>
<td>Not addressed</td>
<td>3 years of discovery of the violation</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>NJ</td>
<td>Race, creed, color, national origin, nationality, ancestry, age, marital status, civil union status, domestic partnership status, affectional or sexual orientation, genetic information, pregnancy, sex, gender identity or expression, disability or atypical hereditary cellular or blood trait of any individual, or liability for service in the armed forces</td>
<td>Substantially similar work, when viewed as a composite of skill, effort and responsibilities</td>
<td>Not addressed</td>
<td>Continuing violation doctrine applies; backpay limited to 6 years</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>NM</td>
<td>Sex</td>
<td>Equal work on jobs the performance of which requires equal skill, effort and responsibility and that are performed under similar working conditions</td>
<td>Yes, must compare employees “within any establishment”</td>
<td>2 years from last date of employment</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>State</td>
<td>Who is protected?</td>
<td>What type of work must be compared?</td>
<td>May employers rely on geographic location to explain pay differences?</td>
<td>What is the statute of limitations?</td>
<td>May employers ask about salary history? (State and Local)</td>
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<tr>
<td>NY</td>
<td>Sex</td>
<td>Jobs that require equal skill, effort and responsibility, and are performed under similar working conditions</td>
<td>Yes, must compare employees located in the same geographical region (no larger than a county), taking into account population distribution, economic activity, and/or the presence of municipalities</td>
<td>Not addressed within equal pay law</td>
<td>New York state: Currently not addressed&lt;br&gt;New York City: No, employers or their agents cannot seek the compensation history of an applicant, seek the same from the applicant’s current or prior employer, or conduct public records review to determine prior salary. Cannot rely on the salary history of an applicant in determining the salary, benefits or other compensation for such applicant during the hiring process, including the negotiation of a contract unless disclosed voluntarily and without prompting. May discuss compensation that applicant would forego in order to take the new job (e.g. unvested equity, deferred comp or bonus)&lt;br&gt;Albany County: No, cannot request that an applicant disclose his/her wage or salary history or seek the same from applicant’s current or former employer; cannot screen applicants based on wage history (inclusive of compensation, salary or other benefits); may confirm prior wages, with written authorization from applicant, after making an offer that includes compensation&lt;br&gt;Westchester County: No, cannot rely upon wage history to determine wages or require as a condition of interview or offer that a prospective employee disclose wage history information. May rely on salary history when it is voluntarily provided by an applicant to support a wage higher than the wage offered by the employer</td>
</tr>
<tr>
<td>NC</td>
<td>There is no standalone equal pay law. There is a general wage discrimination law</td>
<td>No law</td>
<td>No law</td>
<td>No law</td>
<td>Currently not addressed, but there is pending legislation</td>
</tr>
<tr>
<td>State</td>
<td>Who is protected?</td>
<td>What type of work must be compared?</td>
<td>May employers rely on geographic location to explain pay differences?</td>
<td>What is the statute of limitations?</td>
<td>May employers ask about salary history? (State and Local)</td>
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<tr>
<td>ND</td>
<td>Gender</td>
<td>Comparable work on jobs which have comparable requirements relating to skill, effort, and responsibility</td>
<td>Yes, must compare employees in the same establishment</td>
<td>2 years after the unlawful employment practice occurred, with tolling provisions</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>OH</td>
<td>Race, color, religion, sex, age, national origin, or ancestry</td>
<td>Work on jobs the performance of which requires equal skill, effort, and responsibility, and which are performed under similar conditions</td>
<td>Not addressed</td>
<td>1 year</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>OK</td>
<td>Women</td>
<td>Comparable work on jobs which have comparable requirements relating to comparable skill, effort, and responsibility</td>
<td>Not addressed</td>
<td>Statute does not provide a private right of action</td>
<td>Not currently addressed</td>
</tr>
</tbody>
</table>
| OR      | Pending (Eff. 1/2019): Race, color, religion, sex, sexual orientation, national origin, marital status, veteran status, disability or age. Current: Gender | Pending (Eff. 1/2019): “Work of comparable character” means work that requires substantially similar knowledge, skill, effort, responsibility and working conditions in the performance of work, regardless of job description or job title. Current: Work of comparable character, the performance of which requires comparable skill | Pending (Eff. 1/2019): Yes, “workplace location” is a factor that can be considered | Pending (Eff. 1/2019): 1 year                                  | No, cannot seek salary history from applicant or prior employer before offer. Can confirm prior compensation after offer that includes amount of compensation, with written authorization of prospective employee. (Eff.10/6/2017, no private right of action until 2024)  
Pending (eff. 1/1/2019): Cannot screen job applicants based on current or past compensation, or determine compensation based on current or past compensation |
<p>| PA      | Sex                                  | Equal work on jobs, the performance of which requires equal skill, effort, and responsibility, and which are performed under similar working conditions | Yes, must compare employees within same establishment                  | Two years                         | Philadelphia only (partially enjoined by legal challenge): Employers cannot rely on wage history in determining the wages for applicants at any stage in the employment process, unless the applicant knowingly and willingly discloses salary history. The provision of the Philadelphia law that prohibited inquiries about wage history was enjoined by a court on First Amendment grounds |</p>
<table>
<thead>
<tr>
<th>State</th>
<th>Who is protected?</th>
<th>What type of work must be compared?</th>
<th>May employers rely on geographic location to explain pay differences?</th>
<th>What is the statute of limitations?</th>
<th>May employers ask about salary history? (State and Local)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR</td>
<td>Sex</td>
<td>Comparable job functions or duties that require the same skill, effort or responsibilities under similar working conditions</td>
<td>Not addressed</td>
<td>1 year</td>
<td>No, cannot seek salary history from a prospective employee before an offer. If a prospective employee has voluntarily disclosed salary history information, the employer can confirm prior wages or salary or permit a prospective employee to confirm prior wages or salary</td>
</tr>
<tr>
<td>RI</td>
<td>Sex</td>
<td>Equal work or work on the same operations</td>
<td>Not addressed</td>
<td>Not addressed</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>SC</td>
<td>Sex</td>
<td>Not addressed</td>
<td>Yes, can consider whether employees work in different locations</td>
<td>1 year</td>
<td>No law</td>
</tr>
<tr>
<td>SD</td>
<td>Sex</td>
<td>Comparable work on jobs which have comparable requirements relating to skill, effort, and responsibility, but not to physical strength</td>
<td>Not addressed</td>
<td>2 years</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>TN</td>
<td>Sex</td>
<td>Comparable work on jobs the performance of which require comparable skill, effort and responsibility, and that are performed under similar working conditions</td>
<td>Yes, must compare employees within same establishment</td>
<td>2 years</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>TX</td>
<td>There is no standalone equal pay law. There is a general wage discrimination law</td>
<td>No law</td>
<td>No law</td>
<td>No law</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>UT</td>
<td>There is no standalone equal pay law. There is a general wage discrimination law</td>
<td>No law</td>
<td>No law</td>
<td>No law</td>
<td>No law</td>
</tr>
<tr>
<td>State</td>
<td>Who is protected?</td>
<td>What type of work must be compared?</td>
<td>May employers rely on geographic location to explain pay differences?</td>
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</tr>
<tr>
<td>VT Vermont</td>
<td>Sex</td>
<td>Equal work that requires equal skill, effort, and responsibility and is performed under similar working conditions</td>
<td>Not addressed</td>
<td>Not addressed within equal pay law</td>
<td>No, employers may not inquire about compensation history. Employers cannot screen an applicant based on their compensation history, including requiring that compensation history meets minimum or maximum criteria. If a prospective employee voluntarily discloses the information, an employer may confirm it after making an offer with compensation</td>
</tr>
<tr>
<td>VA Virginia</td>
<td>Sex</td>
<td>Equal work on jobs the performance of which requires equal skill, effort, and responsibility, and which are performed under similar working conditions</td>
<td>Yes, must compare employees within any establishment</td>
<td>2 years</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>WA Washington</td>
<td>Gender</td>
<td>The performance of the job requires similar skill, effort, and responsibility, and the jobs are performed under similar working conditions; job titles alone are not determinative of whether employees are similarly employed</td>
<td>Yes, if it is a bona fide regional difference in compensation levels</td>
<td>Continuing violation doctrine applies; 3 years</td>
<td>Salary history inquiries are not banned but an employee’s salary history is not a defense to an equal pay claim</td>
</tr>
<tr>
<td>WV West Virginia</td>
<td>Sex</td>
<td>Work of comparable character, the performance of which requires comparable skills</td>
<td>Not addressed</td>
<td>1 year</td>
<td>Not currently addressed</td>
</tr>
<tr>
<td>WI Wisconsin</td>
<td>Sex</td>
<td>Equal or substantially similar work</td>
<td>Not addressed</td>
<td>Employee must file complaint with state department within 300 days of alleged discrimination</td>
<td>Yes. State law prohibits local jurisdictions from implementing salary history bans</td>
</tr>
<tr>
<td>WY Wyoming</td>
<td>Sex</td>
<td>Work that requires equal skill, effort and responsibility and which is performed under similar working conditions</td>
<td>Yes, must compare employees within same establishment</td>
<td>Not addressed within equal pay law</td>
<td>Not currently addressed</td>
</tr>
</tbody>
</table>
ABA Releases Toolkit to Address Gender Pay Gap in Legal Profession

CHICAGO, March 15, 2013 — ABA President Laurel Bellows and the American Bar Association’s Gender Equity Task Force have introduced an innovative new tool in the fight for gender equity in the legal profession.

The ABA’s Toolkit for Gender Equity in Partner Compensation is the first in a series of projects that aims to provide specific tools law firms can use to eliminate pay differences between male and female lawyers. The toolkit focuses primarily on abolishing inequities at the partner level to first facilitate change where the greatest pay disparity exists. At the median, women equity partners at the 200 largest law firms earn 89 percent of the compensation earned by their male peers.

“Unequal compensation diminishes women’s prospects for success and unfairly undervalues the material contributions of women to their firms. Plus, pay inequities have a profound effect on a firm’s performance and profits,” Bellows said. “The ABA has long been committed to equality. We are committed to ensuring that women and men in our profession share the same opportunities and rewards. Inequity in compensation is a problem that we can and must fix.”

The toolkit will be distributed to law firms and bar associations across the country to launch a dialogue about fair and transparent compensation systems for partners. The toolkit contains all the necessary tools to conduct a summit on this issue.

Ultimately, the toolkit seeks to increase awareness about gender pay inequity and its impacts and train law firm leaders to recognize biases that affect the accuracy of compensation decisions. Law firm leaders will also be encouraged to give fair and appropriate credit for all components of firm revenue and activity; select diverse members for compensation committees; and train compensation decision-makers on implicit bias.

The toolkit is available online here. To learn more about the ABA’s work on gender equity, check out the ABA Gender Equity Task Force on Facebook, or follow the task force on Twitter at @ABAGenderEquity.

Please click here for a biography and photo of Laurel G. Bellows, president of the American Bar Association.

With nearly 400,000 members, the American Bar Association is one of the largest voluntary professional membership organizations in the world. As the national voice of the legal profession, the ABA works to improve the administration of justice, promotes programs that assist lawyers and judges in their work, accredits law schools, provides continuing legal education, and works to build public understanding around the world of the importance of the rule of law.

Learn More About: Bellows, Laurel G., Women and the Law / Gender Bias

This entry was posted on Fri Mar 15 10:01:00 CDT 2013 and filed under Laurel G. Bellows and News Releases.
It’s no secret that, on average, women – even those with equivalent education and experience – typically earn less than men. The ratio of the average (mean) earnings of female workers (full-time, full-year, 25 to 69 years old) to that of their male counterparts was 0.72 in 2010. The pay ratio of median earners (those at the 50th percentile) for the same groups was 0.78. But that is not the whole story.

**HOW TO ACHIEVE GENDER EQUALITY**

First the good news: the gender gap has narrowed. The ratio of median earnings increased from 0.56 to 0.78 in the three decades prior to 2010. This narrowing of the gap in pay reflects the converging economic roles of men and women, a reality that is among the grandest social and economic advances in the last century. There are many aspects to the convergence, and each can be thought of as a chapter in a figurative book. The big question is whether the last chapter, in which the economy achieves full equality, can be written. And if so, how?

**BY CLAUDIA GOLDIN**
Like many others, I think convergence is possible. However, I depart from the conventional view of what it would take to write this final chapter. The solution does not have to involve government intervention and it does not depend on the improvement of women's bargaining skills or heightened will to compete. Nor must men become more responsible in the home (although that would greatly help).

What is needed are changes in how jobs are structured and remunerated, enhancing the flexibility of work schedules. To succeed, the changes must decrease employers' costs in substituting the hours of one worker for another. Firms that have family-friendly policies – and there are many of them – are moving in the right direction. But if those policies are accompanied by decreases in women's average hourly pay and dimmer prospects for promotion because the cost of accommodating flexible hours remains high, they will only reinforce gender differences in the workplace.

The gender gap in hourly compensation would vanish if long, inflexible work days and weeks weren't profitable to employers – that is, if firms did not have a financial incentive to pay employees working 80 hours a week more than twice what they would receive for 40-hour weeks. A similar statement can be made with regard to working specific schedules tailored to episodic increases in demand or putting in enormous amounts of time at the start of one's career to demonstrate allegiance and commitment.

The costs of temporal flexibility have in fact begun to fall in some sectors – notably, technology, science and health. And the change is reflected in the increased use of teams of substitute employees, as well as in the more routine handing-off of clients, patients and customers from one employee to another. It should be noted, however, that adaptation has been slower in other sectors, among them financial and legal services.

CONVERGING ECONOMIC ROLES
The primary convergences of the past decades have concerned the “human capital” attributes – education, experience – of men and women. By the same token, differences in labor force participation rates between men and women have narrowed. In recent years the participation rate for 25-to-54-year-old females has risen to close to 75 percent, 14 percentage points below the rate for males. Contrast that with the 46 percentage point difference in 1970 and the 29 percentage point difference in 1980. Meanwhile, as participation rates of women have climbed, their time out of the labor force has decreased and their job continuity has increased.

Years of education of women have surpassed that of men among Americans born since the early 1950s. The distribution of college majors has become more equal between men and women, and women now represent the majority, or nearly the majority, of students in professional training in medicine, law, dentistry, veterinary medicine, pharmacy and optometry.

But there the progress ends. Gender differences in earnings are not much further reduced if one corrects for factors such as educational quantity and quality because there are now few such differences that disadvantage women. But gender earnings gaps remain. Why the persistent difference?

The answer turns on an understanding of where earnings differences between men and

CLAUDIA GOLDIN is the Henry Lee Professor of Economics at Harvard and director of the National Bureau of Economic Research's Development of the American Economy program. Her most recent book, written with Larry Katz, is The Race between Education and Technology.
women are found. In what occupations, at what ages, and for what birth cohorts are the differences large or small? These provide clues that allow the formulation of a framework for explaining the basis of pay gaps by gender.

But while this analysis tells us what might level the playing field in the labor market, it doesn’t follow that the solution can be achieved through regulation. Actually, it suggests the opposite.

**Earnings Gaps by Age, Cohort and Occupation**

The first evidence concerns gender earnings gaps by age for a range of birth cohorts. The calculation should hold hours per week and weeks per year constant, so the gap does not simply reflect the fact that working more hours and weeks yields greater income. The real issue here is what working more time or less flexible schedules means for hourly pay. Therefore, I only examine the experience of full-time, full-year workers, and I account for hours and weeks above the “full” amount in the statistical analysis. Consider earnings gaps among college graduates now aged 35 to 55, tracked from the time they were in their late 20s.

Two findings stand out. First, there is a decreasing pay gap across cohorts. The youngest (born around 1978) has the smallest gender gap and the oldest (born around 1958) has the largest gender gap at each age. More important to the story, the gaps within cohorts greatly increase over time. Whereas women in their late 20s are earning around 92 percent what comparable men receive, those in their early 50s receive just 71 cents on the average male’s dollar.

A second group of clues comes from analyzing gender earnings gaps by occupation. By occupation I mean occupations defined by the U.S. Census at the “three-digit” level of specificity, which total 469. It is worth noting that, while most are fairly narrowly defined (e.g., “actuary,” “chemical engineer”), some are overly broad (e.g., “physicians and surgeons”).

Here, it’s worth emphasizing that the relationship between the gender earnings gap and occupations for all men and women is accounted for mainly (85 percent) by the gaps within occupations, not across occupations (the remaining 15 percent). Looking only at college graduates, 65 percent of the gender pay gap is due to that within occupations and 35 percent is due to the distribution of occupations by sex.

Putting this another way, the gender earnings gap would not be reduced much if women were distributed among occupations in exactly the same proportions as men. In fact, for the labor force as a whole, just 15 percent of the gap would be eliminated if women were
distributed exactly as were men by occupation, but the earnings gaps within occupations remained constant. For college graduates, just 35 percent of the total gap would be eliminated. Now that we know the importance of the within-occupation gender pay gap we can focus on it.

Although I construct the gender pay gaps for all 469 three-digit occupations, I will focus on individuals in occupations with average compensation exceeding about $60,000 per year, often termed “professional service workers.” This group includes around 60 percent of all male college graduates and about 45 percent of all female college graduates. I classify the occupations in several categories: Business and Finance, Health, Science, Technology and a small “Other” category. This categorization can be done for the higher-income groups, but not for those with lower incomes.

As in the first figure, the gender gap is measured by the ratio of female to male earnings and is almost always less than one. The lower the marker, the larger the gender gap. The means of male annual earnings by occupation range from $60,000 to $170,000.

The Business and Finance occupations have relatively large gender earnings gaps, while Technology and Science have relatively small ones. Within the combined Tech-Science groups there is one big outlier – airline pilots – where women earn only about 70 percent as much as men. This is a somewhat anomalous occupation within the grouping because military experience has been an important entryway and seniority matters considerably. Gaps in Health occupations are scattered throughout the graph. The Health occupations with a high rate of self-ownership (e.g., dentist, podiatrist) generally have larger gender earnings gaps than those with low rates of self-ownership (e.g., pharmacist, various types of therapists).
The gender gap in hourly compensation would vanish if firms did not have a financial incentive to pay employees working 80 hours a week more than twice what they would receive for 40-hour weeks.

Across the entire sample of full-time, full-year workers, the residual earnings ratio (female/male) for the Business and Finance occupations is 0.787 and the residual earnings ratio for the Technology and Science occupations combined is 0.892. For a sample limited to college graduates, the residual earnings ratios are 0.797 for individuals in Business and Finance and 0.903 for those in Science and Technology.

These very large differences between Business and Finance on the one hand and Technology and Science on the other demand explanation.

A really interesting hint concerns the role of average hours by occupation. In the analysis just discussed, the sample was limited to full-time workers (35 hours plus) and mean hours for each occupation was added as a control. When instead I allow hours to affect earnings differentially for each occupation, average time worked per week in the Business and Finance occupations (plus lawyers in the “Other” category) has a very large impact on hourly pay. But weekly time worked in the Technology and Science occupations has only a small impact.

That is, those in a Business or Finance occupation who work, say, 50 hours per week are, on average, paid disproportionately more than those who work 40 hours per week. But their counterparts in Technology or Science occupations who work 50 hours per week only increase their weekly or annual earnings proportionately more than those laboring 40 hours.

Understanding Gender Differences in Pay

Here, I explore what happens when employees cannot “hand off” clients, patients and customers in a costless fashion. The framework fits into a model of compensating differentials and provides the foundations for the costs of providing a worker amenity such as flexible work hours.

Consider an employee (say someone with a law degree) in a position (say a lawyer in a relatively large law firm) whose work yields
$X per hour during a normal $Y$-hour work week. But if the lawyer is on the job fewer than $Y$ hours (or is not around during particularly vital business hours), his/her value is less than $SX$ per hour. Another lawyer’s position (say, in-house counsel for a business) generates less value per hour than at a large firm. But it also comes with a lower penalty per hour for not being around for more than some minimum number of hours per week. Now add a third lawyer to the mix – say, one working for a government agency. This lawyer generates the lowest value per hour, but his/her output is linear – that is, the value per hour remains the same, regardless of how many hours are worked per week.

Under these conditions, the value of a lawyer in the labor market depends on the costs to the firm of providing temporal flexibility. The big law firm won’t be willing to pay as much to lawyers unwilling to put in $Y$ hours a week than it is to lawyers who are willing. The reason is that their clients do not view two lawyers working $0.5Y$ hours each as good substitutes in the most productive positions for one lawyer working $Y$ hours. The lawyers are better substitutes for each other as corporate counsels and perfect substitutes in government positions.

The framework suggests that “non-linearity” in labor value arises when it is costly to employers to allow workers to be off the job temporarily, when it is difficult to hand off clients to colleagues, and when interdependent teams must coordinate schedules – as in many finance and legal occupations. Note that non-linearity here means that a lawyer working 30 hours a week is worth less than half what a lawyer working 60 hours is worth.

Linearity, on the other hand, arises when employees can substitute for each other in a relatively costless fashion, when there are many independent team members, when information systems lower the cost of handing off clients and patients (as in health, pharmacy). Here, a lawyer who works 30 hours a week is worth precisely half that of a 60-hour-a-week lawyer.

Given the framework, what occupational characteristics should be related to residual gender gaps? I approach this question in two ways.

LESSONS FROM O*NET

The first involves identifying relevant characteristics for all three-digit occupations to see if the gender gap in earnings is related to whether the job is compatible with temporal flexibility without a significant loss in productivity. The source for the data is O*NET, a database underwritten by the U.S. Department of Labor. O*NET provides hundreds of characteristics for each occupation. Many of
them concern physical strength and cognitive abilities, which are not relevant to the issues here. But there are a variety of characteristics that are directly related to the job features highlighted by the framework. I selected characteristics indicating the degree to which employees:

- are subject to strict deadlines and time pressure;
- need direct contact with others;
- must develop cooperative working relationships with others;
- are tied to highly specific projects;
- cannot, as a practical matter, determine their pace, tasks, priorities and goals.

For the purposes of computation, I normalize each characteristic to have a mean of zero and a standard deviation of one. A negative score implies there is less-than-average need to be around, less time pressure, more work on specific projects, and more ability to regulate one’s own pace and goals. A positive score has the opposite implication.

Technology and Science occupations score far lower – that is, are far more flexible in terms of time – by these criteria than do Business, Finance and Law occupations. In fact, they score about one standard deviation below on most of the characteristics.

Not surprisingly, there is a strong negative association between the average of the O*NET scores for the five job categories and the (corrected) ratio of female to male earnings. The lower the average of the O*NET scores the higher is the (corrected) ratio of female to male earnings in that occupation.

LESSONS FROM THE LARGE GENDER EARNINGS GAPS IN MBAS AND JDs

Another way to gain insight into differences in the gender earnings gap is to explore individual occupations that have substantial pay gaps. The data I use are longitudinal or retrospective, and contain enormously rich information on characteristics that are related to individual productivity.

The data for Business and Finance come from administrative records of University of Chicago Booth School MBAs (1990 to 2006) and a survey, used in my research with Mari-anne Bertrand of the University of Chicago and Larry Katz of Harvard. We found that the gender earnings gap greatly increases with time since attainment of an MBA, so that 12 to 15 years after earning an MBA women earn just 57 percent as much as men. Even after correcting for MBA courses taken (some specialties pay more) and grades, the figure is still 64 percent, although it is about 95 percent at the start of their careers. But the largest factors explaining the gender earnings gap are weekly hours and time spent out of the
labor force, even though differences in hours by gender are not large and time out for women is not extensive.

We found that, when they have children, MBA women shift into lower paying positions (or out of the labor force) to gain temporal flexibility. The finance and corporate sectors heavily penalize lower hours for both men and women, and flexible or low-hour positions are rare. Half of all MBA women who work part-time are self-employed.

For the data on law degrees (JDs) I used the University of Michigan Law School Alumni research data set, which contains rich information on hours and earnings. The relationship between the gender earnings gap and time since earning the JD degree is similar to that for the MBAs. Because the information on hours in the law school alumni data set is much better than that for the MBAs, I can better assess whether hourly earnings are non-linear with respect to hours worked.

I examined annual earnings (in constant dollars) by hours worked 15 years after the JD degree was earned for men and women who graduated from law school between 1982 and 1991. Earnings are clearly non-linear, with those working more hours per week earning more per hour. These findings stand up to controls for years off the job and years working part-time. In addition, the fraction of women in the lower-hour group is much higher, and the fraction of the women who have children is also much higher in the lower-hour group.

LESSONS FROM THE SMALL GENDER EARNINGS GAP IN PHARMACY

Pharmacy is a very high-income occupation. Among (full-time, year-round) male workers, it was the eighth highest on an annual basis in 2010 and among women it was the third highest. But unlike occupations in business, finance and law, it has a small gender pay gap and almost no penalty for low hours.

Pharmacy underwent major changes in the last several decades. Self-ownership and the fraction working in independent practice plummeted from 1970 to the present. Whereas almost 70 percent of all pharmacists in the United States worked in an independently owned pharmacy in 1970, just 14 percent do today. Meanwhile, the fraction of pharmacists who are female rose from around 10 percent in 1970 to almost 60 percent today, and the ratio of female to male annual earnings increased from 0.65 in 1970 to 0.92 today.

Most pharmacists are now employees of large firms or hospitals. The spread of vast information systems and the standardization of drugs have enhanced their ability to seamlessly hand off clients and be good substitutes for one another. The result is that short and irregular hours are not penalized. Pay is almost perfectly linear in hours. Those who work fewer hours – say, because of family responsibilities – are paid proportionately less. Part-time work is common, especially for women. But there is almost no part-time wage penalty.

WHERE WE STAND

We now know what must be in the last metaphoric chapter for it to be truly the last. It must involve considerable economic change, not a Band-Aid with firms offering flexible hours and schedules to workers in return for lower compensation. And to get from here to there, temporal flexibility must become less expensive for firms, pushing competitive labor markets to generate more linearity of earnings with respect to the number of hours and the particular hours worked.

A restructuring of jobs has happened organically in many health care occupations, in-
including pharmacists, physicians, optometrists and veterinarians. Some physician specialities have low hours, few on-call hours, and primarily planned procedures. Many of the Technology and Science occupations have built-in flexibility because work projects are often done independently and are highly specific requiring less oversight. And the spread of information systems has led to change in other sectors, enhancing substitutability across workers.

Am I advocating that workers become clones of one another? Wouldn’t that degrade the work of professionals?

Many of the highest earning and most prestigious professionals have almost perfect substitutes, a reality acknowledged by the way their professions are organized. Obstetricians cannot deliver two babies at the same time – or deliver them when they are on vacation in Cambodia – and thus work in group practices. Likewise, anesthesiologists generally work in groups and surgeons will generally pick a group of anesthesiologists to work with, not individual anesthesiologists. Personal bankers are organized as teams so that clients can obtain help 24/7.

Am I suggesting that all jobs could be structured so that clients could be handed off seamlessly, driving labor markets toward linear pay? There will always be some jobs that require one person to be on call. We don’t expect the occupant of the White House to have a perfect substitute. But we have long lives, and as the need to care for children declines so does the need for flexible- and/or part-time hours (although these needs may return with elderly parents or ill spouses).

The earlier chapters in the grand gender convergence chronicled women’s relative gains in education and work experience. But the last chapter concerns the utilization and remuneration of these productive attributes. It will be about how firms respond to changes in technology and to the evolving preferences of employees as family/work issues arise.

Don’t fall into the trap, though, of assuming the last chapter is just about women. This isn’t only a woman’s problem, and it isn’t a zero-sum game. The labor-market conditions that will generate convergence in pay between genders – the technological and institutional changes that reduce the cost of temporal flexibility – will make life better for almost everybody.
The New U.S. Pay Equity Laws: Answering the Biggest Questions
Created by Seyfarth’s Pay Equity Group
In January, new laws in California and New York fundamentally altered how equal pay claims are analyzed in those states, lowering the bar for an equal pay lawsuit.

In March, Nebraska’s governor approved an amendment to the state’s equal pay act, while a similar bill landed on the governor’s desk in New Jersey but was conditionally vetoed in May.

Also in May, Maryland’s Governor Hogan signed Senate Bill 481 (cross-filed with House Bill 1003), another state specific pay equity law. The law will go into effect in October.

In August, Massachusetts’ Governor Baker signed amendments to the Massachusetts Equal Pay Act that will go into effect in July 2018.

And as the equal pay trend sweeps the U.S., more pay data may soon be required from employers due to the EEOC’s pending proposal to expand annual EEO-1 reports, which the EEOC claims would “assist the agency in identifying possible pay discrimination and assist employers in promoting equal pay in their workplaces.”

Given the significant emphasis on pay equity issues from multiple sources, employers are well advised to take a close look at their compensation policies and practices. Conducting a compensation analysis and determining any necessary remediation is not for the inexperienced. When you sit down with your legal counsel and review these new and pending laws, here’s what you’ll find.

A Competition to Pass the Nation’s “Most Aggressive” Pay Equity Bill

Even before the California Fair Pay Act was signed into law in October, *The Los Angeles Times* wrote that it “may be the nation’s most aggressive attempt yet to close the salary gap between men and women.”

Three weeks after that law took effect, one bill in New York’s eight-bill package known as the "Women’s Equality Agenda" expanded protections for women in the workplace.

These new laws focus squarely on pay inequality between the sexes. Yet both federal and state laws already prohibit gender-based pay discrimination. On a federal level, the Equal Pay Act and Title VII of the Civil Rights Act of 1964 forbid employers from discriminating in pay and benefits based on sex. And like most states, both California and New York already have statutes addressing pay discrimination by gender.

What’s new about these laws is the reach.
The 4 Major Changes of the California Fair Pay Act

The new California law—which amends Section 1197.5 of the California Labor Code—changes pay claims in the Golden State in 4 major areas: pay equity, pay transparency, record retention, and enforcement.

1. Pay equity
The California Fair Pay Act expands existing laws pertinent to pay equity in three significant ways:

- **Employee comparison based on location.** Employees can be compared even if they do not work at the same establishment. This means that the pay of an employee may be compared to the pay of other employees who work hundreds of miles apart.

- **Employee comparison based on responsibility.** Employees can be compared even if they do not hold the “same” or “substantially equal” jobs. The new law would require only a showing that the employees are engaged in “substantially similar work, when viewed as a composite of skill, effort, and responsibility, and performed under similar working conditions.”

- **New rules for justifying pay.** Employers will be required to justify pay differentials and the law limits the factors that employers can use in its defense. The factors must be applied reasonably and, when viewed together, must explain the entire amount of the pay differential.

The permitted reasons for pay differences are:

- A seniority system
- A merit system
- A system that measures earnings by quantity or quality of production
- A bona fide factor other than sex, including skills, education, training, experience, shift, or geography.

2. Pay transparency
Under the Act, employers may not prohibit employees from disclosing or discussing their own wages or the wages of others, or from aiding or encouraging other employees to exercise their rights under the law. These anti-pay secrecy requirements echo similar prohibitions under the National Labor Relations Act, under existing California law, and under an Executive Order that applies to federal contractors.

(For more information from Seyfarth about the final regulations for federal contractors implementing that Executive Order, read “OFCCP Announces Final Rule to Promote Pay Transparency.”)

3. Records retention
The Act extends—from two years to three—an employer’s obligation to maintain records of wages and pay rates, job classifications, and other terms of employment.

4. Enforcement
Lastly, the Act creates an additional private right of action—this one with a one-year statute of limitations—for employees who allege they have been discharged, discriminated, or retaliated against for engaging in any conduct protected by the statute. These employees may seek reinstatement and reimbursement for lost wages and benefits, interest, and “appropriate equitable relief.”

The California Fair Pay Act also provides these employees an alternative: they may file complaints with the California Division of Labor Standards Enforcement, alleging employer violations of the new prohibitions on discrimination, retaliation, and restricting employee wage-information discussions.

(For more information from Seyfarth about the California Fair Pay Act, read “California Governor Signs Strictest Equal Pay Law in U.S.”)
New York’s New Law Approaches Reach of California’s

The New York law will not be quite as far reaching as the California Fair Pay Act, yet will nevertheless demand meaningful changes from employers with New York-based employees.

Like the California law, the New York law requires employers to justify pay differentials, limits the factors employers can use to explain differences in compensation, and places on employers the burden of proving the reasons for any pay differences.

New York’s new statutory provisions include fair pay protections which will make it far easier for plaintiffs to pursue gender-based pay equity claims. Like the California bill, employees in New York can be compared even if they do not work at the same establishment. This measure is more restrictive in New York than in California, where comparators can be hundreds of miles apart.

The New York law requires that comparators must work in the same “geographic region,” no larger than the same county.

Liquidated damages for willful violations of § 194 will be increased to 300% of wages due.

(For more information from Seyfarth on the New York laws, read "Significant Changes to New York Laws On Pay Equity, Transgender Protection, and Wage Payments.")

The Massachusetts Equal Pay Act

In some ways, the Massachusetts legislation goes farther than any prior pay equity legislation in the U.S.

Massachusetts is the first state to ban employers from seeking information about applicants’ compensation history in the hiring process. When the amendments take effect, Massachusetts employers will be prohibited from seeking the compensation history of a prospective employee prior to making an offer, unless the prospective employee has “voluntarily” disclosed such information. This will require many employers to revise their employment applications and make significant changes to their recruitment and hiring processes. The new law will also make it unlawful for employers to prohibit employees from discussing or disclosing their own or other employees’ wages.

In another first, the new Massachusetts law creates an affirmative defense to wage discrimination claims for an employer that has (1) completed a self-evaluation of its pay practices that is “reasonable in detail and scope in light of the size of the employer” within the three years prior to commencement of the action; and (2) made “reasonable progress” toward eliminating pay differentials uncovered by the evaluation.

As in California, the Massachusetts law will prohibit differences in pay for “comparable work,” which is defined as work that is “substantially similar in that it requires substantially similar skill, effort and responsibility and is performed under similar working conditions.” The new law will limit the factors employers may use to explain differences in compensation. However, unlike in California, there is no “catch-all” provision that would allow an employer to point to any bona fide factor other than sex to justify a pay differential. The Massachusetts amendments will explicitly permit employers to rely on “geographic location” to justify wage differentials.
Maryland’s New Law Reaches Beyond Pay

Maryland’s pay equity law strengthens protection against pay discrimination in the workplace, and prohibits employers from providing less favorable employment opportunities because of sex or gender identity.

Maryland’s updated Equal Pay for Equal Work Act prohibits pay discrimination on the “basis of sex or gender identity,” and covers employees who work for the same employer at workplaces located in the same county of the state and who “perform work of comparable character or work in the same operation, in the same business, or of the same type.” Thus, the revised requirements significantly expand protections for Marylanders.

The law covers more than just pay disparities. It also prohibits employers from “providing less favorable employment opportunities,” which includes placing employees into “less favorable career tracks” or positions, “failing to provide information about promotions or advancement,” and “limiting or depriving” employees of employment opportunities because of sex or gender identity. Additionally, employers may not forbid employees from “inquiring about, discussing, or disclosing” their wages or the wages of other employees.

Pay Equity Laws—A Breakdown

<table>
<thead>
<tr>
<th>Laws</th>
<th>Protected Classes</th>
<th>Comparison Group</th>
<th>Same Location</th>
<th>Proof</th>
<th>Remediation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA Fair Pay Act</td>
<td>Sex Only</td>
<td>Substantially similar work and working conditions</td>
<td>No</td>
<td>No Intent Required</td>
<td>Must explain entire wage differential</td>
</tr>
<tr>
<td>NY Achieves Pay Equity</td>
<td>Sex Only</td>
<td>Equal work and similar working conditions</td>
<td>No (but same geographic region)</td>
<td>No Intent Required</td>
<td>Must explain entire wage differential</td>
</tr>
<tr>
<td>Maryland Equal Pay for Equal Work Act</td>
<td>Sex and Gender Identity</td>
<td>Employees who work for the same employer in the same county and who perform work of comparable character, or work in the same operation, in the same business, or of the same type.</td>
<td>No (but same county)</td>
<td>Not Stated</td>
<td>Not Stated</td>
</tr>
<tr>
<td>Massachusetts Equal Pay Act (effective July 1, 2018)</td>
<td>Gender</td>
<td>Substantially similar skill, effort, and responsibility and performed under similar working conditions</td>
<td>Yes (location may be used to explain differentials)</td>
<td>No Intent Required</td>
<td>Not Stated</td>
</tr>
<tr>
<td>Federal Equal Pay Act</td>
<td>Sex Only</td>
<td>Equal work and similar working conditions</td>
<td>Yes</td>
<td>No Intent Required</td>
<td>Must explain entire wage differential</td>
</tr>
<tr>
<td>Title VII</td>
<td>Sex, Race/Ethnicity, Color, Religion, National Origin</td>
<td>Similarly Situated Employees</td>
<td>No</td>
<td>Discriminatory Intent or Impact</td>
<td>Typically only in statistically significant groups</td>
</tr>
<tr>
<td>E.O. 11246</td>
<td>All from Title VII + Sexual Orientation and Gender Identity</td>
<td>Similarly Situated Employees</td>
<td>Yes</td>
<td>Discriminatory Intent or Impact</td>
<td>Typically only in statistically significant groups</td>
</tr>
</tbody>
</table>
What Are the Next Steps?

Given the national and international spotlight on pay equity, it is critical that employers conduct attorney-client privileged internal pay equity audits to keep abreast of their organizations’ pay trends and ensure compliance with these laws. Conducting a proactive pay equity analysis is often the first and best step employers can take to ensure fair pay and diminish legal risk.

Through the use of statistical models and analyses, employers can test the extent to which permissible factors explain existing pay differentials. This sophisticated work includes developing the appropriate employee groupings, isolating the factors that explain pay, adjusting the model, and interpreting the results. Importantly, you minimize the risk that this analysis and related deliberations might be discovered in litigation by engaging legal counsel who routinely conduct these analyses to direct and conduct this work under attorney-client privilege.

Have questions? You’re not alone. Read on for answers to frequently asked questions about the new pay equity laws.

Frequently Asked Questions

Q1: “Does this apply just to base pay?”

California Labor Code Section 200 says that “wages” include all amounts for labor performed by employees of every description, whether the amount is fixed or ascertained by the standard of time, task, piece, commission basis, or other method of calculation. In this definition, “wages” also includes base salary and other forms of compensation (e.g., bonuses, commissions, etc.).

In N.Y. Labor Law § 190(1), “wages” means the earnings of an employee for labor or services rendered, regardless of whether the amount of earnings is determined on a time, piece, commission or other basis. The term “wages” also includes benefits.

In Massachusetts, “wages” are defined broadly to include “all forms of remuneration for employment.”

Q2: “Who is compared under these laws? Should we use job titles?”

California, New York, Maryland, and Massachusetts law differ when it comes to grouping employees.

California: Group employees by those who perform substantially similar work that requires substantially similar skill, effort, and responsibility, and which is performed under similar working conditions.

New York: Group employees by those who perform equal work that requires equal skill, effort, and responsibility, and which is performed under similar working conditions.

Maryland: Group employees who work for the same employer at workplaces located in the same county in the state and who “perform work of comparable character or work in the same operation, in the same business, or of the same type.”

California: Group employees by those who perform substantially similar work that requires substantially similar skill, effort, and responsibility, and which is performed under similar working conditions.

In California, substantially similar work is determined by:

- **Skill**: Experience, ability, education, and training required to perform the job
- **Effort**: Amount of physical or mental exertion needed to perform the job
- **Responsibility**: The degree of accountability required in performing the job
- **Working Conditions**: Physical surroundings (e.g., temperature, fumes, and ventilation) and hazards
A good place to start in developing employee groups is to identify “buckets” of major job categories or groupings your organization already uses. These might include:

- Grades and levels
- Job functions and job families
- Job descriptions
- Skills or job ladders
- Wage and hour classifications

**Massachusetts:** Group employees by those who perform substantially similar work that requires substantially similar skill, effort, and responsibility, and is performed under similar working conditions.

**Q3:** “Are we not allowed to take into account differences in market anymore? The market in San Francisco (or NYC) is so different from the market in Fresno (or Rochester).”

When it comes to geographic differentials, California, New York and Maryland law diverge. In New York, comparators must work in the same “geographic region,” defined as no larger than the same county, and employers must take into account population distribution, economic activity, and/or the presence of municipalities. In Maryland, comparators must work in the same county of the state.

In the California law, employees can be compared to others who do not work in the same establishment or region but consideration of geographic differentials may still be a legitimate basis for pay differences. Geographic, shift, or hours differentials can be a “bona fide factor,” as described by California State Senator Hannah-Beth Jackson in this letter to the California Senate Daily Journal:

“[T]he amendments to this bill that strike ‘work is performed at different geographic locations’ and ‘work is performed on different shifts or at different times of day’ should not be construed as the Legislature’s intent to make those factors unavailable to an employer responding to an equal pay complaint. Rather, the employer may claim a ‘bona fide factor,’ that may be specifically described by the employer as work that is performed at different geographic locations or work that is performed on different shifts or at different times of day, so long as the employer can prove that the factor is consistent with business necessity, as specified in the bill.”

In Massachusetts, geographic location is one of the factors employers may use to explain wage differentials.

**Q4:** “But does this mean that under the California Fair Pay Act employees can be compared to employees in other states?!”

In New York and Maryland, the answer to this question is no. In California, the answer is “maybe,” since nothing in the California Fair Pay Act explicitly prohibits such comparisons. Stay tuned for further developments.

**Q5:** “What are the factors that employers may legitimately use to explain differences in pay?”

In California, there are 4 permitted factors to explain pay differences:

- A seniority system based on length of service
- A merit system based on performance
- Quantity or quality of production
- A bona fide factor other than sex, such as education, experience, training, certifications, geographic, shift, or hours differentials

The New York factors are:

- A seniority system
- A merit system
- A system that measures earnings by quantity or quality of production; or
- A bona fide factor other than sex such as education, training, or experience

The Maryland factors are:

- A non-discriminatory seniority system
- A non-discriminatory merit increase system
- Jobs that require different abilities or skills
- Jobs that require the regular performance of different duties or services
- Work that is performed on different shifts or at different times of day
- A system that measures performance based on a quality or quantity of production; or
- A bona fide factor other than sex or gender identity, including education, training, or experience, in which the factor:
Is not based on or derived from a gender–based differential in compensation; is job related with respect to the position and consistent with a business necessity; and accounts for the entire differential.

The Massachusetts factors are:

- A system that rewards seniority; provided, however, that time spent on leave due to a pregnancy-related condition and protected parental, family and medical leave, shall not reduce seniority
- A merit system
- A system which measures earnings by quantity or quality of production, sales, or revenue
- Geographic location in which a job is performed
- Education, training or experience to the extent such factors are reasonably related to the particular job in question
- Travel, if the travel is a regular and necessary condition of the particular job

Q6: “One of the main reasons employees are paid different amounts is because they were paid different amounts by their prior employer. Every employer takes this into account. Is this not permitted?”

The Massachusetts law forbids employers from inquiring about wage or salary history before making an offer of employment that includes the compensation offered. If a prospective employee “voluntarily” discloses such information, the employer may confirm it. (For more information from Seyfarth on what's new in Massachusetts, read “Massachusetts Governor Signs Stringent Pay Equity Requirements, Effective in 2018.”)

While neither the California nor New York law prohibit inquiring about prior salary, an industry standard practice, the legislative history references that such inquiries could perpetuate wage discrimination.

Starting salary is typically the most important pay decision. Prior salary can reflect differences in skills, experience, and performance. However, it has been shown that employees who begin their careers on a lower salary track continue to be paid lower and the gap in pay increases over time. This is known as the “Start Low/Stay Low” phenomenon.

To avoid risk, employers should document differences in skills, experience, and performance rather than prior salary as the reason for pay differences. Employers should consider developing a formal policy regarding how it sets starting salary.

Q7: “How about salary negotiation? Are we still able to negotiate with candidates?”

Salary negotiation is not expressly prohibited by these acts but pay differences should be based on a specific bona fide reason—such as skill, experience or location. For example, in California, the burden on the employer is to prove that differences are job related with respect to the position in question and consistent with a “business necessity” (i.e., the factor relied upon effectively fulfills the business purpose it is supposed to serve). This defense does not apply if the plaintiff can demonstrate an alternative business practice that would serve the same business purpose without producing the pay differential. In Massachusetts, employers may not seek a prospective employee’s wage or salary history during salary negotiations.

Q8: “What damages could be awarded under the laws?”

California: Wages and interest, plus an equal amount as liquidated damages, and reasonable attorneys’ fees. Willful violation may be commenced no later than three years after the cause of action occurs.

New York: Wages and interest, plus an equal amount as liquidated damages, and reasonable attorneys’ fees. If willful violation is found, up to 300% of wages are due to the plaintiff.

Maryland (effective October 1, 2016): For knowing discrimination (including if an employer should have known of violation), wages and interest, plus an equal amount as liquidated damages, and reasonable attorneys’ fees. For knowing violations of the provision protecting wage disclosures, actual damages, plus an equal amount as liquidated damages, and reasonable attorneys’ fees. Statute of limitations is three years from the date on which employee receives final pay.

Massachusetts: Wages and interest, plus an equal amount as liquidated damages, and reasonable attorneys’ fees. The suit must be commenced within three years after the alleged violation. A pay violation occurs each time an employee is paid.

Q9: “How can we evaluate and mitigate our risks under these acts?”

Start by documenting the relative skill, effort, responsibility, and working conditions of positions so you can differentiate and distinguish roles. These differences may be reflected in:

- Job matrices
- Job evaluation systems
- Job descriptions
You should also document the factors that influence pay, such as experience, education, starting pay, market at start, and performance ratings.

In Massachusetts, the affirmative defense to pay discrimination claims based on an employer’s self-evaluation of its pay practices provides a unique way for employers to attempt to insulate against pay equity claims. However, any evaluation used to substantiate a defense under Massachusetts law might be used against a company in litigation under federal law, which provides no similar defense. Thus, conducting audits protected by the attorney-client privilege is essential in Massachusetts, as in all states.

**Q10: “Where should we go from here?”**

Here are four key steps to take now:

- Understand appropriate job groupings
- Evaluate permitted factors that explain pay differences
- Analyze pay (cohort and statistical methods)
- Modify policies and practices

Before you begin, understand the risks of proceeding without attorney-client privilege. It’s essential to partner with internal and external counsel and implement a privilege protocol to keep the process confidential and limited only to those who “need to know.”

You must take into account the practical realities of conducting a pay analysis. You are likely to need additional resources and budget to:

- Conduct appropriate compensation analyses
- Correct disparities found

Consider the timing of this work and optimally align it with the compensation cycle.

Train HR, managers, and supervisors regarding the pay transparency provisions of the equal pay laws that govern your operations.

Likewise, you will need to modify organization policies and practices, such as:

- Employees handbook to remove any prohibitions on employees disclosing their compensation to others
- Retaliation policy
- Record retention policy
- In Massachusetts, application fields and hiring practices requesting wage or salary history
Seyfarth Shaw has for many years been in the forefront of assisting employers to interpret pay equity laws and conducting pay analyses. Employers with employees in the affected states should consider an attorney-client privileged pay review as soon as possible.

Please contact payequity@seyfarth.com.
Power of the Purse
How General Counsel Can Impact Pay Equity for Women Lawyers
For decades, studies have demonstrated that women lawyers are not paid at the same level as their male counterparts. In August 2012, I appointed a blue-ribbon Task Force on Gender Equity to recommend solutions for eliminating gender bias in the legal profession, with a principal focus on the disparity in compensation between male and female partners. This manual is one in a series of projects the Task Force has implemented to promote gender equity.

Corporate clients can play a significant role in effectuating meaningful change for women in law firms. Since 2008, the ABA Commission on Women in the Profession has held a series of national and regional summits for women general counsel and senior in-house counsel to discuss how corporations can use their influence to help women lawyers at law firms advance and succeed. Building on those efforts, Power of the Purse: How General Counsel Can Impact Pay Equity for Women Lawyers explains why corporate clients should care about the gender pay gap at law firms and sets forth specific steps they can take to ensure that their corporations are served by firms that are providing, promoting, and achieving a diverse and inclusive workplace.

This manual focuses on ways that in-house counsel can use their considerable economic power—the power of the purse—to increase diversity on law firm teams and make business origination credit and client succession policies more equitable for women lawyers. Working together, general counsel and law firms can help reduce and ultimately eliminate the compensation gap that women continue to experience in the legal profession.

My thanks first go to author Lauren Stiller Rikleen, who pulled the laboring oar in making this manual a reality. Special thanks also go to Roberta D. Liebenberg, Chair of the ABA Task Force on Gender Equity; Stephanie A. Scharf, Task Force Compensation Projects Coordinating Chair; Denise Keane, Task Force General Counsel Project Chair; and Nancy Peterson, VP/Deputy General Counsel and Chief Compliance Officer, AlliedBarton Security Services, for their important contributions in creating this publication. Lastly, deep thanks go to the members of our General Counsel Project Advisory Board, who generously donated their time and insights to this important project. The hard work and tireless efforts of all of these individuals are greatly appreciated.

Laurel G. Bellows
President, American Bar Association (2012–2013)
# Table of Contents

A Note from ABA President Laurel G. Bellows ........... inside front cover

Overview ................................................................. 2

The Business Case—Why Clients Should Care about the Gender Pay Gap at Law Firms ..................... 4

Current Practices and Beyond ........................................ 6
  1. Education and Outreach to Firms that Share Client Goals ........................................ 6
  2. The Client’s Role in Developing Women Rainmakers ........................................ 8
  3. RFPs and Other Due Diligence Tools in the Hiring Process ...................................... 10
  4. Benchmarking Outside Legal Providers ............................................................ 11
  5. Deepened Levels of Inquiry ........................................................................ 13
  6. Leading by Example .................................................................................. 15

Conclusion ........................................................................ 15

Checklist of Action Items to Advance Gender Diversity among Outside Counsel ......................... 16

Endnotes ........................................................................... 21

About the Author ................................................................. 22

Contributing Authors .......................................................... 23

General Counsel Project Advisory Board ........................................................................ 24

About the ABA Presidential Task Force on Gender Equity .......................................................... inside back cover

About the ABA Commission on Women in the Profession .......................................................... inside back cover
Overview

The Task Force on Gender Equity (Task Force) was created by American Bar Association President Laurel G. Bellows to address the continuing problem of gender inequality in the legal profession. Bold action is necessary for women lawyers to achieve parity with their male colleagues, as efforts to date have been insufficient. Power of the Purse: How General Counsel Can Impact Pay Equity for Women Lawyers is one of four publications sponsored by the Task Force, directed to law firms, in-house counsel, individual lawyers, and bar associations, all of which focus on recommended policies, practices, and actions for achieving gender equality.

The gender gap is particularly acute in law firms, where fundamental change is needed to address and ameliorate long-standing disparities in (1) compensation, (2) elevation to equity partner, and (3) inclusion on the top management and policy committees. Statistics on the advancement of women paint a stark picture. Since well before the turn of the twenty-first century, women comprised nearly half of the nation’s law students. That full pipeline should have produced a far different leadership profile than we see in law firms today. Instead, key metrics on women’s advancement and compensation have barely budged. The National Association of Women Lawyers and the NAWL Foundation, which have been surveying the nation’s 200 largest law firms since 2006, report, “Women have not made significant progress either economically or in reaching leadership roles during the seven years the Survey has measured the impact of gender in law firms.” Women lawyers of color experience even greater barriers to advancement.

The ABA Commission on Women in the Profession (Commission) has long recognized the important role that clients can play to ensure that women outside counsel receive appropriate credit and compensation. Since 2008, the Commission has held a series of national and regional summits for women general counsel and senior in-house counsel to discuss how corporations and firms, working together, can help to close the gender gap. It is noteworthy that Hillary Rodham Clinton, who served as the first chair of the Commission, observed in a groundbreaking 1988 report...
on the status of women in the profession that the increased number of women entering the profession by itself would not result in an increase in the number of women in positions of power and leadership.\(^6\)

In the sections below, we provide specific steps that corporate clients can take to make certain that they are well served by excellent law firms that provide, promote, and achieve a diverse and inclusive workplace. Our focus is on ways that in-house counsel can use their economic power to minimize—perhaps even eliminate—the compensation gap that women continue to experience in the legal profession. Although the recommendations here were developed in the context of eliminating gender inequity, the Task Force believes that these recommendations apply to all programs that have the goal of increasing the diversity and inclusiveness of outside counsel.

The Task Force has been greatly influenced by the valuable input provided by its distinguished General Counsel Advisory Board. The members of the advisory board generously shared their experiences, provided examples of practices they have implemented with their outside law firms to encourage diversity, and offered their ideas for how best to continue to make a difference. We are also grateful for the thinking of other in-house counsel whom we have consulted in the development of this publication.

It is our hope that in-house counsel and law firms will be inspired by these best practices to take similar steps. A strong commitment is required from all members of the profession to ensure that the justice and equality lawyers seek on behalf of their own clients are also attainable by lawyers themselves.
The Business Case—Why Clients Should Care about the Gender Pay Gap at Law Firms

The business case for ensuring a critical mass of senior women and diverse lawyers in law firms is not complex and is well documented. For decades, large numbers of women have been graduating from law school—almost as many as men. Women enter law school with the same qualifications as men, and they graduate from law school with the same range of academic records. After graduation, women enter private practice at the same rate as their male colleagues. But, over time, too many law firms have not succeeded in retaining women lawyers. Even though clients report similar levels of satisfaction with legal services provided by female and male lawyers, numerous studies show that firms are underpromoting and undercompensating women as compared to men.

The failure to retain and advance women lawyers impacts corporate clients across many dimensions. Because of the dynamics of compensation and promotion in law firms, women walk. When they walk, clients far too often lose their talented outside women counsel. Inside counsel lose outside counsel with historical knowledge about the company, and they lose the comfort level that comes from working relationships that have been built over time. Clients then spend significant time and money to train and develop new lawyers to replace the women who leave. As a result, the business case for change stems in part from the unnecessary costs that corporations directly incur when gender inequities lead to unwanted attrition.

There is another reason why clients should care. Corporate clients represent a tremendous potential power to bring about meaningful change for women in the legal profession. Statistical evidence demonstrates the importance of client involvement to
ensure that women lawyers are receiving appropriate origination credit and compensation. In almost half of the 200 largest US law firms, there are no women in the firm’s “top 10” rainmakers, and the disparity in compensation increases with seniority. Accordingly, the greatest gender gap in compensation is between male and female equity partners. The ABA Commission on Women in the Profession collaborated on a research study that shined a much-needed spotlight on the arcane ways in which firms allocate origination credit and compensation, to the detriment of women lawyers.

Partly as a result of this economic disparity, more senior women are leaving their law firms, creating a vacuum of women who can serve in leadership positions and as role models, sponsors, and mentors for younger women. While this attrition is critically important to in-house counsel, it also results in the loss to the client of an attorney who has institutional knowledge and the expertise to perform the client’s work. Women can be as proficient and experienced as their male counterparts and, in addition to bringing strong substantive skills and expertise, can bring perspectives and executional approaches that enhance results.

We recognize that there are many social, economic, and institutional factors that impact the retention and attrition of women lawyers practicing in firms, but some of those factors are within the control of the law firm and their corporate clients. This is our focus here: how in-house counsel can strategize, educate, and benchmark their outside legal service providers so the corporation’s core values of diversity and inclusion will be mirrored by their outside lawyers. In a business world that is growing smaller with the globalization of industries, and in a society where consumer decisions are made primarily by women, the in-house lawyer cannot afford to build a legal team that fails to reflect the diversity of the broader society.

The most successful and replicated diversity initiatives are “top driven,” emerging from within the highest ranks of the corporation or organization. Law departments can play an important role in drafting, overseeing, and monitoring the progress of diversity initiatives to ensure that women attorneys play an integral role in their outside counsel legal team.

These goals need not be accomplished at the expense of excellent service, advice, and outcomes. In fact, they are highly compatible. Clients are extraordinarily well-positioned to provide outside firms with examples of best practices that will lead to greater gender equity in compensation, result in increased advancement and leadership opportunities for women, and reinforce how such decision-making yields excellent results. Working together, clients and lawyers can create real and meaningful opportunities for women within the legal profession.
Current Practices and Beyond

The following sections set forth examples of recommended best practices. These recommendations reflect input from members of the General Counsel Advisory Board and the ABA Task Force on Gender Equity, along with other senior in-house and outside counsel who generously shared their ideas, experiences, and recommendations. Many of the practices below have their roots in the broader diversity context and also are critically important to women’s advancement. We have organized our recommendations into six categories, all of which offer ways that in-house lawyers can make significant contributions to the future success of women in the profession:

1. Educating outside counsel about the client’s goals for women’s advancement, and outreach to firms that share those goals;
2. The client’s role in developing women rainmakers;
3. The use of RFPs and other due diligence tools;
4. Benchmarking outside legal providers;
5. Deepened levels of inquiry; and
6. Leading by example.

1. Education and Outreach to Firms that Share Client Goals

As a baseline effort, those who hire outside counsel should educate their law firms about the client’s interest in seeing women partners serving as lead lawyers, receiving appropriate origination credit, and being in line for succession to handle their representation on behalf of the firm. Law firms should not have reason to think—as some have expressed—that clients are only interested in diversity data when they call upon their firms to provide such information in the context of an RFP or a related pitch for business.

Members of the advisory board identified several education strategies they use to facilitate important conversations with their outside counsel. Some law departments have formed diversity roundtables comprised of their internal lawyers and outside counsel to foster a dialogue and share best practices. Speakers and experts are brought in to provide advice and to generate ideas. One general counsel reported that the company conducts regular “diversity dialogues” with its outside law firms to review survey results, share ideas for joint collaborations, and institute opportunities for short-term secondments for diverse associates. These discussions create an environment to help both in-house and outside counsel enhance their initiatives.

The advisory board members also described informal education methods they use. One member reported on the company’s participation in a panel with other in-house diverse lawyers at a law firm’s annual training program.
to emphasize the importance of diversity initiatives within the profession. Since participating in these panels, the firm has increased diversity within its associate and partner ranks, instituted an internal diversity committee, and actively participated in local law school diversity hiring fairs.

At the same time that diversity discussions with current outside counsel are taking place, corporate counsel have the opportunity to broaden the array of outside firms they may use. Today’s law firms continue to experience high levels of attrition of talented lawyers, especially women lawyers and lawyers of color. The reasons are many, but certainly one factor has been the relative intransigence of most traditional firms to diversifying their upper echelons.

The marketplace for outside counsel offers more diversification—in the broadest sense of that word—than ever before. Many of the same lawyers who, a generation ago, might have moved in a rigid march from associate to partner, now leave to form their own firms. Just as the past decade has seen the formation of organizations to advance in-house women and minority lawyers (such as the Minority Corporate Counsel Association and Corporate Counsel Women of Color), so, too, have women-owned and minority-owned law firms greatly expanded in number and location across the country, as shown by the emergence of NAMWOLF (the National Association of Minority & Women Owned Law Firms) and other associations.9

As part of their diversity efforts, many large corporations have chosen to consider firms that are not on a company’s traditional radar screen but that offer high-quality services and have built-in diversity, such as firms that are minority-owned or women-owned. A good example is the “inclusion initiative,” in which corporations use their normal processes for selecting outside counsel—including such factors as cost, reputation, expertise, and referrals—and take additional measures to ensure that diverse law firms are among the pool of firms considered for work.10 Inside counsel often state that they hire “the lawyer not the firm,” and women in mid-sized and smaller firms can provide the same level of service, judgment, and commitment as those in larger firms. Also, smaller firms tend to have less overhead and thus can offer more competitive billing rates to enable corporations to keep their legal expenses down.

Along the same lines, companies have the opportunity to team their traditional firm with a smaller, more innovative firm, especially on a major matter. A number of large corporations have paired a smaller diverse firm with their traditional provider of legal services, so the firms work together as a “virtual” firm. This arrangement has the benefit of diversifying providers of legal services without impinging too quickly or too intrusively into the culture of either firm that is hired.
2. The Client’s Role in Developing Women Rainmakers

Clients have a remarkable opportunity to use their purchasing power to change the face of law firms and to encourage those firms that already provide diverse legal teams. By including women lawyers in the competition for their business—and making sure they are properly credited within their firms—corporate clients provide the opportunities that are foundational to career advancement for women at law firms.

In-house lawyers have much to consider when hiring outside counsel. Whether as lawyers for a corporation, government agency, or nonprofit organization, they have a special responsibility to their internal client. When a matter requires the hiring of outside counsel, the in-house lawyer is relied upon to use sound judgment, expertise, and legal relationships to select an attorney in private practice who can achieve the best result as economically as possible. There is little room for error. In a fiercely competitive business climate, the in-house lawyer is expected not only to achieve a great legal result, but also one that creates a competitive advantage for her client.

For the in-house lawyer looking to hire outside counsel, the path of least resistance is frequently to turn immediately to the “name” firm or one of a handful of known lawyers. But relying on what is often a non-diverse pool of individuals results in a narrow search and limited choices.

In-house counsel frequently report that they ask fellow in-house counsel for recommendations when searching for outside lawyers. But that process itself can be flawed. For example, do the other lawyers consulted have their own process for developing a “go-to” list? Is the inquiry casual or does the in-house counsel consult at least three to five colleagues for suggestions and understand the criteria on which the recommendations are based? Referrals should be sought in a systematic way to ensure they are an ongoing source of new information, and not simply a perpetuation of the same names.11
Due diligence can offer tremendous opportunities for in-house counsel to expand the list of “go-to” lawyers. For example, in-house counsel can:

❯ Ask for membership lists from specialty bar associations (such as a national association of product liability lawyers or of IP lawyers). By their entry criteria, many of these groups function as a screen for quality and experience. For bar associations targeting corporate clients, such lists are readily available to corporations.

❯ Contact bar organizations whose members are composed of women lawyers or women-owned firms, and who may have referral systems. Some associations will act as anonymous clearinghouses, allowing corporate counsel to obtain credentials about a law firm or legal team in the first instance so counsel can decide whom they may want to contact.

❯ Develop a simple system to track names of women attorneys in trial court opinions issued in the areas of expertise needed. The database can serve as the basis for compiling statistics of experienced and successful women lawyers that will greatly expand the pool of “go-to” lawyers.

❯ Develop a list of other counsel within your industry who can act as sources of referrals. There are opportunities to meet and confer on industry initiatives. As part of those efforts, fostering a group of diverse lawyers respected by peers could certainly be a core initiative.

❯ Invite diverse lawyers and firms to present a CLE program for the law department. This provides an opportunity to be introduced to the substance and style of the invited lawyers and at the same time provide the presenters with the opportunity to meet others in the organization who may be interested in diverse representation.

❯ In meetings with peers from other companies, set aside time to invite women outside counsel and introduce them to other in-house colleagues. One group of women general counsel sponsors senior women lawyers whom they have retained as outside counsel and recommends them to others in the group.

These approaches are concrete ways that in-house counsel can promote women as potential “go-to” lawyers and champion their abilities, thereby advancing women lawyers who have earned the respect of their clients and peers and ensuring an expanding pool of qualified senior women outside counsel.
3. RFPs and Other Due Diligence Tools in the Hiring Process

RFPs and firm pitch meetings offer significant opportunities for clients to describe their own diversity policies to their outside service providers and to specify metrics by which they can better evaluate a firm’s commitment to women lawyers. By asking firms who seek their business to disclose the percentage of women attorneys serving on the firm’s management and compensation committees, a client demonstrates interest in learning how successful the firms have been in achieving diversity and inclusion at the leadership levels. Companies can cast a wide net in the RFP process, offering firms with alternative models an opportunity to showcase their skills.

RFPs and other due diligence procedures also allow in-house counsel to ensure that the “team” assigned by the firm will include women in leadership roles. If there is a presentation component to the RFP response, it can be telling if the law firm has failed to include a woman in that process. But even if women are included in the pitch, it is important that they also be involved in the work that may arise from the pitch team process. Too frequently, women may be involved in the initial effort to obtain the client’s business but then will not be assigned any of the work. For example, in a survey of women partners, more than one-half of the respondents reported situations in which they had participated in a pitch but were not included in the client work that followed.12

In-house counsel can prevent this from happening by requiring that all pitch participants have a role in the client’s work. In addition, the in-house lawyer can request that the firm designate a woman as lead relationship partner in the RFP response. Such a step can be key to a woman partner’s receiving the necessary credit for business, which will benefit her compensation and contribute to her advancement in the partnership ranks.

When a firm is selected, some advisory board members require the engagement letter to specify the outside law firm’s commitment to diversity.13 In-house counsel should hold their outside law firms accountable by specifically including women within the engagement letter’s diversity commitment. It is also important that, if a firm is not selected in whole or in part due to its responses on diversity queries, in-house counsel should take the time to provide valuable feedback to those firms to help them develop stronger initiatives going forward. This feedback should specifically include identifying where firms can strengthen opportunities for women lawyers.
4. Benchmarking Outside Legal Providers

When in-house counsel ask their outside firms to provide data, they are demonstrating to law firms that they are paying attention to metrics and, by doing so, are able to benchmark the information against other firms. Advisory board members who shared their information-gathering practices with the Task Force reported that they undertake such data collection every six months to two years. In-house lawyers uniformly reported that benchmarking provides the opportunity to keep track of whether their outside lawyers are adhering to their commitments and improving upon their efforts.

Several advisory board members reported that they request identification by gender, race, ethnicity, or LGBT status of the origination, relationship, or billing partner, and the number of hours billed, the breakdown of lawyers on the compensation or executive committee or equivalent committees, as well as the breakdown of lawyers who lead practice groups. This information enables general counsel to truly hold their law firms accountable; as one in-house lawyer succinctly noted: “The real effectiveness to this survey comes in the follow-up.”

Some in-house lawyers issue “report cards” to firms, while others prefer a more informal approach, such as a discussion of the results. Another law department shares a summary of the results of the diversity reporting (on an anonymous basis) with all of its outside firms.

The Task Force recommends that monitored metrics include the gender composition of equity partners, non-equity partners, counsel, and associates. In addition, requested data should include the number of hours billed by
women and other minority lawyers on each of the company’s matters and the number of women on management and compensation committees. It is also helpful to examine a law firm’s associate retention rate, again analyzed by gender, race, ethnicity, and LGBT status. Other areas where metrics can be important are discussed in “Deepened Levels of Inquiry,” below.

As always, ongoing communication with the outside firm is key to conveying that gender equity—as well as all diversity considerations—should be an integral part of the firm’s decision-making process, and not just when a benchmarking survey is received. One advisory board law department pointedly stated that diversity and inclusion are “not a nice-to-have, but a requirement for success.”

Where the benchmarking reveals a firm’s failure to adhere to diversity commitments, some clients have taken the difficult step of severing a relationship with an existing legal service provider. This is an important action to take when progress is not made.

When firms show consistent progress, however, a client may want to consider the “carrot” approach, which rewards improvement. One innovative company implemented a system to do just that. In 2009, the company launched a program to encourage key outside counsel to increase the diversity in its firms through a strategy of “pay for performance” and collaboration. Some aspects of that program include:

- A firm is eligible for a 2 percent bonus on all legal fees by achieving such criteria as, for example, a year-over-year increase of 2 percent in hours worked by diverse attorneys on the company’s matters, or a .5 percent increase in the diversity of their attorney workforce; and
- The program parameters and criteria are developed in partnership with law firm participants, with each held accountable for results.
5. Deepened Levels of Inquiry

All of the above practices are important, but the greatest impact can derive from a deeper level of inquiry—when clients look to see how their work is credited within their law firms. The single most critical factor in a lawyer’s success and advancement is to be fairly credited with and compensated for contributions to the client’s selection of and loyalty to the firm. In most law firms, advancement and compensation are directly related to the allocation of credit for client revenues. The process for allocating that credit, however, varies significantly among firms.

The Task Force’s companion publication, Closing the Gap: A Road Map for Achieving Gender Pay Equity in Law Firm Partner Compensation, details the challenges women face in the credit allocation process, and offers twelve detailed recommendations that law firms can implement to ensure that women receive fair credit for their contributions in originating and maintaining client relationships. But clients, too, have a critical role in promoting gender equity in the credit that is allocated by firms for their work.

When clients are willing to engage in sensitive conversations with law firms about these issues, clients reinforce their commitment to the success of women lawyers. One in-house counsel described a situation where a lawyer, based on his historic relationship with the client, continued to attend key account-management-related meetings and to be copied on related correspondence even though he no longer provided substantive legal services to the client. The client told the firm that he should be removed from the account, that he had no place in any meetings, and no reason to receive copies of correspondence. This resulted in the opportunity for the diverse partner who already managed the day-to-day legal work for the client to step up and manage all aspects of the client’s account. Presumably, this resulted in a more equitable allocation of internal credit.

A general counsel similarly described her difficult conversation with an outside firm when she told them that she wanted the woman lawyer on whom she continually relied to be the relationship partner and to receive fee credit for the client’s matters. This meant transferring that role from a senior partner who for a number of years had no involvement in legal work for the company. The subsequent transfer of credit was not without tension in the firm, but the client felt it properly reflected the client’s reason for remaining with the law firm, as well as the important role played by the woman lawyer in maintaining the client’s relationship with the firm.
An issue discussed in great detail in *Closing the Gap* is the way in which law firms transfer relationship or origination credits for particular clients to other lawyers within the firm when a long-time relationship or originating partner retires or otherwise leaves the firm. This generally happens informally and without client consultation; women and minority lawyers are often overlooked in these client succession decisions. There is a significant opportunity for clients to become involved, however, by informing their outside counsel that they want to participate in decisions regarding the transition of their work and the relationship partner status from a lawyer who is retiring or leaving the firm. One general counsel reported that the company is actively involved in discussions of succession with its law firms, noting that, while the company “and its firm may initially have different opinions about staffing and matter lead, ultimately the firm aligns with [the company’s] wishes.”

Clients may worry about whether such inquiries cross a line by becoming too involved in the internal decision-making processes of their outside counsel. They should be reassured by the words of one client who reported on how outside firms responded when the company asked how it could help support the firm’s diversity efforts: “The message we heard loud and clear is that it helps when we ask about it, it helps when we send emails.” The general counsel further reported that the company will congratulate the firm when, for example, a woman has been added to the management committee and will express concern when a woman has been replaced by a non-diverse partner.

Through these deeper levels of inquiry, in-house counsel are letting their firms know that these decisions matter to the client. By requesting the following information, clients will be informed as to the progress and opportunities for women in the law firms they engage:

- The composition of the firms’ governing committees by gender, especially the management/executive committee and compensation committee.
- Identification of work performed for the client by women and men, categorized by equity partners, non-equity partners, counsel, and associates.
- Identification of the number of hours billed to the client by women and men, analyzed by equity partners, non-equity partners, counsel, and associates.
- Percentage of women attorneys and men attorneys who lead practice groups or offices, analyzed at least by equity partners, non-equity partners, and counsel.
- Description of the firm’s mentorship/sponsorship program for women attorneys.
- Approaches taken to improve diversity in the legal profession or the presence of underrepresented groups in the firm and its leadership.
Identification of the percentage or number of women—compared to men—who receive origination or billing credit by matter, analyzed at least by equity partners, non-equity partners, and counsel.

Identification of the percentage or number of women—compared to men—who serve as the relationship partner to other firm clients, analyzed at least by equity partners, non-equity partners, and counsel.

Identification of women who have assumed a succession role for client matters (that is, who have previously inherited work), analyzed at least by equity partners, non-equity partners, and counsel.

6. Leading by Example

Clients should lead by example, both formally and informally. In-house lawyers can and should partner with their outside law firms to bring about pay equity. By working together and developing shared strategies, the long-standing gender disparities in compensation can finally be reduced and ultimately ended.

If in-house lawyers find that their own organization’s leadership is slow to embrace these concepts, they can still underscore the value and need by taking a prominent and active role within their law departments, setting a standard for the rest of the organization. In-house lawyers can also challenge the outdated thinking of those who hold onto the mistaken belief that the highest caliber of lawyering and diversity are mutually exclusive concepts by promoting their many success stories and examples that prove otherwise. In-house lawyers are well-positioned to make the business case for gender equity and diversity and to demonstrate that innovative, creative, and efficient legal work will flow from those opportunities that help women flourish.

Conclusion

By using their substantial economic power to level the playing field for women at law firms, in-house counsel can play a key role in shattering the last vestiges of the glass ceiling in the legal profession while delivering successful results to their clients. We believe that the adoption by corporate law departments of the best practices and recommendations described above will redound to the benefit of clients, law firms, and women lawyers. When many companies take action to further the goal of advancing women in private practice, they will play a powerful role in moving the legal profession forward, allowing true gender equity to finally become a reality.
Checklist of Action Items to Advance Gender Diversity among Outside Counsel

A. Implement Structures within the Law Department.

A corporate law department should create the infrastructure to identify and implement policies to advance gender diversity. This can be accomplished in a variety of ways, including the following:

☐ **A diversity committee.** This committee should be sponsored by the general counsel and be responsible for planning and executing diversity practices and policies, including diversity programming and initiatives. One important function of the diversity committee is to oversee diversity reporting by outside counsel (see benchmarking, below). The diversity committee can also support the law department’s internal efforts relating to talent engagement and development.

☐ **Outside counsel guidelines.** The guidelines should include the company’s diversity expectations and state why diversity is important to the company. This is a short example of one company’s articulation of the business case for diversity:

“The Law Department expects that your firm will provide opportunities to all employees at all levels within your firm, including women, minorities, individuals with disabilities, LGBT individuals, and covered veterans. We believe that a culturally sensitive workplace that fosters and capitalizes on diversity of perspective is better able to serve our needs and can produce better results.”

☐ **Support for internal efforts.** A focus on outside law firms should complement internal diversity efforts. For example, the law department could appoint a supplier diversity champion both to identify non-law firm legal services providers and to counsel the procurement department on supplier diversity issues.

☐ **Support for diversity-related organizations.** Support diversity-related efforts by bar organizations and groups with an established track record. The law department may pick one group to sponsor or support several outside groups. In addition to providing a forum to meet diverse talent, best practices continue to evolve, and engagement can provide insights and opportunities to advance a department’s diversity goals.
B. Benchmark Outside Firms.

Many larger companies now require outside firms with significant billings to provide detailed diversity reporting (both quantitative and qualitative information) on an annual basis, for two purposes: (1) to ensure that outside firms understand that diversity is important to the company and (2) to assess outside counsel’s performance against the law department’s diversity goals. This annual process is typically directed by the law department’s diversity committee. Benchmarking results in a written “diversity report” or “diversity scorecard” for discussion within the law department and with individual firms. The steps to take are as follows:

☐ **Devise and implement a data collection process on an annual basis.** Suggested data is contained in the report.

☐ **Give outside firms a “diversity report.”** This summarizes the results of their annual data and shows how the firm’s performance compares to the diversity standards set by the company.

☐ **Hold an annual in-person meeting with each firm to discuss their report.** Topics may include the firm’s policies and practices regarding advancement of women, the status of gender diversity on matters for the company, and the commitments the firm will make over the coming year to enhance gender diversity.

☐ **Monitor the allocation of law firm credit for your company’s work.** Have direct discussions with firms about which lawyers are the “relationship” partners, who receives credit for your company’s billings, and how the firm is going to ensure that the diverse lawyers handling your company’s matters receive appropriate recognition and compensation.

☐ **Be prepared to take action if the firm’s progress does not meet the company’s standards.** As one global corporation put it, “It has been made clear to our firms which are not aligned with our commitment to diversity that future business will go elsewhere.”
C. Communication and Incentives for Firms.

☐ **Communicate the company’s expectations about gender diversity.** The goal is to make clear that compliance with the company’s diversity goals is a prerequisite to representing the company. Recite the company expectations in retention letters, RFPs, and outside counsel guidelines. One company has implemented a “core compact” for its outside counsel firms, which includes diversity as a key component, to create a mutual understanding and commitment of expectations between the law department and outside firms.

☐ **Confirm gender diversity as matters are assigned.** Clients should make clear to their outside counsel that they do not expect to see all-male teams and that they do expect to see women in leadership roles.

  - Require that women lawyers be part of efforts to pitch new business and that all pitch participants have a role in the client’s work.
  - Require that women be identified for the role of relationship partners. Consider requesting that the firm designate a woman as lead relationship partner on new business or current business.
  - Encourage firms to assign matters for the company to women who are working on a part-time or flex-time basis.
  - Make gender diversity a factor in every RFP process.

☐ **Meet in an annual symposium with outside counsel to discuss gender-diversity ideas and policies.** As an example, one company holds an “annual diversity roundtable” to foster a diversity dialogue and encourage firms to share diversity best practices and ideas. Consider inviting external speakers and experts to provide advice and solutions concerning diversity-related issues.

☐ **Give recognition to firms that meet the company’s expectations for gender diversity.**

  - Attend programs on gender diversity that are held by your law firms, to show your support.
  - Send a letter or email to the chair or managing partner of a firm when you receive excellent service from a woman lawyer. Make sure that your satisfaction with her services is well-known to the leaders in her firm.
• One company gives a periodic “diversity in action award” to outside counsel firms that made the most significant contribution to advancing diversity and inclusion. As part of the award, the company hosts a dinner and allows firm representatives to introduce new lawyers and pitch new business to the law department.

• One company gives financial incentives for diversity staffing. For example, a firm would be eligible for a 2 percent bonus on all legal fees by meeting specific criteria such as a year-over-year specified increase in hours worked by diverse attorneys on the company’s matters, or a specified percentage increase in the diversity of its attorney workforce.

☐ **Collaborate on at least two gender-diversity programs with outside firms.**

• Implement joint programs for mentoring activities.

• Foster mini-secondments of women lawyers. A short-term secondment (perhaps three to six months) may be partially funded by the company depending on the size of the firm involved.

• Offer specific advancement opportunities for women lawyers. These may include roles as lead counsel or as head of a major portion of a major matter, “shadow” opportunities with corporate counsel, special training, and speaking opportunities.

• Hold a diversity CLE Day at the company. One company uses such a program to spotlight five or six diverse attorneys (in their substantive practice areas) from its outside counsel firms. There is a mutual benefit: The law department receives substantive CLE credits, and the diverse attorney is provided with a business development opportunity.

• Identify and train talent in areas that meet the company’s needs. One company sponsors two “diverse trial counsel programs.” One program aims to identify diverse first-chair lawyers who do not work with the company and the other programs identify diverse junior lawyers at existing firms, for additional training and support. Another example is for the company to fund attendance of diverse lawyers at well-regarded trial training programs (such as NITA).
D. Develop a Roster of Gender-Diverse Outside Counsel.

Progress among all law firms has been slow, and many companies have found it worthwhile to advance gender diversity through a number of other avenues.

- **Consider firms not on the company’s traditional radar screen.** Women-owned law firms, for example, who are vetted for quality through membership in NAMWOLF, is one approach. By way of introduction, you may invite women lawyers and gender-diverse firms to present a CLE for the law department.

- **Implement a spend set-aside for women-owned firms.** Some companies, for example, set aside up to 20 percent of their outside legal spend for women- and minority-owned firms.

- **Team a diverse firm with one of the company’s large firms.** A number of large corporations have paired a smaller diverse firm with their pre-existing providers of legal services, which has the benefit of diversifying providers of legal services without intruding into the culture of either firm.

- **Ask for membership lists from specialty bar associations.** By their entry criteria, some of the invitation-only bar groups function as a screen for quality and experience. For bar associations targeting corporate clients, such lists are readily available to corporations.

- **Contact bar organizations whose members are composed of women lawyers or women-owned firms, and who may have referral systems.** Some associations will act as anonymous clearinghouses, allowing corporate counsel to obtain credentials about a law firm or legal team so counsel can decide whom they may want to contact.

- **Develop a list of other in-house counsel within your industry who can act as sources of referrals.** There are opportunities to meet and confer on industry initiatives. As one example, one group of women general counsel regularly invites senior women lawyers whom they have retained as outside counsel and recommends them to others in the group.
Endnotes

1. The other publications of the Task Force are (1) Closing the Gap: A Road Map for Achieving Gender Pay Equity in Law Firm Partner Compensation (Closing the Gap), which provides a detailed analysis of the pervasive and long-standing gender gap in compensation and sets forth specific recommendations for law firms; (2) The ABA Toolkit for Gender Equity in Partner Compensation, which includes a “conference in a box” to assist bar associations and others in presenting programs about the compensation gap between men and women lawyers and suggested solutions; and (3) What You Need to Know About Negotiating Compensation, a guide offering expert advice that women practitioners can use to negotiate their own compensation, including specific strategies and techniques to better navigate a firm’s compensation system.

2. Extensive data on the gender gap in compensation are detailed in Closing the Gap, supra, note 1. An example of research detailing the gender gap in achieving equity partner status can be found in the annual national Survey on Retention and Promotion of Women in Law Firms, produced by the National Association of Women Lawyers and the NAWL Foundation. For example, the survey, released in October 2012, reported that women barely comprise 15 percent of the equity partners of the nation’s largest law firms, a figure that has shown almost no change for years. The NAWL survey further reported that women comprise only 20 percent of the positions on the highest governance committees of the largest firms, demonstrating a continued lack of progress in the attainment of leadership positions.


5. See, for example, The National Association of Women Lawyers and the NAWL Foundation, Third Annual National Survey on Retention and Promotion of Women in Law Firms, 4 (2008).


8. Joan C. Williams, the Project for Attorney Retention and Veta T. Richardson, the Minority Corporate Counsel Association, New Millennium, Same Glass Ceiling? The Impact of Law Firm Compensation Systems on Women, 65 (2010).

9. The ABA Commission on Women in the Profession has captured the compelling stories of many women who created their own law firms in the ABA publication, The Road to Independence: 101 Women’s Journeys to Starting Their Own Law Firms (2011).


12. Williams & Richardson, supra, note 8 at 43.

13. One corporation includes the following diversity statement in its engagement letter: “We expect that you share our commitment to diversity and inclusiveness. [We] believe that firms with more diverse and inclusive representation generate more innovative service, advice and solutions, and work better with our legal teams and business partners. In addition, diversity and inclusion align with our values and the needs of our business. As a result, we have publicly pledged to make law firm hiring decisions based in part on the diversity performance of the firms. Thus, we expect that you will openly and actively engage us in discussions of your firm’s commitment to diversity and inclusion, and comply with any periodic requests from us on your progress.”

14. Of course, other diversity metrics should be monitored as well; for example: race/national origin, LGBT status, and disability status.
Lauren Stiller Rikleen is a nationally recognized speaker and trainer. As president of the Rikleen Institute for Strategic Leadership, she provides interactive workshops, keynote speeches, and customized consulting on women’s leadership and advancement; removing unconscious bias from the assignment and evaluation process; and strengthening intergenerational teams.

Ms. Rikleen is also the Executive-in-Residence at the Boston College Center for Work & Family in the Carroll School of Management. The center links academic research and corporate practice to create workplace cultures that support individual and organizational success.

The author of Ending the Gauntlet: Removing Barriers to Women’s Success in the Law and Success Strategies for Women Lawyers, Ms. Rikleen is currently writing a book about millennials in the workplace, which is scheduled to be published in March 2014.

She is the recipient of numerous awards, including: Friend of the Division Award from the Law Student Division of the American Bar Association, Leading Women Award from the Girl Scouts of Eastern Massachusetts, Massachusetts Lawyers Weekly Women of Justice Award, Boston College Alumni Award for Excellence in Law, the Lelia J. Robinson Award from the Women’s Bar Association of Massachusetts, and the Athena Award from the MetroWest Chamber of Commerce.

A former law firm equity partner, Ms. Rikleen was selected by her peers to be listed in Best Lawyers in America (for twenty years), Chambers USA America’s Leading Business Lawyers, and Massachusetts Super Lawyers.

She has a distinguished record of active engagement in community and professional organizations. She holds several leadership positions within the American Bar Association, including serving as a member of the Presidential Task Force on Gender Equity. She has also served as a past president of the Boston Bar Association, as a member of the ABA Board of Governors, and as a member of the ABA Commission on Women in the Profession. Ms. Rikleen is also a trustee of the Boston Bar Foundation, a trustee of the Middlesex Savings Bank, and a member of the Board of Directors of the Massachusetts Women’s Political Caucus.

She has written for or been interviewed by numerous national publications and media outlets, including: MSNBC, The Harvard Business Review Blog Network, the Washington Post, the Boston Globe, the New York Times, the Boston Herald, Fox News, New England Cable Network Television, the National Law Journal, Forbes Woman, the Careerist, MSNBC.com, the Boston Business Journal, Law 360, New York Lawyer, and the Glass Hammer.
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The National Law Journal named Ms. Liebenberg as one of its “50 Most Influential Women Lawyers in America.” She has been named several times as one of the “Top Ten Super Lawyers in Pennsylvania,” and is the only woman in Pennsylvania to receive this designation.

Ms. Liebenberg has held leadership roles in numerous organizations focused on the advancement of women in the legal profession and played a key leadership role in countless national initiatives. She now serves as chair of the ABA Task Force on Gender Equity. From 2008–2011, she served as chair of the ABA Commission on Women in the Profession, whose first chair was Hillary Rodham Clinton.

Ms. Liebenberg currently serves as Leader-in-Residence at the Center for Women in Law and was the chair of the summit in 2011. She founded and is chair of DirectWomen, an ABA initiative to enable women lawyers to prepare for service as directors on corporate boards. In addition, Ms. Liebenberg serves as a visionary delegate and vice chair for Vision 2020, a national organization dedicated to achieving gender equality by the 100th anniversary of the Equal Rights Amendment in 2020. She was chair of the Pennsylvania Bar Association’s Commission on Women in the Profession and also served as co-chair of the Philadelphia Bar Association’s Women in the Profession Committee. Ms. Liebenberg was appointed by the Pennsylvania Supreme Court to the Interbranch Commission for Gender, Racial, and Ethnic Fairness, and now serves as its co-chair. Previously, she was appointed by the Pennsylvania Supreme Court to its Committee on Racial and Gender Bias in the Justice System, where she was co-chair of the Gender Bias Committee.

Stephanie A. Scharf is a founding partner of Scharf Banks Marmor LLC, a boutique Chicago firm that provides legal services to US and global businesses. The firm is one of the largest women-owned law firms in Chicago and the Midwest.

Ms. Scharf represents companies in product liability and mass tort litigation, consumer fraud, insurance coverage, and contract disputes. A member of the Illinois and New York bars, she has tried cases in federal and state courts in many jurisdictions. Ms. Scharf is especially adept at presenting complex technical matters to juries and judges. She is a prolific writer, with such publications as the PLI treatise, Product Liability Litigation (lead editor and chapter author), and ABA monographs on Epidemiology and Toxicology (editor and chapter author). Before practicing law, she conducted national survey and statistical research in her role as Senior Study Director, NORC. Ms. Scharf received her J.D. from the University of Chicago in 1985 and a Ph.D. (Behavioral Sciences/Psychology) in 1978.

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About the ABA Presidential Task Force on Gender Equity

In August 2012, American Bar Association President Laurel G. Bellows appointed a blue-ribbon Task Force on Gender Equity to recommend solutions for eliminating gender bias in the legal profession.

The Task Force has produced several publications addressing pay equity:
- Closing the Gap: A Road Map for Achieving Gender Pay Equity in Law Firm Partner Compensation;
- Power of the Purse: How General Counsel Can Impact Pay Equity for Women Lawyers;
- Toolkit for Gender Equity in Partner Compensation; and
- What You Need to Know about Negotiating Compensation.

The Task Force also has implemented numerous projects to achieve gender equity, including:
- The Midwest Regional Summit for Women In-House Counsel was held in March 2013, in Chicago.
- ABA women’s affinity groups are addressing ways for these groups to leverage their collective power and maximize coordination.
- Young lawyers are utilizing social media to engage young women and men in the conversation about gender equity.
- In conjunction with the Section of International Law, the Task Force created a women-to-women business referral network with various women bar leaders and lawyers from international bar associations.

For more information on the Task Force on Gender Equity, visit its website at www.americanbar.org/GenderEquity.

About the ABA Commission on Women in the Profession

As a national voice for women lawyers, the ABA Commission on Women in the Profession forges a new and better profession that ensures that women have equal opportunities for professional growth and advancement commensurate with their male counterparts. It was created in 1987 to assess the status of women in the legal profession and to identify barriers to their advancement. Hillary Rodham Clinton, the first chair of the Commission, issued a groundbreaking report in 1988 showing that women lawyers were not advancing at a satisfactory rate.

Now in its third decade, the Commission not only reports the challenges that women lawyers face, it also brings about positive change in the legal workplace through such efforts as its Women of Color Research Initiative, Women in Law Leadership Academy, women in-house counsel regional summits, and Margaret Brent Women Lawyers of Achievement Awards. Drawing upon the expertise and diverse backgrounds of its twelve members, who are appointed by the ABA president, the Commission develops programs, policies, and publications to advance and assist women in public and private practice, the judiciary, and academia. For more information, visit www.americanbar.org/women.
Trends and Developments in Pay Equity Litigation

APRIL 2018

By Matthew J. Gagnon, Maria Papasevastos, and the Seyfarth Shaw Pay Equity Group
Trends And Developments In Pay Equity Litigation

April 2018

This publication provides a brief overview of recent trends and developments in pay equity litigation and analyzes significant decisions and filings that have had an impact on those issues. We hope that our clients and friends will find this reference useful as they navigate the rapidly developing landscape of pay equity legislation and decisional law.

Please feel free to contact the authors, Matthew Gagnon mgagnon@seyfarth.com, Maria Papasevastos mpapasevastos@seyfarth.com, or any member of Seyfarth Shaw’s Pay Equity Group, with any questions.

This publication should not be construed as legal advice or a legal opinion on any specific facts or circumstances. The contents are intended for general informational purposes only, and you are urged to consult a lawyer concerning your own situation and any specific legal questions you may have. Additionally, this publication is not an offer to perform legal services nor establishes an attorney-client relationship.
OUR PAY EQUITY PRACTICE

A team of experienced professionals ready to assist as you navigate the complexities of pay equity

The pay equity landscape at the federal, state and administrative agency level continues to evolve for employers both within the United States and globally. A number of new laws, reporting requirements, and agency actions are forcing a shift in pay practices and in evaluating pay discrimination allegations. Savvy employers are also taking proactive measures to ensure they maintain a competitive advantage by providing equitable pay for their employees. Many employers also see the importance of communicating to their communities, customers and applicants for employment that pay equality is a top priority for their organization.

Seyfarth’s Pay Equity Group is a clear leader in developing and delivering fair pay solutions for an employer’s workforce and in defending pay practices when employers face legal challenges regarding pay equity. Our deep involvement in these issues enables us to provide value to our clients. Our team will work alongside you in fair pay analysis to:

- Evaluate the best strategy for analyzing pay within your organization, including discussing goals with your business leaders;
- Review key compensation guidelines or policies to assist in framing the compensation analytical model;
- Develop appropriate statistical models by pairing our expertise in legal risk assessment with highly experienced labor economists;
- Evaluate pay practices as implemented in your organization based on protected employee groupings;
- Identify individuals or groupings that are driving any apparent disparities to further test the analytical framework and the factors identified as drivers of pay;
- Develop recommended adjustments to further align your organization’s compensation practices.

We understand that confidentiality in this process is paramount. Our analysis of your pay practices is conducted under the attorney-client privilege, with care taken to protect the privilege whenever possible.

Our Pay Equity Group has developed strategic approaches to defending pay practices when clients are faced with legal challenges. We are prepared to work with you to design the best strategy for your organization from cutting-edge motion practice, to positioning matters for cost-effective resolution, to successful trial preparation and execution.

Seyfarth leads the legal industry in fair pay analysis and client advocacy. Since the origin of fair pay laws in the US, we have partnered with our clients to proactively address legal developments, minimize risk, and implement business goals in the pay equity arena.
# TABLE OF CONTENTS

## PAY EQUITY LEGISLATION

A. Federal Equal Pay Act

B. State Equal Pay Legislation
   1. California Fair Pay Act
   2. Other Significant State Pay Equity Laws
   3. State Laws On Salary History Bans

## CASE LAW DEVELOPMENTS IN 2017

A. Significant Class And Collective Action Decisions

B. Salary History As A Legitimate Factor Other Than Sex: An Evolving Circuit Split

C. Other Important Substantive Decisions Impacting Pay Equity Litigation

D. Recent Developments In EEOC Enforcement Of Equal Pay Act Claims
PAY EQUITY LEGISLATION

A. Federal Equal Pay Act

The Equal Pay Act (“EPA”) was enacted by Congress in 1963, one year earlier than Title VII of the Civil Rights Act of 1964 (“Title VII”). It prohibits employers from discriminating “between employees on the basis of sex by paying wages to employees in such establishment at a rate less than the rate at which [it] pays wages to employees of the opposite sex in such establishment for equal work on jobs the performance of which requires equal skill, effort, and responsibility, and which are performed under similar working conditions . . . .” The EPA therefore overlaps with Title VII, in that both statutes prohibit discrimination on the basis of sex. But the EPA also diverges from Title VII, both procedurally and substantively, in important ways.

For example, when individual employees bring private claims under the EPA, they can do so using the collective action procedures of the Fair Labor Standards Act (“FLSA”), rather than Rule 23 class action procedures. Many employers think this gives EPA plaintiffs a significant strategic advantage because the relatively lenient standard applied at the conditional certification stage provides an easier route to expand a case into a class proceeding. And as any employer who has been involved in employment class litigation knows, once a case is certified — even conditionally certified as a collective action — the burden, costs, and stakes of that litigation increase dramatically.

In addition to private litigation, the EPA can give rise to enforcement proceedings brought by the U.S. Equal Employment Opportunity Commission (“EEOC”). For the past five years, the EEOC has identified equal pay as one of its six enforcement priorities in its Strategic Enforcement Plan. And in fact, the EEOC has increased the number of EPA claims it has filed over the past few years, although they still make up a relatively small percentage of the EEOC’s docket. Unlike private litigants, the EEOC does not have to meet the requirements of Rule 23 or the collective action procedures of the FLSA in order to pursue claims on behalf of aggrieved individuals. This publication addresses significant developments in EPA litigation in 2017 and the beginning of 2018, including developments in EEOC enforcement litigation.

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1 29 U.S.C. § 206(d)(1). The law recognizes four exceptions where such payment is made pursuant to: (1) a seniority system; (2) a merit system; (3) a system which measures earnings by quantity or quality of production; or (4) a differential based on any other factor other than sex. Id.

2 See 29 U.S.C. § 216(b) (providing a private right of action “by any one or more employees for and on behalf of himself or themselves and other employees similarly situated,” provided that “[n]o employee shall be a party plaintiff to any such action unless he gives his consent in writing to become such a party and such consent is filed in the court in which such action is brought”).


5 See Gen. Tele. Co. of the Nw., Inc. v. EEOC, 446 U.S. 318, 333-34 (1980) (“We hold, therefore, that the EEOC may maintain its § 706 civil actions for the enforcement of Title VII and may seek specific relief for a group of aggrieved individuals without first obtaining class certification pursuant to Federal Rule of Civil Procedure 23”).
<table>
<thead>
<tr>
<th>Equal Pay Act (&quot;EPA&quot;)</th>
<th>VS.</th>
<th>California Fair Pay Act</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective proceedings limited to “similarly situated” employees who affirmatively choose to join the suit</td>
<td>Allows for broader opt-out class actions that meet the more rigorous requirements of a class action</td>
<td></td>
</tr>
<tr>
<td>Compares employees whose jobs require equal skill, effort, and responsibility, and are performed under similar working conditions</td>
<td>Allows employees to be compared even if they do not work at the same establishment, or if they do not share the “same” or “substantially equal” jobs</td>
<td></td>
</tr>
<tr>
<td>EPA claims can be initiated directly in court or by filing a charge with the EEOC</td>
<td>Employees may bring private right of action directly in court or may file a complaint with the California DLSE</td>
<td></td>
</tr>
</tbody>
</table>
B. State Equal Pay Legislation

Pay equity has been an important issue at the statewide level as well, with numerous states amending their equal pay laws to supplement the EPA. California, New York, and Massachusetts led the charge and became the first states to adopt more onerous pay equity laws. Other states followed suit, including Maryland. On June 1, 2017, Oregon amended its Equal Pay Act. In the last two years, cities and states have also adopted salary history bans. Bans have been enacted in New York City, Albany County, NY, Massachusetts, Philadelphia, PA (under challenge), Delaware, Puerto Rico, San Francisco, CA, Oregon, and California.

1. California Fair Pay Act

On January 1, 2016, one of the nation’s most aggressive and frequently litigated pay equity laws, the California Fair Pay Act, became effective for all employers with California-based employees. It expands upon the protections offered by the federal Equal Pay Act and Title VII, as well as already-existing California law, in significant ways.

Most importantly, the California Fair Pay Act allows employees to be compared even if they do not work at the same establishment. This means that an employee’s pay may be compared to the pay of other employees who work hundreds of miles away. Employees can also be compared even if they do not hold the “same” or “substantially equal” jobs. The California law requires only a showing that the employees are engaged in “substantially similar work, when viewed as a composite of skill, effort, and responsibility, and performed under similar working conditions.” The California law also limits the factors that employers can use to justify pay differentials and requires that the factors be applied reasonably and, when viewed together, must explain the entire amount of the pay differential.

These changes dramatically lower the bar for an equal pay lawsuit, permitting plaintiffs to compare themselves with persons of the opposite sex working at any location for the same employer, and in any similar – not the necessarily the same – job. While Title VII does not require a showing of “equal work” within the same establishment, it does require a showing of

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7 Md. Code Ann., Lab. & Empl. § 3-304 (West).
11 See Cal. Lab. Code § 1197.5. The California Fair Pay Act expressly removed from the preexisting California pay law statutory exemptions that applied where work was performed “at different geographic locations” and “on different shifts or at different times of day.” Nonetheless, employers may still justify pay differences based on geographic, shift, or hours differentials as a bona fide factor other than sex, as clarified by Senator Hannah-Beth Jackson, who introduced the Fair Pay Act legislation. See Senator Jackson’s letter in the May 26, 2015 Senate Daily Journal, available at ftp://www.leginfo.ca.gov/pub/senate-journal/sen-journal-05-26-2015-PDF.
12 Cal. Lab. Code § 1197.5(b).
13 Id.
discriminatory intent or a specific practice or policy with a discriminatory impact\textsuperscript{14} – a showing that is not required under the California Fair Pay Act. The California law therefore imposes on employers the burden to affirmatively demonstrate that any pay differences are based on one or more of a limited number of factors.

The permitted reasons for differences in pay are a: (1) seniority system; (2) merit system; (3) system that measures earnings by quantity or quality of production; or (4) bona fide factor other than sex, such as education, experience, or training.\textsuperscript{15} The last justification will apply only if the employer demonstrates that the factor is not based on or derived from a sex-based differential in pay, is job related with respect to the position in question, and is consistent with a “business necessity” (i.e., the factor relied upon effectively fulfills the business purpose it is supposed to serve); and it will not apply if the employee can demonstrate an alternative business practice that would serve the same business purpose without producing the pay differential.\textsuperscript{16}

Under the California Fair Pay Act, employers may not prohibit employees from disclosing or discussing their own wages or the wages of others, or from aiding or encouraging other employees to exercise their rights under the law.\textsuperscript{17} These anti-pay secrecy requirements echo similar prohibitions under the National Labor Relations Act, the California Labor Code, and an Executive Order that applies to federal contractors.

Finally, in addition to vesting enforcement authority in the California Department of Labor Standards Enforcement (“DLSE”), the California law also allows employees to bring an action directly in court without first exhausting administrative remedies – provided the employee does so within two years (or three if the violation was “willful”) – and the employee may recover the balance of wages, interest, liquidated damages, costs, and reasonable attorney’s fees.\textsuperscript{18}

The California Fair Pay Act also creates a private right of action for employees who allege they have been discharged, discriminated, or retaliated against for engaging in any conduct protected by the statute.\textsuperscript{19} These employees may seek reinstatement and reimbursement for lost wages and benefits, interest, and “appropriate equitable relief,” provided they do so within one year of the alleged violation.\textsuperscript{20}

The California law also allows employees to file complaints with the DLSE alleging employer violations of the new prohibitions on discrimination, retaliation, and restricting employee wage-information discussions.\textsuperscript{21} And it extends – from two years to three – an employer’s obligation to maintain records of wages and pay rates, job classifications, and other terms of employment.\textsuperscript{22}

\textsuperscript{15} Cal. Lab. Code § 1197.5(b)(1).
\textsuperscript{16} Cal. Lab. Code § 1197.5(b)(1)(D).
\textsuperscript{17} Cal. Lab. Code § 1197.5(k)(1).
\textsuperscript{18} Cal. Lab. Code § 1197.5(h), (i).
\textsuperscript{19} Cal. Lab. Code § 1197.5(k)(2).
\textsuperscript{20} Cal. Lab. Code § 1197.5(k)(2), (3).
\textsuperscript{21} Cal. Lab. Code § 1197.5(f).
\textsuperscript{22} Cal. Lab. Code § 1197.5(e).
2. Other Significant State Pay Equity Laws

New York: Similar to the California law, the New York law requires employers to justify pay differentials, limits the factors employers can use to explain differences in compensation, and places on employers the burden of proving the reasons for any pay differences. Also, like the California law, employees in New York can be compared even if they do not work at the same establishment. However, the New York law is more restrictive than California, in that comparators must work in the same “geographic region,” no larger than the same county. The New York law also provides that employers may not prohibit employees from inquiring about, discussing or disclosing wage information, and increases liquidated damages for willful violations to 300% of wages due.

Maryland: Maryland’s updated Equal Pay for Equal Work Act prohibits pay discrimination on the “basis of sex or gender identity,” and covers employees who work for the same employer at workplaces located in the same county of the state and who “perform work of comparable character or work in the same operation, in the same business, or of the same type.” The Maryland law covers more than just pay disparities. It also prohibits employers from “providing less favorable employment opportunities,” which includes placing employees into “less favorable career tracks” or positions, “failing to provide information about promotions or advancement,” and “limiting or depriving” employees of employment opportunities because of sex or gender identity. Additionally, employers may not forbid employees from “inquiring about, discussing, or disclosing” their wages or the wages of other employees.

Massachusetts: The Massachusetts Equal Pay Act prohibits differences in pay for “comparable work.” An employer can avoid liability for a wage differential between employees of opposite genders only if it can establish that the difference is based on one of the limited factors enumerated in the statute. An employee’s previous wage or salary history is not a defense to a claim of wage discrimination, and the law includes a prohibition on requesting a prospective employee’s compensation history. Employers are also prohibited from reducing the wages of any employee in order to eliminate wage differentials and may not prohibit employees from discussing or disclosing their own or other employees’ wages. The Massachusetts law also creates an affirmative defense to wage discrimination claims for an employer that has (1) completed a self-evaluation of its pay practices that is “reasonable in detail and scope in light of the size of the employer” within the three years prior to commencement of the action; and (2) made “reasonable progress” toward eliminating pay differentials uncovered by the evaluation.

Oregon: Oregon’s Equal Pay Act forbids paying wages in a manner that discriminates against a member of a protected class. This includes paying wages or other compensation “to any employee at a rate greater than which the employer pays wages or other compensation to employees of a protected class for work of comparable character,” unless the difference is: (1) based on a bona fide factor; (2) related to the position in question; and (3) based on the specifically enumerated factors outlined in the law. The Oregon law is unique in that it has a very expansive definition of “protected class.” The Oregon law prohibits pay discrimination based not only on gender, race, national origin

23 NY Lab. Law §§ 194 et seq.
24 Md. Code Lab. & Empl. §§ 3-301 et seq.
or color but also on religion, sexual orientation, marital status, veteran status, disability or age. Also, the law gives employers who conduct a pay equity analysis a limited safe harbor.

**New Jersey** On March 26, 2018, the New Jersey Legislature passed Senate Bill 104, entitled the Diana B. Allen Equal Pay Act, which modifies the Law Against Discrimination (“LAD”) to promote equal pay for all groups protected from discrimination under the LAD (i.e., it is not limited to gender). Governor Phil Murphy is widely expected to sign the measure into law. The bill would require employers to justify pay differentials, limit the factors employers can use to explain differences in compensation, and expand the LAD retaliation provision. Comparison of differentials in pay may be based on all of an employer’s operations or facilities; and to comply with the law, an employer cannot lower the compensation of employees. Also, notably, an unlawful employment practice is considered to occur each occasion that an individual is affected by application of a discriminatory compensation decision or other practice.

**Washington** On March 8, 2018, Washington’s Governor signed into law the Equal Pay Opportunity Act. The new law requires employers to justify pay differentials, limits the factors employers can use to explain differences in compensation, and places on employers the burden of proving the reasons for any pay differences. The Washington law also provides that employers may not prohibit employees from disclosing or discussing their own wages or the wages of others, and requires employers to provide the same career advancement opportunities to all employees in comparable positions, regardless of gender.

### 3. State Laws On Salary History Bans

A number of states and local jurisdictions have also enacted laws preventing employers from requesting the salary history of job applicants and limiting an employer’s ability to consider prior salary when making offers to new hires. Currently, California, Delaware, Massachusetts, New York City and Albany County, NY, Philadelphia, PA (stayed pending legal challenge), Oregon, and San Francisco, CA have enacted such bans. Puerto Rico also passed a ban, which largely mirrors the Massachusetts law. Similar laws are currently or have recently been under consideration by many more jurisdictions.

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29 Cal. Lab. Code § 432.3.

30 Del. Code Ann. tit. 19, § 709B.

31 Mass. General Laws c. 149 section 105A.


CASE LAW DEVELOPMENTS IN 2017

There appears to be a renewed interest among Plaintiffs’ attorneys in the Equal Pay Act and analogous state laws. The primary targets for this new wave of litigation have been firms in the legal and tech industries. Those cases are already generating new and intriguing law that has the potential to reshape the landscape of pay equity litigation, including whether and how those claims can be maintained as collective or class actions.

A. Significant Class And Collective Action Decisions

Unlike the EEOC, which can bring lawsuits on behalf of a class of aggrieved individuals without meeting the requirements for class certification, private litigants must establish that their pay equity lawsuits can be decided on a class-wide basis. The procedures for establishing a collective action under the federal Equal Pay Act are governed by the opt-in procedures of the Fair Labor Standards Act. Those procedures can confer a significant litigation advantage to plaintiffs because of the lenient standard applied at the conditional certification stage.

For example in Knox v. John Varvatos Enterprises, Inc., the District Court for the Southern District of New York conditionally certified a collective action of female sales associates at stores operated by the defendant in the United States. The defendant, a retailer with 22 stores throughout the United States, was alleged to have discriminated against female sales associates by providing male sales associates – and only male sales associates – a $12,000 annual allowance to purchase the Company’s branded clothing to wear to work.

The court noted that although Section 216(b) of the FLSA does not prescribe any procedures for approval of collective actions, the courts in the Second Circuit (and elsewhere) apply a two-step certification process. At step one, plaintiffs must only make a “modest factual showing” that they and others were victims of a common policy or plan that violated the law. If they are successful, the collective action is conditionally certified and notice is sent to putative members of the collective action to give them an opportunity to join the litigation. After further discovery, the district court must then apply a more stringent standard to determine whether all plaintiffs are similarly situated such that the case can proceed to trial as a collective action.

In Knox, the District Court held that the plaintiffs had “easily made” their modest factual showing establishing that they and the putative collective action of women sales associates are similarly

37 Id. at 651.
39 Id. at 653 (“The Second Circuit has endorsed a “two-step process” for approval of a collective action: ‘At step one, the district court permits a notice to be sent to potential opt-in plaintiffs if the named plaintiffs make a modest factual showing that they and others together were victims of a common policy or plan that violated the law”) (quoting Myers v. The Hertz Corp., 624 F.3d 537, 555 (2d Cir. 2010)).
40 Id.
41 Id.
situated for purposes of conditional certification.\textsuperscript{42} Critical to the Court’s analysis was the fact that plaintiffs were able to point to a written dress policy that was applied across all 22 retail locations, which stated that all male employees received a clothing allowance.\textsuperscript{43}

Some courts have been willing to conditionally certify a pay equity collective action even where significant differences exist among putative members of the collective. For example, in \textit{Ahad v. Board of Trustees of Southern Illinois University},\textsuperscript{44} the District Court for the Central District of Illinois conditionally certified a collective action of female faculty physician employees of Southern Illinois University School of Medicine and SIU Physicians & Surgeons, Inc. Plaintiff alleged that the medical school systematically paid her and other female physicians less than their male counterparts with similar experience, responsibility, and seniority.\textsuperscript{45} The District Court applied the two-step collective action certification process, even though that process has never been adopted by the Seventh Circuit.\textsuperscript{46}

The District Court was satisfied that plaintiffs had met their minimal burden to obtain conditional certification at step one of the process because all faculty physicians performed the same job duties involving patient, teaching, and administrative functions.\textsuperscript{47} The District Court explicitly held that the factual similarities among the potential plaintiffs need not relate to job duties or circumstances; those issues can be addressed during step two of the certification process.\textsuperscript{48} While the court acknowledged that it may not be possible to compare salaries across different departments, the court held that this did not preclude conditional certification: “Whether it is fair to compare the salaries of women and men who are in different departments or subdivisions – when Plaintiff has provided evidence that the job descriptions for the three tiers of physicians are the same – is a question to be resolved at the second step of the certification process.”\textsuperscript{49}

On the other hand, when plaintiffs proceed under state pay equity statutes, they often must meet the more rigorous standards applicable to Rule 23 class actions, or similar state-specific class action requirements, which do not allow differences among putative class members to be glossed over so lightly. If they can meet those standards, however, they are rewarded with a broader class definition. Unlike a collective action under the EPA, which is limited to just those employees who affirmatively choose to “opt in” to the lawsuit, a class action binds together the entire class unless employees choose to “opt out” of the class.

For example, in \textit{Ellis v. Google, Inc.},\textsuperscript{50} the Superior Court of California, San Francisco County, initially struck class allegations that sought to join together all women employed by Google at its Mountain View headquarters – from low-level hourly positions to top-ranking executives – in one

\begin{footnotesize}
\textsuperscript{42} Id. at 654.
\textsuperscript{43} Id. at 654-55.
\textsuperscript{44} \textit{Ahad v. Bd. of Trustees of S. Ill. Univ.}, No. 3:15-CV-03308, 2017 WL 4330377 (C.D. Ill. Sept. 29, 2017).
\textsuperscript{45} Id. at *1.
\textsuperscript{46} Id. (noting that “a majority of courts, including courts in this District, have adopted a two-step method to determine whether a plaintiff is ‘similarly situated’ to putative class members”).
\textsuperscript{47} Id. at *4.
\textsuperscript{48} Id.
\textsuperscript{49} Id.
\end{footnotesize}
massive pay equity complaint alleging systematic pay discrimination. Plaintiffs filed a complaint against Google on September 14, 2017, bringing a claim under the California Fair Pay Act and alleging that Google discriminates against its women employees by systematically paying them lower compensation than their male peers for performing substantially similar work under similar working conditions. The complaint also alleged that Google assigned and kept women in job ladders and levels with lower compensation ceilings and advancement opportunities than those to which men with similar skills, experience, and duties were assigned, and that Google promoted fewer women, and promoted them more slowly, than similarly-qualified men. The Court held that Plaintiffs’ class definition was simply too broad in that it failed to allege a common policy or course of conduct applicable to the entire class. Without such a policy, it was impossible to identify class members who had valid claims from those who did not, rendering plaintiffs’ proposed class unascertainable.

Plaintiffs then amended their complaint to narrow their proposed class to female employees who worked in any of 30 separate positions, which Plaintiffs categorized into six job “families.” They also added allegations that Google maintained a company-wide policy for setting starting salary that included consideration of an employee’s prior salary. According to Plaintiffs, that policy perpetuates a historical pay disparity that exists between men and women and caused female employees to receive a lower starting salary than men in the same job position and level.

Google renewed its challenge to Plaintiffs’ class allegations. But this time, the Court upheld the class definition, finding that “Plaintiffs allege that Google has a company-wide policy for setting compensation that includes considering an employee’s prior salary in deciding her starting salary and/or job level,” and that those allegations “are sufficient at this stage to demonstrate that common issues of law and fact predominate over individualized questions.” Whether Plaintiffs can maintain their case as a class action through the class certification stage remains to be seen. However, it still ranks as one of the most noteworthy decisions in pay equity litigation of the past few years with potentially far-reaching consequences since the pay disparity alleged in Plaintiffs’ complaint is based on nationwide averages.

A similarly broad class and collective action was recently alleged against a law firm (an employment law firm, of all things). In Knepper v. Ogletree, Deakins, Nash, Smoak & Stewart, P.C., a non-equity shareholder of the firm alleges that “Ogletree’s female shareholders face discrimination in pay, promotions, and other unequal opportunities in the terms and conditions of their employment.” The Complaint alleges both a collective action under the EPA and a state class action under the California Fair Pay Act (among other things). Whether this case can survive as a collective or a class action will be an important development to watch for in 2018.

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51 Id. at 1-2.
52 Id. at 2.
53 Id. at 4.
55 Id. ¶¶ 40-41.
58 Id. ¶ 3.
The Circuit Courts are split as to whether employers can rely solely on prior salary to meet the “legitimate factor other than sex” defense to an EPA Claim.

The use of prior salary, standing alone, **DOES** justify a salary disparity

The use of prior salary, standing alone, **DOES NOT** justify a salary disparity
B. Salary History As A Legitimate Factor Other Than Sex: An Evolving Circuit Split

A number of federal Circuit Courts issued important decisions in 2017 and early 2018 impacting the merits of pay equity claims. Several, including the Ninth and Seventh Circuits, considered whether the use of prior salary could justify a salary disparity as a legitimate “factor other than sex.”

In *Rizo v. Yovino*, an employee of Fresno County alleged that the County’s use of prior salary history to determine starting salaries was a violation of the EPA. The County used a salary schedule to determine the starting salaries of management-level employees, which consisted of twelve levels, each with progressive steps within it. To determine the step on which a new employee would begin, the County considered the employee’s most recent prior salary and placed the employee on the step that corresponds to his or her prior salary, increased by 5%. Because the Plaintiff’s prior salary was below the Level 1, Step 1 salary, even when increased by 5%, she was automatically started at the minimum salary level. She later learned that her salary was less than her male peers and sued under the EPA.

The District Court held that when a pay disparity was based exclusively on prior wages, it could not be based on a factor other than sex: “[A] pay structure based exclusively on prior wages is so inherently fraught with the risk – indeed, here, the virtual certainty – that it will perpetuate a discriminatory wage disparity between men and women that it cannot stand, even if motivated by a legitimate non-discriminatory business purpose.” The District Court recognized that its decision was potentially in conflict with prior Ninth Circuit precedent, *Kouba v. Allstate Ins. Co.*, which held that prior salary can qualify as a factor other than sex, provided that the employer shows that the prior salary effectuates some business policy and the employer uses prior salary reasonably in light of its stated purpose as well as its other practices.

A three-judge panel of the Ninth Circuit initially reversed, holding that its decision was controlled by *Kouba*. Because the District Court had not evaluated whether the County’s use of prior salary effectuated a business policy, or whether its reasons for doing so were reasonable, the decision was vacated and remanded to the District Court for further consideration. However, the Ninth Circuit then announced that it would rehear the case *en banc*. On April 9, 2018, the full Ninth Circuit reversed the panel decision and overruled *Kouba*, holding that “[r]eliance on past wages simply perpetuates the past pervasive discrimination that the Equal Pay Act seeks to eradicate. Therefore, we readily reach the conclusion that past salary may not be used as a factor in initial

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59 *Rizo v. Yovino*, 854 F.3d 1161 (9th Cir. 2017), *rev’d en banc*, 2018 U.S. App. LEXIS 8882 (9th Cir. Apr. 9, 2018).
60 *Id.* at 1163.
61 *Id.*
62 *Id.*
63 *Id.* at 1164.
65 See *Kouba v. Allstate Ins. Co.*, 691 F.2d 873, 876-77 (9th Cir. 1982).
66 *Rizo*, 854 F.3d at 1167.
67 *Rizo v. Yovino*, 869 F.3d 1004 (9th Cir. 2017).
wage setting, alone or in conjunction with less invidious factors." According to the Ninth Circuit, a legitimate “factor other than sex” must be “job related,” which automatically excludes the use of prior salary: “[a]t the time of the passage of the Act, an employee's prior pay would have reflected a discriminatory marketplace that valued the equal work of one sex over the other. Congress simply could not have intended to allow employers to rely on these discriminatory wages as a justification for continuing to perpetuate wage differentials.”

The Seventh Circuit came to the opposite conclusion in *Lauderdale v. Illinois Department of Human Services.* In that case, the Seventh Circuit held that the Illinois pay plan for state employees did not violate the EPA by basing pay increases, at least in part, on an employee’s prior salary. The Department had conceded that plaintiff had established a prima facie case under the EPA because she had taken over the same responsibilities as her predecessor but was paid less. She was therefore paid less for work that was equal to, if not more demanding than, the work performed by her male predecessor. However, the Department argued that the pay discrepancy was based on non-discriminatory bases, including employees’ prior salaries. The Seventh Circuit noted that its prior decisions had consistently held that a difference in pay based on the difference in what employees were previously paid is a legitimate factor other than sex under the EPA. Relying on that precedent, the Seventh Circuit held that a pay discrepancy that was created in reliance on prior salaries is not a violation of the EPA unless sex discrimination led to the lower prior wages. Given the salary history, as well as some budget concerns that also impacted the pay decision, the court held that no reasonable juror could find that plaintiff was paid less because of her sex, and upheld the grant of summary judgment to the Department. The Eighth Circuit has also followed this line of reasoning.

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69 Id. at *16-17.
70 *Lauderdale v. Ill. Dep't of Human Servs.*, 876 F.3d 904 (7th Cir. 2017).
71 Id. at 907-08.
72 Id. at 908-09.
73 Id. at 908 (citing *Wernsing v. Dept of Human Servs.*, 427 F.3d 466, 468 (7th Cir. 2005); *Dey v. Colt Constr. & Dev't Co.*, 28 F.3d 1446 (7th Cir. 1994); *Riordan v. Kempiners*, 831 F.2d 690 (7th Cir. 1987), and *Covington v. S. Ill. Univ.*, 816 F.2d 317 (7th Cir. 1987)).
74 Id. at 909.
75 Id.
76 See *Taylor v. White*, 321 F.3d 710 (8th Cir. 2003). In *Taylor*, a female civilian employee of the Army alleged that her pay at a lower pay grade than her male peers was a violation of the EPA. Id. at 713. The Army sought summary judgment, arguing that the pay disparity was the result of its non-statutory salary retention policy that was intended to retain skilled workers and protect workers' salaries. Id. at 716. The employee argued that, as a matter of law, an employer should not be allowed to rely on prior salary or a salary retention policy as a defense under the EPA because those factors would permit the perpetuation of unequal pay structures. Id. The Eighth Circuit examined the Circuit split and, in particular, adopted the reasoning of the Ninth and Seventh Circuits in *Kouba* and *Covington* over that of the Eleventh Circuit (discussed below). Id. at 718-19. The Eighth Circuit concluded: “we believe a case-by-case analysis of reliance on prior salary or salary retention policies with careful attention to alleged gender-based practices preserves the business freedoms Congress intended to protect when it adopted the catch-all ‘factor other than sex’ affirmative defense. To conduct a reasonableness inquiry into the actions of the employer or to limit the application of a salary retention policy to only exigent circumstances would, we believe, unnecessarily narrow the meaning of the phrase ‘factor other than sex.’” Id. at 720.
In overruling its prior precedent, the Ninth Circuit split from the reasoning of the Seventh and Eighth Circuits and joined other Circuits that have held an employer’s EPA defense may never be based on prior salary alone. For example, in *Irby v. Bittick*, a female police investigator alleged that she was paid less than the five other investigators in her division, all of whom were male. The Eleventh Circuit held that “[w]hile an employer may not overcome the burden of proof on the affirmative defense of relying on ‘any other factor other than sex’ by resting on prior pay alone, as the district court correctly found, there is no prohibition on utilizing prior pay as part of a mixed-motive, such as prior pay and more experience.” Because the employer had established that it weighed the male investigators’ experience when setting their incoming salary above that of the plaintiff, it upheld summary judgment in favor of the employer.

In an unpublished decision, the Tenth Circuit also held that prior salary cannot stand alone as a defense to an EPA claim. In *Angove v. Williams-Sonoma, Inc.*, a male retail employee alleged that he was paid at a lower rate than a female employee in the same position in violation of the EPA. The employee argued that the District Court had impermissibly applied a “market factor” theory to evaluate his claim, arguing that it is impermissible to justify a wage disparity solely upon the “going market rate” for employees of a certain gender. Although setting an employee’s salary based solely on what the market would pay male versus female employees would clearly violate the EPA, there was no evidence to suggest that is what happened in this case. The Tenth Circuit concluded that “where an employer sets a new employee’s salary based upon that employee’s previous salary and the qualifications and experience the new employee brings, the defendant has successfully invoked the Act's affirmative defense.” This is because “the EPA only precludes an employer from relying solely upon a prior salary to justify pay disparity.”

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77 *Irby v. Bittick*, 44 F.3d 949 (11th Cir. 1995).
78 *Id.* at 952.
79 *Id.* at 955 (citing *Glenn v. Gen. Motors Corp.*, 841 F.2d 1567, 1571 n.9 (11th Cir. 1988), cert. denied, 488 U.S. 948 (1988)).
80 *Id.* at 957.
82 *Id.* at 502.
83 *Id.* at 507. The employee relied on prior Eleventh Circuit and Supreme Court precedent, *Mulhall v. Advance Security, Inc.*, 19 F.3d 586, 596 n. 22 (11th Cir.1994) and *Corning Glass Works v. Brennan*, 417 U.S. 188 (1974). In *Corning Glass Works*, the Supreme Court rejected an argument that an employer’s higher wage rate for men on the night shift was permissible, holding that: “The differential arose simply because men would not work at the low rates paid women inspectors, and it reflected a job market in which Corning could pay women less than men for the same work. That the company took advantage of such a situation may be understandable as a matter of economics, but its differential nevertheless became illegal once Congress enacted into law the principle of equal pay for equal work.” 417 U.S. at 204-05.
84 *Angove*, 70 Fed. Appx. at 508.
85 *Id.*
86 *Id.*
87 *Id.* (emphasis in original). The Sixth Circuit has also adopted the reasoning of the Eleventh and Tenth Circuits. See *Perkins v. Rock-Tenn Servs., Inc.*, 700 Fed. Appx. 452, (6th Cir. 2017); *Balmer v. HCA, Inc.*, 423 F.3d 606, 612 (6th Cir. 2005), abrogated on other grounds by *Fox v. Vice*, 563 U.S. 826 (2011).
C. Other Important Substantive Decisions Impacting Pay Equity Litigation

On June 14, 2017, the District Court for the Southern District of New York issued a decision in *Campbell v. Chadbourne & Parke LLP*, 88 which denied a law firm’s motion to dismiss equal pay allegations on the grounds that a partner in a law firm is not an “employee” under the EPA. In that case, a female partner claimed that she was paid less than her male peers. 89 The law firm defendant tried to dispense with the claims quickly – before substantial discovery had taken place – by arguing that the term “partner” and the terms of the operative partnership agreement foreclosed the possibility that female partners could be considered employees under the EPA. 90

The court denied summary judgment on the grounds that additional discovery was necessary to determine “employment” status under the factors set forth in *Clackamas Gastroenterology Associates, P.C.* 91 Those factors are: (1) whether the organization can hire or fire the individual or set the rules and regulations of the individual's work; (2) whether and, if so, to what extent the organization supervises the individual's work; (3) whether the individual reports to someone higher in the organization; (4) whether and, if so, to what extent the individual is able to influence the organization; (5) whether the parties intended that the individual be an employee, as expressed in written agreements or contracts; and (6) whether the individual shares in the profits, losses, and liabilities of the organization. 92

Plaintiffs argued that additional discovery would show that the law firm’s hiring, firing, and promotion decisions, as well as decisions concerning any individual partner’s degree of control, autonomy, and access to profits are determined exclusively by the firm’s Management Committee. 93 Given the fact-sensitive nature of the factors used to determine employment status, the court denied the law firm’s motion for summary judgment until additional discovery could be taken relating to those factors.

Other courts have addressed employers’ use of merit systems. For example, in *Summy-Long v. Pennsylvania State University*, 94 the Third Circuit affirmed summary judgment against a female physician who alleged that she was paid less than male physicians for the same work. 95 The Third Circuit held that the University defendants had shown that the salary disparities were the result of a merit system. 96 In particular, the Third Circuit noted that numerous items in the record “reflected a lack of academic performance in comparison to her colleagues.” 97 Among other

89 Id. at *1.
90 Id. at *2.
93 Id. at *3.
95 Id. at *1.
96 Id. at *2.
97 Id.
things, she had been urged to increase publications and to obtain external funding to support her research. She also “failed to apply to renew her National Institute of Health grant even after being reminded repeatedly for three years by her superior.” The Court held that this evidence established that “[t]he difference in [her] salary compared to her male coworkers resulted from, among other things, her lack of publications and failure to obtain external funding.”

In Donathan v. Oakley Grain, Inc., the Eighth Circuit considered the parameters of a retaliation claim under the EPA. In that case, a female employee alleged that her employer terminated her in retaliation for complaining that she had not received bonuses in line with other employees in similar positions, and that new employees she was required to train were starting at higher rates of pay than her. She put her complaints in an email to the president of the company. Ten minutes later, the president forwarded her email to Plaintiff’s manager. They then discussed her complaint by phone, at which time the manager informed the president that he was going to lay off people from the facility where the Plaintiff worked. Plaintiff was laid off approximately eight days later.

The Eighth Circuit reversed the District Court’s grant of summary judgment to the employer. The court found that the female employee had established a prima facie case: “[Plaintiff] was terminated from her office position even though Oakley Grain had not included the office position in its seasonal layoffs any of the prior three years that [Plaintiff] had worked for the company (or during the years when [Plaintiff’s] predecessor held the post). Plaintiff’s termination occurred despite the absence of negative reviews, and Oakley Grain hired Fletcher to fill the position the very next working day.” According to the Eighth Circuit, a rational finder of fact could infer from the temporal proximity of the conversation between the president of the company and the manager, and the decision to terminate Plaintiff’s employment, strong evidence of causation.

The Tenth Circuit came to a different conclusion in Burke v. State of New Mexico. There, the Court affirmed the District Court’s dismissal of, among other things, a retaliation claim brought pursuant to New Mexico’s Fair Pay for Women Act because the plaintiff failed to allege that she had engaged in any protected conduct. Analyzing the statute under the rubric of the federal EPA, the Tenth Circuit held that although Plaintiff had alleged that she had questioned her superiors about an alleged pay disparity, she had failed to allege that this “questioning” rose to the level of actual objection or opposition to the alleged pay disparity.

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98 Id.
99 Id.
100 Donathan v. Oakley Grain, Inc., 861 F.3d 735 (8th Cir. 2017).
101 Id. at 737.
102 Id.
103 Id.
104 Id. at 740-41.
105 Id. at 741.
107 Id. at 334.
“Some believed Acting Chair Victoria Lipnic was foreshadowing future trends when she made it clear at her first public appearance that she is ‘very interested’ in equal pay issues”

EEOC will continue to focus on compensation systems and practices that discriminate based on sex under the Equal Pay Act and Title VII. Pay discrimination also persists based on race, ethnicity, age, and for individuals with disabilities, and other protected groups.
D. Recent Developments In EEOC Enforcement Of Equal Pay Act Claims

Arguably, the most significant step the EEOC has taken in the last few years to ramp up its enforcement of the EPA is the changes that it tried to make to EEO-1 reports. The EEO-1 Report is a survey document that has been mandated for more than 50 years. Currently, employers with more than 100 employees, and federal contractors or subcontractors with more than 50 employees, are required to collect and provide to the EEOC demographic information (gender, race, and ethnicity) in each of ten job categories (Executive & Senior-Level Officials and Managers, First/Mid-Level Officials & Managers, Professionals, Technicians, Sales Workers, Administrative Support Workers, Craft Workers, Operatives, Laborers and Helpers, and Service Workers).\footnote{108} On February 1, 2016, the EEOC proposed changes to the EEO-1 report, which would have required more detailed reporting obligations for all employers with more than 100 employees.\footnote{109}

The EEOC’s proposed changes came under fierce opposition by pro-business groups. The U.S. Chamber of Commerce in February 2017 asked the Office of Management and Budget (“OMB”) to rescind its 2016 approval of the EEOC’s plan.\footnote{110} The Equal Employment Advisory Council, a Washington, DC-based association of large employers, followed suit a month later and submitted a letter seeking the OMB’s reconsideration.\footnote{111} Three weeks later, Senators Lamar Alexander (R-Tennessee) and Pat Roberts (R-Kansas) wrote another letter to the OMB urging it to rescind the new requirements.\footnote{112}

In their letter, the Senators called the revisions to the EEO-1 report “misguided” and said that “[t]hese revision will place significant paperwork, reporting burden and new costs on American businesses, and will result in fewer jobs and higher prices for American consumers.”\footnote{113} The letter also reiterated concerns echoing many employers’ concerns regarding the costs associated with compliance. The EEOC projected compliance costs to be $53.5 million and estimated it would take employers approximately 1.9 million hours to complete the report.\footnote{114} Citing the U.S. Chamber of Commerce’s estimates, the Senators projected costs to be far higher – $400.8 million – and estimated that it would cost employers and federal contractors $1.3 billion annually.\footnote{115}

\footnote{108} See Current EEO-1 Report, \url{https://www.eeoc.gov/employers/eeo1survey/upload/eeo1-2.pdf}.
\footnote{109} See EEOC, \textit{Agency Information Collection Activities: Revision of the Employer Information Report (EEO-1) and Comment Request}, \url{https://www.gpo.gov/fdsys/pkg/FR-2016-02-01/pdf/2016-01544.pdf}.
\footnote{112} See Letter from Lamar Alexander, Chairman of Committee on Health, Education, Labor and Pensions, & Pat Roberts, United States Senator, \url{http://src.bna.com/nTJ}.
\footnote{113} \textit{Id}.
\footnote{114} \textit{Id}.
\footnote{115} \textit{Id}.
On August 29, 2017, the EEOC announced that the OMB, per its authority under the Paperwork Reduction Act, had immediately stayed the EEOC’s pay data collection components of the EEO-1 Report that was to otherwise become effective on March 31, 2018. The next day, Acting Chair, Victoria Lipnic, issued a statement advising employers that the EEO-1 Report used in previous years should be submitted by the March 31, 2018 deadline. Commissioner Lipnic further stated: “The EEOC remains committed to strong enforcement of our federal equal pay laws, a position I have long advocated. Today’s decision will not alter EEOC’s enforcement efforts . . . . Going forward, we at the EEOC will review the order and our options. I do hope that this decision will prompt a discussion of other more effective solutions to encourage employers to review their compensation practices to ensure equal pay and close the wage gap.”

Despite this setback, the EEOC has continued to aggressively push forward on its pay equity initiative. On June 12, 2017, the EEOC filed two lawsuits alleging violations of the EPA. One lawsuit alleged that a Nebraska bank violated the EPA by paying women and men unequally for jobs with the same required skill, effort, responsibility, and working conditions. One month later, on July 11, 2017, the Court entered judgment in favor of the EEOC, requiring the Nebraska bank to pay $30,598 to a woman whom it unlawfully paid less than a man.

In another lawsuit, the EEOC alleged that a former manager of programs and services at a juvenile correction and detention facility violated federal law by paying a female facility investigator less than it paid the male employee who formerly held the position. Two months later, the EEOC filed another lawsuit against Denton County, Texas alleging that Denton County violated the EPA by paying lesser wages to a female clinician than it paid to a male physician performing the same job. On September 5, 2017, the EEOC filed suit against a Delaware company that until recently operated a Pizza Studio restaurant, and still owns other restaurants nationwide, alleging that the company violated the EPA by withdrawing job offers from two teens.

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after the woman complained about being offered less pay than her male friend.\textsuperscript{123} On November 9, 2017, the Court entered judgment in favor of the EEOC.\textsuperscript{124}

The EEOC has had mixed success litigating pay equity issues in court. For example, in \textit{EEOC v. Maryland Insurance Administration},\textsuperscript{125} the EEOC filed a complaint on behalf of three female fraud investigators who claimed they were paid less than their male counterparts in violation of the EPA. The District Court found that the males were not only hired at higher grades than their female counterparts, but also that the males had more experience working in the State, either in law enforcement or within the Administration itself.\textsuperscript{126} The District Court concluded that “as to all of the comparable male employees to which the EEOC points, reasons other than gender justified the pay disparity between them.”\textsuperscript{127} Moreover, the court found that the EEOC did not use proper comparator evidence because they did not work in the same unit as the females who were allegedly underpaid. These employees worked as enforcement officers, not fraud investigators.\textsuperscript{128} The court additionally found these comparators inappropriate based on their hiring level and previous experience, both of which were distinguishable from the female fraud investigators.\textsuperscript{129}

The Fourth Circuit reversed, holding that the EEOC had established a prima facie violation of the EPA, and that there was a genuine issue of material fact as to whether the employer had offered sufficient evidence to rebut that prima facie case.\textsuperscript{130} According to the Fourth Circuit, the facts about the male comparators’ professional experience and designations are relevant to the employer’s affirmative defense and should not have been considered by the District Court when analyzing the EEOC’s prima facie case.\textsuperscript{131} Moreover, once a plaintiff has established a prima facie case, the burden on an employer to prevail at the summary judgment stage is a heavy one: “[B]ecause the employer in an EPA action bears the burden of ultimate persuasion, once the plaintiff has established a prima facie case the employer will not prevail at the summary judgment stage unless the employer proves its affirmative defense so convincingly that a rational jury could not have reached a contrary conclusion.”\textsuperscript{132} Because the employer’s evidence did not meet this burden, the District Court erred when it granted summary judgment.\textsuperscript{133}

\begin{footnotesize}


\textsuperscript{125} \textit{EEOC v. Md. Ins. Admin.}, 879 F.3d 114 (4th Cir. 2018).


\textsuperscript{127} \textit{Id.} at *1.

\textsuperscript{128} \textit{Id.} at *1-2.

\textsuperscript{129} \textit{Id.} at *1; \textit{see also} Gerald L. Maatman, Jr. and Michael L. DeMarino, \textit{Court Rejects EEOC’s EPA Lawsuit Theory}, \textsc{Workplace Class Action Blog} (Oct. 23, 2016), \url{http://www.workplaceclassaction.com/2016/10/court-rejects-eeocos-epa-lawsuit-theory/}.

\textsuperscript{130} \textit{Md. Ins. Admin.}, 879 F.3d at 116.

\textsuperscript{131} \textit{Id.} at 122.

\textsuperscript{132} \textit{Id.} at 121.

\textsuperscript{133} \textit{Id.} at 123-24.
\end{footnotesize}
However, in *EEOC v. VF Jeanswear, LP*, the District Court for the District of Arizona denied the EEOC’s attempt to enforce an administrative subpoena that sought personal information identifying all supervisors, managers, and executive employees at the company nationwide, including various details about their positions, their employment and termination dates, and the facilities where they worked. This decision is notable because of the substantial deference that courts usually show to the EEOC’s administrative subpoena enforcement powers. The EEOC often relies on such legal authority to force employers to hand over nationwide information – even when it is investigating a single charge of discrimination – which it then uses to support a more expansive pattern or practice claim.

In *VF Jeanswear, LP*, the EEOC was investigating a single charge of gender-based pay and promotion discrimination. The EEOC argued that the company-wide information would provide relevant context and comparative data regarding those who have been hired or promoted, and that information regarding the reasons for employees’ terminations could be related to the lack of promotion opportunities. This was a bridge too far for the Court, which held that the “crux” of the inquiry was “whether [the Charging Party's] charge of demotion is enough for a companywide and nationwide subpoena for discriminatory promotion, a discriminatory practice not affecting the charging party.” Ultimately, the Court concluded that “even under a generous reading of relevance, the nationwide, companywide search for systemic discrimination in promotions to top positions is too removed from [the Charging Party’s] charge of one-off demotion from a sales job to be relevant in a practical sense.”

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135 *Id.* at *2.
136 *Id.* at *1.
137 *Id.* at *6.
138 *Id.*
139 *Id.*
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We are indebted to Steven Durlauf, Janet Currie, Anne Winkler, Martha Bailey, and four anonymous referees for helpful comments and suggestions and to Jason Cook and Ankita Patnaik for excellent research assistance. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

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The Gender Wage Gap: Extent, Trends, and Explanations
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NBER Working Paper No. 21913
January 2016
JEL No. J16,J24,J31,J71

ABSTRACT

Using PSID microdata over the 1980-2010, we provide new empirical evidence on the extent of and trends in the gender wage gap, which declined considerably over this period. By 2010, conventional human capital variables taken together explained little of the gender wage gap, while gender differences in occupation and industry continued to be important. Moreover, the gender pay gap declined much more slowly at the top of the wage distribution that at the middle or the bottom and by 2010 was noticeably higher at the top. We then survey the literature to identify what has been learned about the explanations for the gap. We conclude that many of the traditional explanations continue to have salience. Although human capital factors are now relatively unimportant in the aggregate, women’s work force interruptions and shorter hours remain significant in high skilled occupations, possibly due to compensating differentials. Gender differences in occupations and industries, as well as differences in gender roles and the gender division of labor remain important, and research based on experimental evidence strongly suggests that discrimination cannot be discounted. Psychological attributes or noncognitive skills comprise one of the newer explanations for gender differences in outcomes. Our effort to assess the quantitative evidence on the importance of these factors suggests that they account for a small to moderate portion of the gender pay gap, considerably smaller than say occupation and industry effects, though they appear to modestly contribute to these differences.

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1. Introduction

The gender wage gap has now been intensively investigated for a number of decades, but also remains an area of active and innovative research. In this article, we provide new empirical estimates delineating the extent of and trends in the gender wage gap and their potential explanations. We then survey the literature to identify what has been learned about the explanations of the gap, both those that can be readily included in conventional analyses and those that cannot; both traditional explanations and newer ones that have been offered. Our primary focus will be on the United States, although we also place the United States in a comparative perspective, particularly as such comparisons help to further our understanding of the sources of the gender wage gap. The focus on the United States is in part designed to make our task more manageable, as there has been an explosion of research on this topic across many countries. Nonetheless, we believe much of what we have learned for the United States is applicable to other countries, particularly other economically advanced nations. In our comprehensive review of the literature, we particularly emphasize areas where there has been exciting new research on more traditional explanations and on newer explanations and trends, including research on gender differences in psychological attributes/noncognitive skills and mathematics test scores, and on the reversal of the gender education gap.

The long-term trend has been a substantial reduction in the gender wage gap, both in the United States and in other economically advanced nations (Blau and Kahn 2008). However, the shorter term picture in the United States has been somewhat mixed. The period of strongest wage convergence between men and women was the 1980s, and progress has been slower and more uneven since then. Moreover, a number of other related trends appear to have plateaued or slowed since the 1990s, including increases in female labor force participation rates and reductions in occupational segregation by sex.

The plan of the paper is as follows. In Section 2, we begin by documenting the changes in the gender gap that have occurred in the United States since the 1950s based on published data. We then provide new analyses for the 1980 to 2010 period that include decompositions of the changes in the gender wage gap into portions associated with key characteristics such as schooling, experience, industry, occupation and union status. We also examine how women fared relative to men at various points in the wage distribution. Our decompositions show the importance of these measured factors in accounting for the levels and changes in the gender pay gap. We also find that an unexplained gap remains and, moreover, that it has been stable subsequent to a dramatic narrowing over the 1980s.

In the remaining sections we probe what is known about the various factors that contribute to the gender pay gap, including the extent of and trends in these factors. Some of the variables we consider are measured in our data set and included in our analysis in Section 2, as well as other similar type analyses. Other factors are not included and presumably help to provide insight into the sources of the unexplained gap. However, it is important to point out that the effects of factors that are not explicitly included in traditional regression analyses may be taken into account to some extent by measured variables. For example, women have been found to be more risk averse than men on average which could lower their relative wages. However, to the extent that this factor operates through gender differences in occupational sorting, e.g., if it results in women avoiding occupations with greater variance in earnings, regression analyses that control for occupation will adjust for this factor.

Our consideration of explanatory factors begins in Section 3 where we discuss variables economists have traditionally emphasized in studying the gender pay gap. These include human capital (schooling and work experience), the family division of labor, compensating wage differentials, discrimination, and issues relating to selection into the labor force.1 Gender differences in occupations,

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1 Selection issues arise because we do not observe wage offers for people who are not currently employed and a smaller share of the female than of the male population is employed. Moreover, the share of both groups, but particularly of women, who are employed has changed over time.
industries and firms are a component of this discussion. We especially emphasize new empirical and theoretical research on these traditional factors.

We then turn in Section 4 to a discussion of a relatively new field of research among economists studying gender: the impact of norms, psychological attributes and noncognitive skills on the gender pay gap. This body of work includes both survey evidence and lab and field experiments. It has the potential to help explain not only what economists have called the unexplained gender wage gap (i.e. the portion not accounted for gender differences in measured qualifications) but also gender differences in some of the measured factors themselves. However, a theme that emerges from some of the experimental work is that some psychological attitudes may themselves be influenced by context. For example, anticipated treatment of women in the labor market may affect their aspirations. The formation of norms and attitudes thus in our view is a potentially fruitful area of research that has received relatively little attention by economists.

We then turn in Section 5 to a discussion of the impact of policy on the gender wage gap, including both antidiscrimination policy and family leave policies. While the discussion up to this point emphasizes gender-specific factors (i.e., gender differences in behavior, qualifications, and treatment), in Section 6, we highlights that the overall structure of wages can affect the gender wage gap, given that men and women have different skills and qualifications and work in different occupations and industries. Hence, changes over time or differences across countries in the return to various skills or to working in high-paying sectors (occupations or industries) will affect the gender pay gap. As another example, policies such as minimum wages or union negotiated wage floors that bring up the bottom of the distribution will disproportionately affect women even if the law or union agreement is not gender-specific. In Section 6, we discuss wage structure and refer to evidence both in the United States and from other countries in which the wage structure is much more compressed as a result of union wage-setting. Finally, Section 7 presents conclusions.

2. Overview of the US Gender Wage Gap

In this section, we use published data, information from the Michigan Panel Study of Income Dynamics (PSID), and the March Current Population Survey (CPS) to establish the facts on the levels and trends in the US gender wage gap and on their sources (in a descriptive sense). Accounting for the sources of the level and changes in the gender pay gap will provide guidance for understanding recent research studying gender and the labor market.

Figure 1 shows the long-run trends in the gender pay gap over the 1955-2014 period based on two published series: usual weekly earnings of full-time workers and annual earnings of full-time, year-round workers. After many years with a stable female/male earnings ratio of roughly 60%, women’s relative wages began to rise sharply in the 1980s, with a continued, but slower and more uneven rate of increase thereafter. By 2014, women full-time workers earned about 79% of what men did on an annual basis and about 83% on a weekly basis.

To better understand the sources of the gender wage gap, we analyze data from the PSID, which is the only data source that has information on actual labor market experience (a crucial variable in gender analyses) for the full age range of the population. We focus on men and women age 25-64 who were full-time, non-farm, wage and salary workers and who worked at least 26 weeks during the preceding year. The focus on full-time workers and those with substantial labor force attachment over the year is designed to identify female and male workers with fairly similar levels of labor market commitment. However, we have repeated our analyses on the full sample of all wage and salary earners (including those employed part time or part year) and obtained very similar results to those shown here. The sample is also restricted to family heads and spouses/cohabitators because the PSID only supplies the crucial work history information for these individuals. Due to this and other limitations in coverage by the PSID, described in the Data Appendix, we present some additional data on the gender pay gap using the fully nationally
representative March CPS. The empirical results in this section are of interest in and of themselves and also serve to set the stage for the literature review to follow by providing a frame of reference for how each of the measured factors discussed relates to the overall gender wage gap and changes in the gap. Our data cover the 1980-2010 period, in which, as Figure 1 shows, women have made major gains in relative wages.

Table 1 shows the evolution of the female-male ratio of average hourly earnings at the mean and also at the 10th, 50th, and 90th percentiles for four years—1980, 1989, 1998, and 2010—based on both PSID and CPS data. Because earnings refer to the previous year, we use, for example, the 1981 data to measure wages in 1980. The overall pattern is very similar across the two data sets, and also largely matches that in the published data shown in Figure 1, increasing one’s confidence in the PSID. Specifically, gains in the female/male wage ratio were largest in the 1980s and occurred at a slower pace thereafter, with the ratio rising from 62-64% in 1980 to 72-74% in 1989, with a further increase to 79-82% by 2010.

The time pattern at the bottom (10th percentile), middle (50th percentile) and top (90th percentile) of the wage distribution is similar to that for the overall mean: the gender wage ratio rose over the period, with the largest gains during the 1980s. However, a closer examination shows that women gained least, in a relative sense, at the top. In both the PSID and CPS, women at the top had a slightly higher pay ratio than those in the middle and a slightly lower pay ratio than those at the bottom in 1980. Yet by 2010, in both data sets, women’s relative pay at the top was considerably less than that at the middle and bottom of the distribution: 8-9 percentage points less than that at the middle or bottom in the PSID, and 6-11 percentage points less in the CPS. Later in this section, we will consider the role of measured factors in accounting for the slower reduction at the top and in following sections we will attempt to shed additional light by reviewing the literature on the labor market for highly skilled workers.

At the same time that the gender pay gap has been narrowing, women have been increasing their relative labor market qualifications and commitment to work. Tables 2 and 3 show the extent of such changes among our PSID sample of full-time workers. Table 2 focuses on the prime human capital determinants of men’s and women’s wages, education and actual full-time experience. In the case of education, there was a dramatic reversal of the gender gap. In 1981, women had lower average levels of schooling than men and were less likely to have exactly a bachelor’s or an advanced degree. Over the period, women narrowed the education gap with men and, by 2011, women had higher average levels of schooling and were more likely to have an advanced degree than men. While men had a slightly higher...
incidence of having exactly a bachelor’s degree, women were more likely to have at least a bachelor’s degree (i.e. the sum of the Bachelor’s Degree Only and Advanced Degree categories).\(^7\)

In the case of labor market experience, the story is one of a substantial narrowing of the gender experience gap. In 1981, men had nearly 7 more years of full-time labor market experience on average than women. By 2011, the gap had fallen markedly to only 1.4 years, with the fastest rate of increase in women’s relative experience occurring during the 1980s.\(^8\) Thus, on these two basic measures of human capital—schooling and actual labor market experience—women made important gains during the 1981-2011 period, reversing the education gap and greatly reducing the experience gap.

Table 3 further explores trends in the determinants of wages by showing gender differences in the incidence of high-level jobs as well as collective bargaining coverage. Rising employment in managerial or professional jobs may be an indicator of increasing human capital or work commitment, even controlling for levels of schooling and actual labor market experience. For example, such jobs may entail higher levels of responsibility and pressure than other jobs, and only those with the appropriate training and commitment may be qualified to take them. Increases in women’s relative representation in such jobs may then be a further indicator of their rising human capital and labor market commitment. However, women’s representation in such jobs may also be affected by employer discrimination in entry or promotions. Women’s improvements may therefore also reflect reductions in discrimination. Both interpretations are plausible. First, it seems likely that women’s increasing levels of schooling and, as discussed below, increasing representation in lucrative fields of study, as well as their rising experience levels would be expected to lead to their greater representation in high-level positions. Second, given women’s increasing qualifications and commitment to the labor market, employer incentives for statistical discrimination (this concept is discussed further below) have likely been reduced.

Under either interpretation, studying these differences can yield insights into the sources of the gender pay gap. Table 3 shows remarkable increases in women’s relative representation in such high-level jobs. The male advantage in managerial jobs fell from 12 percentage points in 1981 to just two percentage points in 2011. Moreover, while women were more likely than men to work in professional jobs throughout the period, their advantage grew from five percentage points in 1981 to nine percentage points in 2011. However, many women in professional jobs remain employed in traditionally female occupations such as nursing or K-12 teaching that are generally less lucrative than traditionally male professions. We therefore also show in Table 3 gender differences in the incidence of employment in “male” professional jobs, which we define as professional jobs other than nursing or K-12 and other non-college teaching positions, most of which were predominantly male at the start of our period. While men were four percentage points more likely than women to be in such jobs in 1981, by 2011, the gender gap had been virtually eliminated. At the same time women were making these occupational gains, they were greatly reducing their concentration in administrative support and clerical jobs.\(^9\)

In addition to these occupational changes, one notable feature of the post-1980 labor market is the steady reduction in the portion of the economy covered by collective bargaining. Table 3 shows that this

\(^7\) CPS data also show that, in 1981, men had higher levels of schooling and incidence of bachelor’s or advanced degrees than women; by 2011, women in the CPS had higher levels of schooling than men, as in the PSID. However, in the 2011 CPS, women not only had a higher incidence of advanced degrees, but also a slightly higher incidence of exactly a college degree than men.

\(^8\) Some of the small experience gap in 2011 may have resulted from the recession. For example, in 2007 (i.e. before the recession), the full time experience gap was 2.6 years, compared to 2011’s gap of 1.4 years and the 1999 gap of 3.8 years. Whether the fall to 1.4 years by 2011 was a continuation of a trend or was due to the recession is unclear, though the upshot is the same: a substantial reduction in the gender experience gap.

\(^9\) We obtained very similar results on the gender gaps in managerial, professional, and “male” professional employment using the March CPS.
reduction hit men much harder than women. Specifically, men’s collective bargaining coverage fell from 34% in 1981 to 17% in 2011, while women’s coverage only declined from 21% to 19%.\footnote{While the PSID data show women as now having slightly higher collective bargaining coverage than men, US Bureau of Labor Statistics data show men continuing to retain a small edge. Specifically, in 1983, among those 16 years and older, 27.7% of men were covered by collective bargaining, compared to 18.0% of women; by 2011, men’s coverage had decreased to 13.5%, while women’s declined to 12.5% (\url{http://data.bls.gov/pdq/SurveyOutputServlet}, accessed August 18, 2014).} As is the case with women’s gains in education, full time labor market experience, and employment in high-level occupations, we expect the elimination of the gender gap in collective bargaining coverage to contribute to a reduction in the gender pay gap.\footnote{In the PSID, the convergence in the collective bargaining coverage of men and women was a result of both a larger fall in men’s private sector coverage and an increase in women’s public sector coverage, with men’s public sector coverage remaining stable.}  

How have gender differences in women’s labor market qualifications and employment location affected the gender wage gap? And how have improvements in women’s relative characteristics affected changes in the gender wage gap? We study these questions by decomposing levels and changes in the gender wage gap over the 1980-2010 period using log wage regressions. We proceed in two stages. First, we estimate wage models that only control for education, experience, race/ethnicity, region, and metropolitan area residence. We term this the “human capital specification,” since other than basic controls, we include only human capital variables—education and experience. Second, we augment this model with a series of industry, occupation and union coverage dummy variables. We term this equation the “full specification.” Because these latter variables may have an ambiguous interpretation—i.e., they may represent human capital, other labor market skills, and commitment, on the one hand, or employer discrimination, on the other hand—we present both versions. Note that we do not control for marital status or number of children, since these are likely to be endogenous with respect to women’s labor force decisions. Our decompositions can be viewed as reduced forms with respect to family formation decisions.\footnote{An additional reason we did not control for marital status and children in our basic regressions is that such variables are expected to increase male wages but to decrease female wages, complicating one’s assessment of gender gaps in explanatory variables. Nonetheless, when we included these variables in our basic wage regressions, the decomposition results were very similar to those shown here.} 

2.1 Explaining the Gender Wage Gap at the Mean

Figure 2 shows female to male log wage ratios, (i) unadjusted for covariates (i.e. reproduced from Table 1), (ii) adjusted for the covariates in the human capital specification, and (iii) adjusted for the covariates in the full specification. The adjusted female/male wage ratios shown in Figure 2 and analyzed in more detail in Table 4 are computed using a traditional Oaxaca-Blinder decomposition of male-female differences in log wages into a component accounted for by differences in characteristics and an
unexplained component (Oaxaca 1973, Blinder 1973). The latter is often taken to be an estimate of the extent of discrimination—i.e., unequal pay for equally qualified workers. However, the unexplained portion of the gender pay gap may include the effects of unmeasured productivity or compensating differentials, and some of the explanatory variables such as industry or occupation may be affected by discrimination. We consider this issue in greater detail in Section 3.9, while our discussion of research on selection, unmeasured attributes such as competitiveness or risk aversion, and possible glass ceilings will shed light on some possible sources of the pay gap that cannot be explained by measured characteristics.

The following equations illustrate the Blinder Oaxaca decomposition. For year t, estimate separate male (m) and female (f) Ordinary Least Squares (OLS) wage regressions for individual i (the i and t subscripts are suppressed to simplify the notation):

\( Y_m = X_m B_m + u_m \)

\( Y_f = X_f B_f + u_f \)

where \( Y \) is the log of wages, \( X \) is a vector of explanatory variables such as education and experience, \( B \) is a vector of coefficients and \( u \) is an error term.

Let \( b_m \) and \( b_f \) be respectively the OLS estimates of \( B_m \) and \( B_f \), and denote mean values with a bar over the variable. Then, since OLS with a constant term produces residuals with a zero mean, we have:

\( \bar{Y}_m - \bar{Y}_f = b_m \bar{X}_m - b_f \bar{X}_f = b_m (\bar{X}_m - \bar{X}_f) + \bar{X}_f (b_m - b_f) \)

The first term on the far right hand side of (3) is the impact of gender differences in the explanatory variables evaluated using the male coefficients. The second term is the unexplained differential and corresponds to the average female residual from the male wage equation. In Figure 2, we take the exponential of this residual and obtain the simulated female to male wage ratio, controlling for the indicated variables. This residual corresponds to an experiment where we take one woman, given her characteristics, and reward her according to the male reward system. One might think of such an experiment as the outcome of a discrimination case in which a firm that previously was found to have discriminated against women is now required to treat women the same as it treats men. The decomposition in (3) of course could be performed using the female coefficients and the male means, and we have performed such a decomposition as well, with similar results to the ones reported here, although the unexplained residual was somewhat larger using the male means.\(^{13}\)

The results for the unadjusted ratios in Figure 2 mirror the trends from the published data, showing a large increase in the female-to-male wage ratio over the 1980s, with continued but smaller gains in subsequent decades.\(^{14}\) Over the 1980-2010 period as a whole, the unadjusted ratio increased

\(^{13}\) Some have argued that a wage regression pooling men and women should be used since it is claimed that this would be the wage regression prevailing in a nondiscriminatory labor market (Cotton 1988; Neumark 1988). We have not done so here because there would likely be general equilibrium changes if discrimination were eradicated, and we do not know what the resulting reward structure would look like. Instead, we take the more modest approach of performing the decomposition using alternative weights and comparing the results. As just mentioned, however, the experiment of taking a woman and valuing her characteristics using the male coefficients does correspond to a real-life scenario. We should also point out that in data sets such as the CPS that do not measure actual experience, the female equation will give a less accurate estimate of the return to labor market experience than the male equation.

\(^{14}\) The US labor force aged over the 1980-2010 period, and it is well known that gender pay gaps increase with age. To investigate whether aging has influenced our picture of the trends in the gender wage gap, we re-weighted our data with 1980 age weights using a quartic in age in a procedure based on DiNardo, Fortin and Lemieux (1996). Men and women in our wage samples were in fact 3-4 years older in 2010 than 1980. When we repeated our
substantially from 62.1 to 79.3 percent. The adjusted ratios also rose considerably over this period, from 71.1 to 82.1 percent in the human capital specification and from 79.4 to 91.6 percent in the full specification. However virtually all of these gains occurred in the 1980s. This means that, while a reduction in the residual or unexplained gap played an important role in the narrowing of the gender wage gap over the 1980s, it has not been a factor since then (see also Blau and Kahn 2006). Figure 2 also indicates that the difference between the human-capital adjusted ratio and the unadjusted ratio fell dramatically over the 1980-2010 period, reflecting women’s increasing human capital levels relative to men’s. By 2010, the human capital variables (and the other variables included in this specification) explained very little of the gender wage gap: the unadjusted ratio was 79% compared to the adjusted ratio of 82%. As Goldin (2014) has commented, “As women have increased their productivity enhancing characteristics and as they ‘look’ more like men, the human capital part of the wage difference has been squeezed out.” As we shall see shortly in Table 4, this represents to some extent countervailing factors: women are now better educated than men but they continue to lag (slightly) in actual labor market experience. In the full specification, the adjusted ratio (91.6 percent) remained considerably higher than in the human capital specification (82.1 percent) in 2011, suggesting a continued substantial role for occupation and industry in explaining the gender wage gap (recall that union differences have now been virtually eliminated).

Table 4 provides further detail on the contribution of particular labor market characteristics to the gender wage gap. Specifically, it shows the fraction of the total gender wage gap in 1980 and 2010 accounted for by gender differences in each group of variables for both the human capital and full specifications, again based on the Oaxaca-Blinder decomposition. The entries are the male-female differences in the means of each variable multiplied by the corresponding male coefficients from the current year wage regression. In Panel A, one sees the contribution of traditional human capital variables—education and experience—not controlling for industry, occupation or union status. This specification in effect allows human capital to affect these intervening variables and thus gives the reduced form effect of education and experience in explaining the gender wage gap. In 1980, the male advantage in education raised the gender wage gap somewhat, while the male experience gap contributed substantially (0.114 log points) and accounted for nearly a quarter of the gap. By 2010, due to the education reversal, women’s higher level of education slightly raised their relative wage. Moreover, the much smaller (compared to 1980) male advantage in labor market experience contributed only a small amount 0.037 log points to the gender wage gap, accounting for 16% of the now much reduced gender wage gap. Together, human capital factors (education and experience) accounted for 27% of the gender wage gap in 1980 compared to only 8% in 2010. Another notable change was the decline in the unexplained gap—from 0.341 log points in 1980 to 0.197 log points in 2010. This also contributed substantially to the narrowing of the gender gap over the period, although, as we have seen, the decrease in the unexplained gap occurred only during the 1980s. Nonetheless, unexplained factors accounted for a substantial share of the gender gap in both years, actually a bit larger share of gap in 2010 (85%) than in 1980 (71%).

Table 4, Panel B, shows the decomposition of the gender pay gap using the full specification. Interestingly, the effects of education and experience are quite similar to that in Panel A, implying that the impact of these measures of human capital operates primarily within industries, occupations and union coverage status. In 1980, gender gaps in industry and occupation together accounted for 0.097 log points, or 20% of the gender pay gap, with gender differences in union coverage contributing an additional .03 log points or 6 percent of the gap. By 2010, the convergence in male and female unionization rates had virtually eliminated the contribution of this factor, but occupation and industry continued to account for a substantial gender gap of .117 log points or 51% of the smaller 2011 gender gap. Indeed, whether taken analyses using 1980 age weights, we found that the overall female to male wage ratio would have been 80.7% in 2010, compared to its actual value of 79.3% as shown in Table 1 and Figure 2, a slight increase as expected. However, the adjusted ratios were very similar to those shown in Figure 2.
separately or combined, occupation and industry now constitute the largest measured factors accounting for the gender pay gap. In both years, the unexplained gap was considerably smaller in the full specification than in the human capital specification, also highlighting the importance of industry and occupation. As in the case of the human capital specification, a marked decline in the unexplained gap (from 0.231 log points in 1980 to 0.088 log points in 2010) contributed to the narrowing of the gender wage gap, and, again, this decrease occurred over the 1980s. However, as in the case of the human capital specification, unexplained factors continue account for a substantial share of the gender gap in 2010 (38%) as they had in 1980 (49%). The continued importance of occupation and industry in accounting for the gender gap, and the rise in the relative importance of these factors, suggests that future research on explanations might fruitfully focus on gender differences in employment distributions and their causes. This meshes well with increased attention to the role of firms as firm-worker matched data increasingly become available.

One puzzling finding in Table 4 is that, despite the occupational improvements of women shown in Table 3, gender differences in occupation accounted for a larger pay gap in 2010 than in 1980 (0.076 vs. 0.051 log points). However, while women upgraded their occupations during this period, the wage consequences of gender differences in occupations became larger as well. We study these consequences formally in Table 5. There we provide estimates of the impact of changes in the gender gaps in covariates on the change in the gender wage gap using a constant set of male wage coefficients (for 1980 or 2010). To do this we adapt an approach developed by Juhn, Murphy and Pierce (1991) (see also Blau and Kahn 1997), which also yields estimates of the effect of changing coefficients and the effect of changes in the unexplained gap.

We begin with male (m) wage and female (f) wage equations as in (1) and (2) above for each of the two years (0, 1). Then,

\[ \text{(4) Effect of Changing Means} = (\Delta \bar{X}_1 - \Delta \bar{X}_0) b_{1m} \]
\[ \text{(5) Effect of Changing Coefficients} = \Delta \bar{X}_0 (b_{1m} - b_{0m}) \]
\[ \text{(6) Effect of Changing Unexplained Gaps} = \bar{X}_1 f (b_{1m} - b_{1f}) - \bar{X}_0 f (b_{0m} - b_{0f}) \]

where \( \bar{X} \) and \( b \) have been defined previously and a \( \Delta \) prefix signifies the (mean) male-female difference for the variable immediately following. The effect of changing means measures the contribution of changes in male-female differences in measured labor market characteristics (\( \bar{X} \)'s) on changes in the gender wage gap. So, for example, if women move into higher paying occupations it will reduce the gender wage gap. The effect of changing coefficients reflects the impact of changes in prices of measured labor market characteristics, as indexed by male coefficients, on changes in the gender wage gap. For example, given that women are located in different occupations than men, an increase in the return to occupations in which men are more heavily represented weights the gender difference in occupations more heavily and hence raises the gender wage gap, all else equal. Finally, the effect of changing unexplained gaps measures the impact of this factor on changes in the gender wage gap, with, e.g., a declining unexplained gap working to decrease the gender wage gap. The impact of changing means, changing coefficients, and changes in the unexplained gap together sum to the observed change in the total wage gap.

The first two columns of Table 5 use the 1980 Male Wage Equation and 2010 Male-Female differences in the means of the covariates as the base, while the second two columns use the opposite values as base, in each case chosen to exhaust the explained portion of the change in the gender pay gap.

In the human capital specification (giving the largest estimate of the impact of these variables), women’s improvements in education and experience taken together are shown to narrow the gender pay gap by 0.092 to 0.098 log points, or about 38-40% of the actual closing of the gender pay gap. Thus,
improvements in these traditional measures of human capital were a very important part of the story explaining the decrease in the gender pay gap. Results for the Full Specification illuminate the role of industry, occupation, and unionism. Taken together these variables narrowed the gender gap by .064-.066 log points or 26%-27% of the closing. This reflects convergence in men’s and women’s occupations and union status in roughly equal measure, with relatively little evidence of narrowing of industry differentials. In terms of occupational convergence, women reduced their concentration in administrative support and service jobs, relative to men, and, as we have seen, increased their representation in managerial and professional jobs, including traditionally male professions. As well as occupational upgrading of women, the female relative gains reflect some adverse trends for men, including the decline in their employment in production jobs and the increase in their employment in service positions, as well as their considerably larger loss of union employment.

In both specifications, the decline in the unexplained gender wage gap plays a substantial role in accounting for the wage convergence of women and men, explaining 58% of the closing.\(^\text{15}\) (As we have noted previously, this decrease occurred almost entirely in the 1980s.) Of course this begs the question as to what caused this decrease. There are a number of possible sources. The two most straightforward are that the decline represents a decrease in discrimination against women and/or a decrease in gender difference in unmeasured characteristics. Also potentially important are demand shifts favoring women relative to men and trends in the extent and type of selection of women and men into the labor force. In Blau and Kahn (2006), we present some evidence consistent with each of these possible explanations, suggesting that all might have played role. These are all issues that we address below.

The decomposition presented in Table 5 also permits us to identify the role of changes in overall prices (coefficients) in affecting the trends. In general, for the 1980-2010 period, price changes are not found to play a major role in the human capital specification, but adverse price movements did negatively affect women’s gains in the full specification, almost entirely due to rising returns to occupations in which women were underrepresented. However, female improvements in the explanatory variables and a narrowing of the unexplained gap more than outweighed these adverse price changes. This analysis highlights the notion that shifts in labor market prices can affect women’s progress in narrowing the gender wage gap. The role of wage structure in affecting changes over time in relative wages of women, as well as differences across countries in the magnitude of the gender wage gap, is considered in Section 6.

2.2 Explaining the Gender Wage Gap Across the Wage Distribution

As we saw in Table 1, as of 2010, (i) there was a relatively large gender gap at the top of the distribution and (ii) the wage gap fell more slowly over the 1980-2010 period at the top than at other portions of the distribution. These two patterns suggest the notion of a “glass ceiling” in which women face barriers in entering the top levels of the labor market and which we discuss in more detail in Section 3. To provide some further evidence on this phenomenon, we decompose the gender pay gap at specific percentiles of the distribution into portions due to covariates and portions due to wage coefficients. The latter component corresponds to the unexplained gap and, while as noted above, is sometimes taken to be a measure of discrimination, may be a biased estimate.

To study the unexplained gap across the distribution, we use a method developed by Chernozhukov, Fernández-Val and Melly (2013) which decomposes unconditional intergroup gaps (in our case, male-female gaps) at a given percentile into a portion due to the distribution of characteristics and a portion due to different wage functions conditional on characteristics. This latter portion corresponds to the unexplained gap. As discussed by the authors, the method involves computing the

\(^{15}\) Coincidentally, the female residual fell by almost identical amounts in the Human Capital and Full Specifications (0.1432-0.1433 log points). Using the female coefficients as the base yielded qualitatively similar results for the changes in characteristics; however, the effects of prices changes were very small.
distribution of characteristics and the conditional wage distribution by gender. For example, as above, let log wages be denoted by \( Y \), \( y \) be a specific value of log wages, \( m \) represent males, \( f \) represent females, and \( X \) be a vector of characteristics affecting wages. Then,

\[
(7) \quad F_{Y[m,m]}(y) = \int F_{Y[m,m]}(y|x)dF_{Xm}(x)
\]

\[
(8) \quad F_{Y[f,f]}(y) = \int F_{Y[f,f]}(y|x)dF_{Xf}(x)
\]

\[
(9) \quad F_{Y[m,f]}(y) = \int F_{Y[m,f]}(y|x)dF_{Xf}(x)
\]

where \( F_{Y[m,m]} \) refers to the unconditional distribution of log wages with the male wage function and the male characteristics, with a corresponding definition for \( F_{Y[f,f]} \); \( F_{Y[m,f]} \) is the hypothetical wage distribution that would face women if they were rewarded according to the male wage function; \( F_{Y[m,m]} \) refers to the conditional distribution of male wages given their characteristics; and \( F_{Xm} \) refers to the distribution of male characteristics, with corresponding definitions for \( F_{Y[f,f]} \) and \( F_{Xf} \).

To decompose the differences between the unconditional male and female wage distributions, we note that:

\[
(10) \quad F_{Y[m,m]} - F_{Y[f,f]} = \{F_{Y[m,m]} - F_{Y[m,f]}\} + \{F_{Y[m,f]} - F_{Y[f,f]}\}
\]

The first term in brackets in equation (10) shows the effect of differing distributions of personal characteristics, while the second term shows the wage function effect. To implement the decomposition, Chernozhukov, Fernández-Val and Melly (2013) suggest computing the empirical distribution of the \( X \) variables and using quantile regressions for the conditional wage distribution. We follow that procedure and estimate 100 quantile regressions. In addition, we compute the standard errors using bootstrapping with 100 repetitions.

In Table 6, we present the decomposition results for the 10th, 50th and 90th percentiles. At each percentile, women’s covariates improved relative to men’s over the period in both the human capital and full specifications, resulting in comparable declines of 0.09-0.10 log points in the gender wage gap across the distribution. The lesser progress of women at the top was entirely due to much larger reductions in the unexplained gap (coefficient effects) at the 10th and 50th percentiles than at the 90th percentile. In the human capital specification, the unexplained gap fell by 0.18 to 0.20 log points at the 10th and 50th percentiles, but only by 0.06 log points at the 90th percentile; in the full specification, the corresponding reductions in the unexplained gap were 0.16 to 0.18 log points at the 10th and 50th percentiles but only 0.05 log points at the 90th percentiles. By 2010, the unexplained gap was larger at the 90th percentile than at the 10th or 50th percentile in both specifications; in contrast, in 1980, the unexplained gap was smaller at the 90th than at the 50th, although still larger than at the 10th percentile.

These coefficient effects suggest the possibility of a glass ceiling among highly skilled women, although they could also result from unmeasured factors leading highly skilled men to earn particularly

16 The decomposition allows us to recover the unconditional distribution of wages by adding the effects of the covariates and wage coefficients, and the results closely match the actual percentiles. The Chernozhukov, Fernández-Val and Melly (2013) approach is similar in principle to the method of unconditional quantile regressions suggested by Firpo, Fortin and Lemieux (2009).

17 While the unexplained gap in the full specification for 2010 appears very low at the 10th percentile, we are reluctant to place a strong interpretation on this in light of its relatively large standard error. Taking the coefficient effect at face value suggests a larger role for differences by occupation, industry, and unionism in accounting for gender wage gaps at the bottom than at the other percentiles (especially the 90th) where gender difference in wages within occupation, industry, and union status appear to play a relatively large role.
high relative wages. We discuss research on discrimination in Section 3.8 as well as work suggesting an important role for penalties for flexibility (shorter hours and work force interruptions) in explaining gender gaps in skilled occupations in Section 3.4. However, we note here that such a result—either a relatively large unexplained gender gap at the top or more slowly falling gender pay gaps at the top than elsewhere in the distribution is a common finding in the recent literature on the gender gap that uses quantile regression methods to study these issues. For example, in earlier work (Blau and Kahn 2006), we used PSID data and found that the unexplained gender pay gap in 1998 at the 90th percentile was larger than at lower percentiles and that it had fallen less since 1979. Similarly, also using PSID data Kassenboehmer and Simming (2014) found that the unexplained gender gap fell by less at the 90th percentile than at lower regions of the distribution over the 1993-5 to 2004-8 period and that, in 2004-8, there was a somewhat larger unexplained gap at the 90th than at the 50th percentile. Moreover, European research also typically finds a larger unexplained gap at the top than the middle of the distribution (e.g., Arulampalam, Booth and Bryan 2007 using microdata on 11 countries for 1995-2001 and Albrecht, Björklund and Vroman 2003 using Swedish data for the 1990s).

2.3 Summary

Our overview of the US gender wage gap shows a substantially decreased but persistent wage gap between men and women. Decompositions indicate the importance of changes in gender differences in education and experience, as well as occupation and union status in accounting for the reduction in the gender pay gap. They also highlight the diminished role of human capital factors in accounting for the gender wage gap over time—due both to the reversal of the education gap between men and women and the narrowing of the gender gap in experience. Gender differences in occupation and industry remain important in explaining the gender wage gap, despite occupational upgrading of women relative to men. However, the role of unions in accounting for gender differences in wages has virtually disappeared as have gender differences in unionization. While a decrease in the unexplained gap played a role in narrowing the gender wage gap in the 1980s, an unexplained gender wage gap remains and has been roughly stable since the 1980s decline. We also found that gender wage gap is currently larger at the top of the wage distribution and has decreased more slowly at the top than at other points in the distribution. This remains the case even after accounting for measured characteristics. We now turn to a discussion of the underlying factors affecting the observed sources of the gender pay gap, as well as in factors that may be included in the unobserved gap in accounting exercises like this one. We also probe for insights on why the gap is larger at the top.

3. Traditional Factors Affecting the Gender Pay Gap

3.1 Labor Force Participation

Labor force participation is a crucial factor in understanding developments in women’s wages. This is the case both because the receipt of wages is conditional on employment, and also because women’s labor force attachment is a key factor influencing the gender wage gap. U.S. women’s labor force participation rates increased dramatically in the five decades following World War II and this increase, driven by rising participation rates of married women, underlies what Goldin (2006) has termed the “quiet revolution” in gender roles that underlies women’s progress in narrowing the gender wage gap and other dimensions of labor market outcomes. For that reason, we briefly summarize the trends in female labor force participation in the United States.

The sharp increase in female participation rates is illustrated in Figure 3, which shows the rate rising from 31.8 percent in 1947 to 57.2 percent in 2013. The gender gap in participation rates was further reduced by the steady decline in male participation rates over this period. As may be seen in Figure 3, the growth in female participation rates began to slow and then plateau in the 1990s. Female participation rates have fallen in the wake of the Great Recession, mirroring a similar pattern among men.
There is a voluminous literature on the sources of rising female labor force participation rates dating at least from Mincer’s (1962) insightful analysis of the early post-World War II increase. Consistent with Mincer’s original analysis, numerous studies have continued to find that rising real wages for women have played a major role in explaining the rise in married women’s labor force participation. The substitution effect due to increases in female wages more than outweighed the negative income effect due to increases in their husbands’ incomes during periods of rising male wages. Moreover, during the 1970s and 1980s, husbands’ real incomes stagnated overall and declined for less educated men. While this factor contributed to increases in women’s labor force participation during this period, consistent with Mincer’s initial insight, it accounted for relatively little of the increase, with rising female wages continuing to play the more important role (Juhn and Murphy 1997; Blau and Kahn 2007). Indeed, the married women with the largest increase in market hours since 1950 were those with high-wage husbands (see Juhn and Murphy 1997 and McGrattan and Rogerson 2008), likely drawn in by widening wage inequality and rising returns to skill (e.g., Autor, Katz and Kearney 2008). Rising returns to skill likely also underlie the much larger increases in labor force participation rates for highly educated women relative to their less educated counterparts (Blau 1998, Blau, Ferber, and Winkler 2014, Figure 6-6).

A number of other factors apart from rising wages and increasing educational attainment have also been found to be important in explaining women’s increasing labor force participation. These include the greater availability of market substitutes for home work and improvements in household technology (e.g., Greenwood, Seshadri, and Yorukoglu 2005), the development and dissemination of the birth control pill (Goldin and Katz 2002; Bailey 2006; Bailey, Hershbein, and Miller 2012), and demand shifts that favored occupations like clerical work where women were well represented (Goldin 1990; Oppenheimer 1976). At the same time, however, studies focused on conventional economic variables (wages, nonlabor or husband’s income, education, and demographic variables) for periods of rapid increase in female participation rates (i.e., prior to the 1990s) generally find that measured variables, including the key wage and income variables, cannot fully explain the observed increases. This suggests an important role for shifts in preferences and other unmeasured factors. Cotter, Hermsen, and Vanneman (2011) and Fortin (2015) provide some evidence on attitudes, although establishing causation in this relationship is challenging, since people may adjust their attitudes in light of their labor force behavior and outcomes as well as vice versa.

A final point to note is that, between 1980 and 2000, female own wage and income elasticities declined substantially in magnitude (Blau and Kahn 2007; Heim 2007). This is of significance in that it has brought female elasticities closer to male elasticities, and, though a gender difference remains, may be interpreted as an indicator that women are coming to more closely approximate men in terms of the role that market work plays in their lives (Goldin 2006; Blau and Kahn 2007).

3.2 Selection and the Gender Wage Gap

Changes over time in female participation rates raise the issue of selection bias (Heckman 1979; Gronau 1974), since data on wages are available only for a self-selected group of labor force participants. As noted above, inclusion in the wage sample requires employment and, depending on the study, there may be additional requirements, for example, being a wage and salary worker (i.e., not self-employed), working full-time, working full-year or a minimum number of weeks in a year, etc. Selection bias is likely to be a more serious issue for women’s than men’s wages because the closer the wage sample is to 100 percent of the underlying population, the smaller the selection bias.  


19 See Blau and Kahn (2007) and references therein.

In considering wage differences between men and women, the focus would ideally be on wage offers rather than observed wages; selection bias arises because the latter are influenced by individuals’ decisions about whether or not to participate in the wage and salary sector. Self-selection into the wage sample may take place on either measured or unmeasured factors and both may affect trends in observed wages. Our decompositions in Section 2 and other similar work are able to standardize for shifts in measured factors; however selection on unmeasured factors can bias the estimated coefficients in wage regressions and potentially result in misleading estimates of levels and trends in adjusted gender wage gaps. If inclusion in the wage sample is selective of those with higher (lower) wage offers, the mean of observed wages will be higher (lower) than the mean of wage offers. And, further, there are plausible scenarios under which the magnitude and even the sign of the selection bias may change over time. For example, intuitively we would expect changes in labor force participation rates to change the extent of selection bias and, as we have seen, not only have female participation rates increased over time, the pace of the increase has varied, with rapid rises prior to 1990, followed by slower growth and eventual plateauing thereafter. Moreover, as Mulligan and Rubinstein (2008) point out, selection patterns may change over time even in the absence of changing participation rates with, for example, changes in skill prices. Or, as another example, Blau and Kahn (2006) point to changes in public policies, specifically welfare and the Earned Income Tax Credit (EITC), as affecting selection in the 1990s. Thus, the direction of any potential selection bias on either wage levels or trends is unclear a priori.

Does selection produce misleading estimates of levels and trends in gender wage gap and is the effect sizable? The evidence on this is mixed. Blau and Beller (1988) examine the impact of selection bias on the trends in the gender earnings gap over the 1970s (1971-81), using a standard Heckman 2-step selectivity bias correction for both the male and female wage equations. The first stage was identified by the inclusion of the individual’s nonlabor income, a dummy for whether s/he was age 62 or over (and hence entitled to early social security benefits), and the number of family members who were aged 18-64. Demographic variables such as marital status and number of children that are sometimes used to identify the selection correction were included in the wage equation as well as the selection equation.

Blau and Beller found that, while published data on the median earnings of year-round, full-time workers showed little change in the gender pay gap during the 1970s, expanding the sample to include all workers (i.e., part-year and part-time) and using a regression approach to standardize for weeks and hours worked increased the estimate of earnings gains in an OLS context. When they corrected for selectivity bias, they found that wage offers resulted in substantially higher estimates of wage gains for white women relative to white men than did observed wages. Although the effect of the selectivity bias correction was to lower the estimated increase in the earnings ratio for blacks, the coefficients on the selectivity variables were not significant.

Blau and Kahn (2006) examined the gender wage gap over the 1979-98 period, using wage data from the PSID for 1979, 1989 and 1998. They adjusted for selection in several stages. They began by progressively expanding their wage sample, first by adding part-time workers to their base sample of full-time workers; then, for those still lacking wage observations, by using the longitudinal nature of their data set to recover real wages for the most recent year available in a four year window. For the remaining individuals, in the spirit of Neal and Johnson’s (1996) and Neal’s (2004) analyses of black-white wage differentials, they estimated median regressions and included some additional individuals by making assumptions about whether they placed above or below the median of real wage offers. Specifically, they assumed that individuals with at least a college degree and at least eight years of actual full-time labor market experience had above median wage offers for their gender, and that those with less than a high school degree and less than eight years of actual full-time labor market experience had below-median wage offers for their gender.

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21 Similarly in his comparison of black and white wages for women, Neal (2004) points out that selection may operate differently even for two groups that have roughly similar participation rates.
For each year, Blau and Kahn (2006) find that selection bias is positive, i.e., that the raw and human capital adjusted gender gap in wage offers is larger than the corresponding gaps for observed wages. However, their results suggest that the direction of the selectivity effect on wage growth differed between the 1980s and 1990s. In the 1980s, convergence was slower after correcting for selection; however, in the 1990s, convergence was faster after the correction. They argue that the results for the 1980s are consistent with evidence that employment gains for married women were largest for wives of higher-wage men who themselves are likely to be more skilled (on both measured and unmeasured characteristics), while the pattern for the 1990s may reflect the large entry of relatively low-skilled, female single-family heads during this decade (as we have seen increases in married women’s participation rates had slowed), which has been linked to changes in welfare policies and the expansion of the EITC (e.g., Meyer and Rosenbaum 2001). For the 1979-98 period as a whole, their results suggest the selectivity adjustment had a nontrivial but small impact on the trends in either the unadjusted or adjusted differential.

In contrast Mulligan and Rubinstein (2008) obtain a much more significant role for selection in accounting for the convergence in observed wages between 1975-79 and 1995-99. Using data from the Current Population Survey and focusing on workers employed full time and full year, they implement two approaches: a Heckman 2-step estimator and an identification-at-infinity method. Their Heckman 2-step estimator is identified by inclusion of number of children aged 0-6 interacted with marital status in the first stage. The identification-at-infinity method entails estimating some of the wage equation parameters on a sample that is selected based on observed characteristics such that nearly all of the sample is predicted to be employed full time and full year. In most cases they find virtually no evidence of closing of the gender wage gap once selection has been accounted for. Mulligan and Rubinstein (2008) explain their findings in terms of rising wage inequality that has increased the returns to skill. In response, women with less human capital may drop out of the workforce, while those with more human capital may enter. While it is possible to control for some indicators of human capital in their CPS data (e.g., formal education), it is also quite possible that some indicators are unmeasured, giving rise to a change in the composition of the female workforce based on unmeasured characteristics and hence an important role for the selectivity bias adjustment. Consistent with this story, they find that selection of women into the full-time, full-year workforce was negative in the 1970s and shifted to positive in the 1990s.

Finally, Jacobsen, Khamis and Yuksel (2014) estimate wage equations for each year in the 1964-2013 period using March CPS data in order to construct a measure of lifetime earnings. Using a similar method and specification to that in Mulligan and Rubinstein (2008), they find increasingly positive selection into employment toward the end of their sample period, like Mulligan and Rubinstein (2008). However, in contrast to Mulligan and Rubinstein’s (2008) wage results, they find that the gender gap in lifetime earnings closed in the 1980s although it then stopped converging. These findings for lifetime earnings are broadly similar to the adjusted wage trends reviewed in Section 2.

Possible selection bias in measuring the gender wage gap is an important and complex issue. Thus, it may not be surprising that efforts to address it have not yet achieved a consensus. Some differences arise because each of the reviewed studies not only focuses on a different data set or time period, but each uses a different approach to correcting for selection or implements it differently—including different definitions of the wage sample and different specifications of estimating equations. The PSID (used by Blau and Kahn 2006 and our data source in Section 2) permits a control for actual labor market experience, which will perforce be an unmeasured factor in a study based on the CPS (e.g., Blau and Beller 1988; Mulligan and Rubenstein 2008, and Jacobsen, Khamis and Yuksel 2014), which does not contain this information. More fundamentally, available approaches to correcting for selection bias each have their own strengths and weaknesses. One issue raised by estimation of the Heckman 2-step estimator is that an exclusion restriction (i.e., a variable that affects labor supply but does not affect wages) is needed (or at least desirable). The studies employing this approach reviewed here based identification on variables that could be argued to directly affect wages (such as nonlabor income in the
case of Blau and Beller 1988 or marriage and children in the cases of Mulligan and Rubinstein 2008 and Jacobsen, Khamis and Yuksel 2014). Moreover, while it doesn’t require exclusion restrictions, the identification-at-infinity method used by Mulligan and Rubinstein (2008) raises some concern because the experience of the groups identified as having a high probability of year-round, full-time employment may not be representative of the larger male and female wage samples.22 Finally, while the approach used by Blau and Kahn (2006) of adding observations above and below the median based on high-education, high-experience or low-education, low-experience does not raise identification issues, it does require the assumption that the wage offers for the identified groups are above median or below median, conditional on their measured human capital levels. This is an assumption that may reasonably be questioned, particularly at the high end.23

Thus, we see the issue of selection bias as an area where continued research, and perhaps new methodologies are needed to resolve the debate,24 though we note that with the substantial upgrading of women’s education, experience levels, and occupations that we documented in Section 2, it seems highly likely to us that unadjusted gaps, at least, have failed to rise.

3.3 Education and Mathematics Test Scores

Education is an area which has seen a reversal of the gender differential, as our analysis of the PSID in Section 2 showed. In the United States, traditionally, men were more likely than women to go to college and beyond. So, for example, in 1971, women received 43 percent of associate and bachelor’s degrees, 40 percent of master’s degrees, 14 percent of Ph.D.s, and 6 percent of first professional degrees (awarded in post-college professional training programs, including medicine, law, dentistry, pharmacy, veterinary medicine, and theology). By 1980, women had caught up to men in college graduation and subsequently they have surpassed them. As of 2011, women earned 57 percent of bachelor’s degrees and 62 percent of associate degrees. There have been comparable gains at the post-graduate level—with women receiving 61 percent of master’s degrees, 51 percent of Ph.D.’s and 49 percent of first professional degrees (Blau, Ferber and Winkler 2014, Chapter 8).25 The broad outlines of these trends prevail across the economically advanced nations and many developing countries as well (Goldin, Katz and Kuziemko 2006, and Becker, Hubbard, and Murphy 2010).

In addition, the type of education women receive has changed toward more mathematics and career-oriented programs. Substantial gender differences in college majors remain, but college majors are considerably less gender segregated than they were in the 1960s (Blau, Ferber, and Winkler 2014, Chapter 8). Much of these gains were achieved by the 1980s, however, with less progress since then

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22 For example, Mulligan and Rubinstein (2008) find that when the sample is restricted to those with characteristics that predict a .8 or higher probability of being employed, it includes .8% (1970s), .5% (1980s), and 1.2% (1990s) of the white female full time, full year observations. This amounts to roughly 300 female observations per five year CPS cross section.

23 Blau and Kahn argue that this assumption is more likely to be valid for the group with low-education, low-experience group (placed below the median). When they repeat the analyses adding only the low-education, low-experience group, their results are virtually identical.


25 These figures are based on published data from the Department of Education. In 2011, women also received 46 percent of master’s degrees in business, which are not included in the tabulation of first professional degrees in the Department of Education data.
England and Li 2006; Bronson 2013). Significantly, women continue to lag in the STEM (science, technology, engineering and mathematics) fields, particularly in mathematically-intensive fields (Ceci, Ginther, Kahn, and Williams 2014). And gender differences in college major have been found to be an important determinant of the pay gap between college-educated men and women (Black, Haviland, Sanders and Taylor 2008).

As relatively more highly educated female cohorts have replaced earlier ones, women have now become more highly educated than men in the overall population (Blau, Ferber, and Winkler 2014, Chapter 8). The female advantage is particularly evident in the labor force (see Section 2), which is still more highly selected on education for women than for men. The reasons why women have overtaken men in education are not fully understood but seem to take in both pecuniary and nonpecuniary factors. The edge men traditionally enjoyed in college and beyond could be rationalized within a human capital investment framework. Women’s shorter expected worklife reduced their gains to investing in large amounts of formal schooling, although other factors, including familial attitudes, social gender norms, and discrimination by educational institutions could be factors as well. From the human capital perspective, women’s rising labor force attachment is expected to raise the returns to their investment in higher education and thus to narrow the educational gender gap. Working in the same direction, reductions in occupational segregation associated with the increased entry of college women into higher-paying, formerly male managerial and professional jobs likely provided a further economic incentive for women to invest in college; of course, rising college attendance by women increased their likelihood of qualifying for high level positions as well. These employment gains likely reflect, at least in part, the government’s antidiscrimination in employment effort spearheaded by the enforcement of Title VII of the Civil Rights Act and the implementation of Affirmative Action for government contractors (evidence on this is discussed in Section 5).

A number of additional factors likely contributed to the increase in women’s educational attainment. First is the development of “the pill” and its growing availability to young, unmarried women beginning in the late 1960s and early 1970s. The availability of the pill was associated with and facilitated a delay in marriage and childbearing, which in turn enabled women to pursue professional training after college (Goldin and Katz 2002 and Bailey 2006). Second, passage and enforcement of Title IX of the Civil Rights Act, which banned discrimination in educational institutions, leading to changes in admission and other practices that facilitated and encouraged women’s increased participation in higher education. Third, social norms and views on gender appropriate education investments most likely also changed. Finally, as Goldin, Katz, and Kuziemko (2006) show, girls were well positioned to increase their college attendance in terms of their high school grade point averages and class rank, which surpassed those of boys even during the era in which boys’ college-going exceeded girls’. Moreover, while girls’ high school preparation and test scores in science and mathematics initially lagged those of boys’, these gaps were reduced as girls’ expectations of attending college increased.

While the above considerations may help to explain why women have caught up to men in education, or at least why they have reduced the gender education gap (since women’s expected labor force attachment is still less than men’s), women’s surpassing men is more puzzling—especially since, as noted earlier, this is an international phenomenon. A number of possible explanations for this have been offered, and all may play a role to some extent.

First, a college education not only increases own income but also results in family-related income gains due to assortative mating. Such gains are likely to be larger for women than men, since, in the

26 Decreases in occupational segregation were especially pronounced among the college educated (Blau, Brummund, and Liu 2013a and b). It is unclear whether the college wage premium is higher for women than men. Earlier work by Dougherty (2005) and others suggested that returns measured in this way were higher for women, but Hubbard (2011) presents evidence that this is not the case when topcoding in the major data set used in these studies, the CPS, is corrected.
majority of couples, men are still the higher earners. Moreover, college-educated women have lower divorce rates and a lower incidence of out-of-wedlock births, making them less likely to become lower income, single family heads. To the extent this association is causal, this factor would also increase family-related returns to college more for women than men. DiPrete and Buchmann (2006) find that such family-related income gains (adjusted for family size) increased more for women than for men, suggesting that this may be part of the reason for the increase in women’s college-going. Further, in the event of a divorce, Bronson (2015) argues that college provides insurance value and presents evidence that this consideration helps to explain the growth in women’s college attendance.

Second, there are gender differences in noncognitive skills—for summaries and discussions, see Goldin, Katz and Kuziemko (2006) and Becker, Hubbard, and Murphy (2010)—that suggest girls have lower nonpecuniary costs of investing in college than boys. For one thing, as noted earlier, girls have traditionally excelled relative to boys in secondary school academic performance and this was the case even when they were less likely than boys to go to college. This suggests that girls find school less difficult or unpleasant than boys. There is evidence, for example, that boys spend much less time doing homework than girls (Porterfield and Winkler 2007). In addition, boys have a much higher incidence of school disciplinary and behavior problems, ranging from minor infractions to school suspensions and participation in criminal activity, and boys are also two to three times more likely to be diagnosed with attention deficit hyperactivity disorder (Goldin, Katz and Kuziemko 2006). The reasons for these gender differences have not been fully determined but one factor suggest by Goldin, Katz and Kuziemko (2006) may be the later maturation of boys. Regardless of their source, to the extent that females have lower total (pecuniary plus nonpecuniary) costs of investing in education on average than males, they will have a larger response to given increases in the benefits of college.

Becker, Hubbard, and Murphy (2010) also focus on noncognitive skills but emphasize gender differences in their distribution. They present evidence that the variance in noncognitive (or what they call nontraditional) skills is smaller for women than men, suggesting that under some circumstances the elasticity of supply to college will be higher for women than men. This depends on the location of the relevant portion of the distribution of costs. If, as appears likely, the relevant portion is close to the mean of costs, the density of individuals that can respond to an increase in benefits is larger for a lower-variability distribution that peaks around the mean—as is the case for women. If women have a higher elasticity of supply to college, then even for equal changes in the benefits, women can overtake men in college attainment.

Gender differences in one cognitive skill, mathematics, have gotten particular attention. A gender differential in mathematics ability and preparation as indicated by test scores is potentially linked to gender differences in wages and occupations. Traditionally, U.S. males have had higher average mathematics test scores than females, as well as higher representation at top performance levels. As noted earlier, the gender difference in math scores has narrowed as high school curricula of boys and girls have gotten more similar. Indeed, some evidence indicates that boys no longer have higher average math test scores during their high school years than girls. However, there is continuing evidence of a gender difference at top performance levels, with males outnumbering females at the very high ranges of science and math tests, and females outnumbering males at the very high ranges of reading and language tests (e.g., Pope and Sydnor 2010). The male advantage at the upper end of math test scores has been cited as a factor in the underrepresentation of women in STEM fields, although this contention has been the focus

27 Hyde, Lindberg, Linn, Ellis, and Williams (2008); this study used data from state assessments of cognitive performance. However, Fryer and Levitt (2010) continue to find a gender gap at the high school level using the Early Childhood Longitudinal Study Kindergarten Cohort, which is a sample of children entering kindergarten in 1998. Both studies are critical of SAT data since the pool of students taking the test is not representative of the full population and selection into the test may differ by gender.
of considerable debate.28 Of particular interest, a significant strand of recent research focuses on the social determinants of these differences and implicitly asks whether gender differences in math performance may be influenced by educational policy and other environmental factors.

Evidence that social influences matter comes from a variety of sources. For example, several studies document considerable geographic variation in the gender gap in measured mathematics ability at the mean and at the top levels of performance, both within the United States (Pope and Sydnor 2010) and across countries (Guiso, Monte, Sapienza, and Zingales 2008; Fryer and Levitt 2010; Nollenberger, Rodriguez-Planas, and Sevilla 2014; Hoffman, Gneezy, and List 2011). In addition, the falling gender gap in math performance mentioned earlier also suggests that gender differences in math scores are affected by environmental factors. Moreover, the framing of the test can affect females’ performance, as found by Spencer, Steele, and Quinn’s (1999) research on stereotype threat: they found that women did as well as men on a difficult math test if they were told that men and women tended to do equally well; however, if women were told that women tend perform less well than men, then they did worse than men on the test. And, in some cases, teachers may discriminate against girls in their assessment of math tests, as found by Lavy and Sand’s (2015) study of Israeli schools.

Is the gender gap in math test scores sufficient to account for an important portion of the gender pay gap? In her study of the impact of psychological factors on the gender pay gap, Fortin (2008) estimated wage regressions for two cohorts (the National Longitudinal Study of the High School Class of 1972-NLS 72- and the National Education Longitudinal Study of 1988-94—NELS 88) and controlled for their scores on a math test taken while they were seniors in high school. Fortin’s (2008) focus was on the impact of psychological factors, but her inclusion of math scores in her wage regressions allows us to assess their quantitative importance.29 Her tabulations show that, while males outscored females on the math test, consistent with our earlier discussion, the gap in standardized scores was smaller for the later cohort. For workers in their mid-twenties in the earlier cohort, in 1979, the difference in scores accounted for 4.4% of the raw pay gap (of 0.237 log points) not controlling for completed schooling, and 3.0% controlling for completed schooling.30 For workers in their mid-twenties in the later cohort, in 2000, the effects were much smaller: 1.4% of the raw pay gap (of 0.181 log points) not controlling for completed schooling, and 0.7% controlling for schooling. Notably, these small effects do not control for occupation, which is a likely route through which math ability can affect earnings. Thus, differences in math scores do not appear to account for much of the raw gender pay at a point in time. However, our calculations based on the Fortin study suggest that the declining gender difference in math scores between the two cohorts can account for 10-14% of the 0.056 log point decrease in the gender wage gap across cohorts.

### 3.4 Labor Force Experience and Work Hours

In this section we focus on the empirical literature that illuminates the importance for the gender wage gap of work experience and work hours. Dating from the seminal work of Mincer and Polachek

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28 For example, while Hyde et al. (2008) note the slightly greater variance of male test scores in their data, they argue that gender differences along this dimension are “are insufficient to explain lopsided gender patterns in participation in some STEM fields.” In their extensive review, Ceci, Ginther, Kahn and Williams (2014) are also skeptical that math differences can account for the gender underrepresentation in math intensive fields. For an early study delineating the relationship between mathematical ability and field choice and its relationship to male-female differences in earning and occupations, see Paglin and Rufolo (1990).

29 We multiply the gender gap in the test score by the estimated wage coefficient on the test score, which comes from a regression that pools men and women.

30 These regressions control for part-time employment, experience, and personal characteristics (race, marital status, and presence of children), as well as a number of noncognitive traits (self-esteem, external locus of control, importance of money/work and family/people). However the estimated effect of math score is similar in the fully specified model when the noncognitive traits are excluded.
(1974), gender differences in experience and labor force attachment have been seen as central to the understanding of the gender wage gap. Under a traditional division of labor by gender in the family, women will anticipate shorter and more discontinuous work lives as a consequence of their family responsibilities; they will thus have lower incentives to invest in on-the-job training than men. Their resulting smaller human capital investments and reduced labor market experience will lower their relative earnings. Human capital depreciation during workforce interruptions will further lower the wages of women upon their return to market work. Women are also expected to choose occupations for which human capital investments are less important and in which the skill depreciation that occurs during time spent out of the labor force is minimized (Polachek 1981).

Further insights are obtained by distinguishing between general training (which is transferable across firms) and firm-specific training (which imparts skills which are unique to a particular enterprise). Women will especially avoid jobs requiring large investments in firm-specific skills because the returns to such investments are reaped only as long as one remains with a particular employer. At the same time, employers are expected to be reluctant to hire women for such jobs because they bear some of the costs of firm-specific training. (Since general training is transferable, a simple model predicts that employees will bear the costs and reap the returns to such training, although under certain circumstances firms may share the costs and benefits here as well; see Acemoglu and Pischke 1999). Such employer behavior would be consistent with models of statistical discrimination where, given employer uncertainty about worker productivity or stability, firms may discriminate against groups like women or minorities based on real or perceived average differences (Phelps 1972; Aigner and Cain 1977; Royalty 1996). As Altonji and Blank (1999) point out, such discrimination is plausible given evidence that firms face uncertainty about the productivity of their workers.

Recent work by Goldin (2014) continues to highlight the role of workforce interruptions in lowering women’s wages but outlines a different mechanism for this effect. Goldin (2014) analyzes the impact of interruptions in the context of a broader analysis of the impact of temporal flexibility (or the lack thereof) in impacting the gender wage gap. In particular, she focuses on the disproportionate rewards in some occupations/firms for working long hours and particular hours. Her main focus is on hours of work, but as she notes, interruptions can also be analyzed in this context. She argues that the explanation for a high wage penalty for temporal flexibility can best be understood through the lens of personnel economics rather than human capital theory. In particular, she sees such pay differences as arising because of differences across workplaces in the value of long hours rather than of differences across individuals in amounts of human capital. The result is a classic compensating differential equilibrium à la Rosen (1986). Workers place different values on temporal flexibility (with women placing a higher value than men) and firms or sectors confront different cost to providing it—workers sort across workplaces accordingly.

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31 See Becker (1993, 1st ed. 1964) for this distinction and Blau, Ferber, and Winkler (2014) for a graphical development of its application to gender differences in on-the-job training investments.

32 See, for example Farber and Gibbons 1996; and Altonji and Pierret 1997; or, more recently, Kahn (2013) and Kahn and Lange (2014).

33 In related work, Cha and Weeden (2014) examine the role of an increase in the prevalence of long (50 or more) work hours and the rising returns to long hours in slowing convergence in the gender wage gap during the 1979-2009 period. They find that this factor worked to increase the gender wage gap by about 10 percent of the total change over this period—mainly due to the rising return to long hours (the gender gap in the incidence of long hours was relatively constant). This factor was particularly important in managerial and professional occupations.

34 Flabbi and Moro (2012) build a search model in which women’s demand for flexibility leads to the kind of compensating differential Goldin (2014) discusses. Interestingly, Flabbi and Moro (2012) define flexibility as having a part time job, explicitly making the connection between work hours and flexibility.
Goldin points to (and presents empirical support for) the importance of occupational characteristics that make providing flexibility extremely costly in some sectors and relatively inexpensive in others. So, the wage penalty for flexibility is likely to be high in jobs that require meeting deadlines (time pressure), being in contact with others to perform the job, maintaining and establishing interpersonal relationships, adhering to preset schedules, and doing work for which other workers are not close substitutes. As an example, there may be a high penalty to shorter hours or workforce interruptions for lawyers at a large, high-powered firm, not because of the smaller amount of human capital acquired by those working fewer hours or the depreciation of their human capital stock during time out of work, but rather due to interruptions in servicing clients and the inability to smoothly hand over work to other employees. We shall return to her findings below in the context of our discussion of individual occupations.

The Goldin analysis is interesting in itself and also highlights that findings showing returns to long hours and labor market experience and penalties to workforce interruptions are susceptible to other interpretations than human capital. In addition to the factors that Goldin highlights affecting the costs of providing flexibility, others include signaling—longer hours and workforce continuity may signal greater willingness to work hard, as well as greater motivation and commitment—and discrimination. Related to the signaling argument, discrimination may be due to statistical discrimination against the “type” of worker who puts a high premium on temporal flexibility.

As we have seen in Section 2, and as borne out in a wide literature, there is considerable evidence that overall gender differences in labor market experience account for a significant, though shrinking, portion of the gender wage gap, and that decreases in the gender experience gap help to account for the corresponding decline in the gender wage gap that we have observed in recent decades (e.g., Blau and Kahn 1997, Blau and Kahn 2006, O’Neill and Polachek 1993; Gayle and Golan 2012). Our results in Section 2 imply that gender differences in experience explained 24 percent of the gender gap in 1980 compared to 16% of the (considerably smaller) gender gap in 2010, while the declining gender difference in experience accounted for 18-31 % of wage convergence between men and women over the 1980-2000 period.

As we have seen, Mincer and Polachek (1974) also point to a negative effect on women’s wages of workforce interruptions. Some evidence has been found in support of this expectation. For example, Light and Ureta (1995) analyzed young workers over the 1966-84 period and found that the timing of labor market experience accounted for as much as 12% of the unadjusted gender pay gap. However, it is possible that the role of workforce interruptions has diminished as women have become more firmly attached to the labor force. Consistent with this, Blau and Kahn (2013b) find that, although coefficients

35 See, for example, Landers, Rebitzer, and Taylor (1996); see Goldin (2014) for additional references.

36 Bailey, Hershbein, and Miller (2012) explore the role of access to the pill in altering women’s human capital investments (labor market experience and education) and hence lowering the gender wage gap. Weinberger and Kuhn (2010) examine the extent to which the decline in the gender wage gap was associated with changes across cohorts in the relative rate of wage growth after labor market entry (slopes), versus changes in relative earnings levels at labor market entry (levels). They find that the former (plausibly associated with post-school investments including experience) accounts for about 1/3 of the decline, with the remainder associated with changes across cohorts (i.e., each entry cohort faring better than its predecessor).

37 Published government data on tenure (length of time with a particular employer) also indicate a precipitous drop in the gender gap. In 1966, men’s median tenure was 2.4 years more than women’s; by 2012, the gender gap had fallen to only 0.1 years. And the share of long-term workers, those with tenure of 10 or more years, was only slightly higher for men (35 percent) than for women (33 percent). See, U.S. Department of Labor, Bureau of Labor Statistics, “Job Tenure of Workers, January 1966,” Special Labor Force Report No. 77 (1967); and U.S. Department of Labor, Bureau of Labor Statistics, “Employee Tenure in 2012,” News Release (September 18, 2012), available at http://www.bls.gov/news.release/pdf/tenure.pdf (accessed December 1, 2012). Note median tenure data are for workers 16 and over; the share of long tenure is for workers 25 and over.
on variables measuring time out of the labor force are generally negative (though not always significant), estimates of the unexplained gender wage gap are not sensitive to their inclusion, not only in 1999, but in 1990 and 1980 as well. Their data from the Panel Study of Income Dynamics did not permit them to look at the timing of interruptions, but Spivey (2005), using data from the National Longitudinal Survey of Youth 1979, found that timing of experience can explain only a negligible portion of the gender wage gap among workers observed over the 1979-2000 period.

The foregoing results suggesting a relatively small and diminished role for workforce experience and interruptions in explaining the gender wage gap currently are for the labor market as a whole. In contrast, recent influential work has highlighted the particular importance of labor force experience, interruptions, and hours worked in some occupations, including business and professions like law, where work histories and current hours seem to be a particularly important determinant of gender wage differences. Also of interest are findings from Goldin (2014) that point to the high penalty for flexibility in some high wage occupations. This work is of particular interest in that the findings are applicable to the upper end of the wage distribution where, as we have seen, the gender wage gap has declined more slowly than at other regions.

Looking first at lawyers, Noonan, Corcoran, and Courant (2005) focused on two cohorts of graduates of the University of Michigan Law School 15 years after graduation; the first cohort was surveyed between 1987 and 1993 and the second between 1994 and 2000. The results for the two cohorts were quite similar. The gap in pay between women and men was found to be relatively small at the outset of their careers, but 15 years later, men earned over 50 percent more. A considerable portion of this difference reflected choices that male and female workers made, including the greater propensity of women lawyers to currently work shorter hours and to have worked part time in the past or to have taken some time out after child birth. Also important was job setting (type and size of employer).

Bertrand, Goldin, and Katz (2010) examined earnings of MBAs who graduated between 1990 and 2006 from the Booth School of Business of the University of Chicago (they were surveyed in 2006-2007). Like the study of lawyers, the researchers reported a relatively small gender differential at the outset of the career. However, averaged across the full set of MBA graduates (individuals who had been out for 1 to 16 years), men earned 0.29 log points (33 percent) more than women. By 10-16 years post-degree, men earned 0.60 log points (82 percent) more. The study found that the gender gap could largely be explained by labor supply factors like weekly hours and actual post-MBA work experience, which were in turn related to career-family tradeoffs.

This research suggests substantial penalties for shorter hours, lesser experience and workforce interruptions among JDs and MBAs. With respect to hours, it should be noted that both of these decompositions focus on annual earnings, leaving open whether the importance of current hours reflects simply a proportional reduction in earnings or an additional hourly wage penalty for shorter hours. Moreover, these results could be seen in the context of the human capital model, and the particular importance of human capital in these occupations. Goldin (2014), however, views such results as more consistent with her analysis of the high penalties to flexibility in these and other high-level occupations, including a convex return to current hours. More generally, for college graduates in the 95 highest

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38 Data are for full-time workers aged 18-65 in the indicated year.
39 Respondents were 14-22 in 1979. Spivey provides a useful review of the literature on the wage effects of workforce interruptions.
40 See also Goldin’s (2014) reexamination of these data that arrives at broadly consistent findings.
41 Goldin (2014) notes that about two thirds of the total penalty from job interruptions among those in the Chicago MBA sample who were 10 to 16 years out is due to taking any time out. Cumulative time not working is only about one year for these women, which would seem a relatively modest interruption to elicit large penalties in a human capital context.
earnings occupations, she found that an index of occupational characteristics associated with high costs of flexibility was positively related to (i.e., increased) the (adjusted) gender log wage gap, as was the estimated elasticity of annual earnings with respect to weekly hours in the occupation. Business occupations and law had high values on the inflexibility index and high elasticities of annual earnings with respect to weekly hours, while technology and science jobs scored much lower on the inflexibility measure and had smaller elasticities. The latter finding is surprising in a human capital context in that it might be expected that human capital acquisition and depreciation of skills would be particularly important in science and technology jobs. As a further contrast to business and law, Goldin provides a case study of pharmacists (see also Goldin and Katz 2012) in which industry developments and technological factors have greatly reduced the costs of flexibility and the gender pay gap has fallen accordingly.

At the other end of the spectrum from long hours among full-time workers is the large gender difference in the incidence of part-time work. For example, among wage and salary workers in 2013, 25.6% of women and 13.0% of men worked part-time, defined as usually working less than 35 hours per week (BLS 2014, p. 27). The gender gap in the incidence of part-time work was slightly larger in 1998, with 25.8% of women and 10.7% of men working part-time (BLS 1999, p. 2). Because part-time workers have lower hourly earnings than full-time workers (Blank 1990; Hirsch 2005), the higher incidence of part-time work among women than among men has the potential to increase our estimate of the overall the gender pay gap compared to the data on full-time workers we presented in Section 2. Recall, however, that when we extended the sample of workers in the PSID to include all wage earners, the conclusions were largely unchanged. Nonetheless, given the greater concentration of women in part-time work, it is instructive to consider wage determination among part-time workers and look explicitly at the extent of the part-time penalty.

A simple economic view of part-time work is similar to that offered by Goldin (2014) described above, namely that it is an amenity for those who value flexibility in their work schedule. Since it may cost firms something to allow workers to choose part-time hours (e.g. additional hiring and training expenses), workers’ desires for flexibility suggest the formation of an equilibrium compensating wage differential for part-time work, in this case a penalty in hourly wages. Some support for this view of part-time work can be seen by noting that, in 2014, of 25.1 million workers who usually worked part-time, 19.5 million (78%) did so for noneconomic reasons, according to the BLS (http://www.bls.gov/cps/cpsaat20.htm, accessed August 9, 2015). 42 Thus, most workers chose part-time work for reasons other than the lack of availability of full-time jobs, although involuntary part-time employment can be important, especially during recessions (Blank 1990). In addition, the possibility of discrimination may influence the family division of labor and lead women to choose part-time employment for some of the reasons listed by the BLS as voluntary (such as child care).

Estimates of the impact of part-time status on wages confront the issue of selection, since the type of worker choosing part-time employment may well have different measured and unmeasured productivity characteristics from full-time workers. While research is not extensive, it does not appear to support the finding of a part-time penalty once measured characteristics and selection on unobservables have been taken into account.

For instance, an early analysis of the part-time penalty by Blank (1990) for 1987 used both instrumental variables and selectivity bias-correction to address the selection problem. She found that, taking into account personal and job characteristics in an OLS regression, led to a 0.21 log point (24%) part-time penalty for women and a 0.30 log point (35%) penalty for men. However, the results were mixed when she took into account selection and she stressed that unmeasured worker and job heterogeneity were likely important in explaining the observed penalty.

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42 Noneconomic reasons included child care, health, family obligations, school attendance, and the like.
An alternative method for addressing selection that does not require exclusion restrictions is to use longitudinal data and individual fixed effects. Using this approach, Hirsch (2005) found for 1995-2002 data that there was a raw 0.22 log point part-time wage shortfall for women and a 0.46 log point part-time shortfall for men. However, after controlling for worker and job characteristics, including occupational skill requirements, in an OLS regression, the estimated part-time penalty fell to 0.09 log points for women and 0.19 log points for men. Thus, most of the observed part-time shortfall in wages was associated with observed worker and job characteristics. Moreover, using the longitudinal nature of the CPS rotation group structure, he found in wage change equations part-time penalties of only 0.015 log points for women and 0.019 for men (the latter estimate was statistically insignificant). Thus, Hirsch (2005) concludes that the observed difference between part-time and full-time workers’ wages is fully explained by measured worker and job characteristics and unobserved worker heterogeneity. Of course, part-time work could adversely affect one’s career progression relative to full-time work, which is a separate issue.

3.5 Gender Differences in Formal Training and Turnover

Considerable empirical evidence supports the prediction of the human capital model that women will receive less on-the-job training than men, although much of it is not very recent (e.g., Altonji and Spletzer 1991; Barron and Black 1993). This finding is consistent with employer and worker decisions based on a lower expected probability of women remaining with the firm or in the workforce. A study by Royalty (1996) is particularly illuminating in that she explicitly examined the role of women’s higher (predicted) probability of turnover in explaining the gender training difference. While Royalty supports the expectation that expected turnover helps to account for the gender difference in training, interestingly, she finds that a major portion of the training gap remains unexplained even after this and other determinants of training are taken into account. This finding, which is analogous to an unexplained gap in an analysis of the gender wage differential is consistent with a role for discrimination, although, as in that case it may also be due to omitted factors.

As in the case of experience, it would be interesting to see this literature updated to account for the impact of rising women’s labor force attachment on the findings. This is especially the case in that younger cohorts of women now have higher educational attainment than men, and more educated workers are believed to get more on-the-job training than less educated workers as implied by their steeper experience-earnings profiles.

Since gender differences in quit behavior can differentially impact the wages and occupations of men and women, it is important to ascertain the extent and sources of such differences. In general, while some evidence suggests that women workers may have higher quit rates on average than men, most of this difference has been found to be due to the types of jobs they are in and the worker’s personal characteristics. That is, all else equal, women are no more likely to quit than their male counterparts. Indeed, it is unclear that even the average gender difference in quitting still prevails. Using data on young workers from the 1987 wave of the National Longitudinal Survey of Youth (NLSY) 1979, Royalty (1998) finds the average probability of staying on the job is not significantly different for men and women.

However, consistent with women placing a greater priority on family responsibilities to the

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43 There are also a number studies that look within industries and occupations and find the part-time penalty is small after accounting for selection, see Hirsch (2005) for a review.

44 In a study using data from the NLSY1979 through 2006, Kosteas (2013) found that, consistent with expectations based on the human capital model, women with more traditional gender role attitudes (as measured in 1979) were less likely to invest in training. While Kosteas did not examine results for men, this finding suggests that gender roles are still relevant for some women.

45 This finding dates back to the first detailed work on this topic by Viscusi (1980) and Blau and Kahn (1981) and is reflected in the findings of more recent studies, e.g., Sicherman (1996); and Royalty (1998).
detriment of their labor market outcomes, evidence indicates that women are more likely to quit their jobs for family-related reasons or to exit to nonemployment, while men are more likely to quit for job-related reasons (Sicherman 1996, Royalty 1998, and Keith and McWilliams 1995), adversely affecting women’s wages relative to men’s (Keith and McWilliams 1995). It would be of interest to see analyses of both quitting and the reasons for quitting updated to see whether the outlines of the earlier findings still hold. In light of the declining gender differences in labor force attachment, it is reasonable to expect that gender differences in quit behavior have further diminished.

3.6. The Impact of the Gender Division of Labor and Motherhood

Traditional gender roles and women’s greater responsibility for nonmarket work may negatively affect women’s labor market outcomes beyond their impact of labor force attachment per se. In this section we first consider the motherhood wage penalty, which has gotten considerable attention in the literature. We then review other ways in which traditional gender roles can reduce women’s relative wages.

Considerable empirical evidence indicates a negative relationship between children and women’s wages, commonly known as the motherhood wage penalty.\(^{46}\) While the observed empirical association could be causal, it could also be due to selection. The selection argument is plausible in that women with lower wage offers will have lower costs of children. However, there are also a number of reasons for expecting a causal effect, beyond an impact on work experience and the incidence of part-time work. First, particularly in the era before parental leave was mandated, but even to some extent today, the birth of a child may cause a woman to break her tie to her current employer, either to withdraw from the labor force entirely or to switch to a more “child-friendly” job. To the extent this occurs, she forgoes the returns to any prior firm-specific training she might have received as well as any returns to having made a particularly good job match. Second, as we have seen, anticipation of this possibility could deter both women and their employers from making large investments in the firm-specific training of women of childbearing age. Third, motherhood may reduce women’s productivity in a variety of ways not readily captured in wage analyses including, for example, less effort expended at work (see, for example, Becker 1985; Albanesi and Olivetti 2009), constraints on work schedules and travel, and reluctance to be promoted to a more demanding job.

A final possibility is that mothers may face discrimination and there is persuasive experimental evidence from Correll, Benard, and Paik (2007) that this is the case. In this study, the authors first conducted a laboratory experiment in which they asked student evaluators to assess résumés of equally-qualified same-sex (female or male) job applicants who differed only as to parental status. Mothers were perceived by evaluators as less competent and less committed to paid work and lower starting salaries were recommended for them. In contrast, the evaluators did not penalize men for being fathers; indeed, they perceived fathers to be more committed and recommended higher starting salaries for them. Correll, Benard, and Paik (2007) further confirmed their lab findings using a field experiment in which they sent résumés and cover letters from fictional, equally-qualified, same-sex applicants to employers advertising for job openings. They found that prospective employers called mothers back only about half as often as nonmothers, while fathers were not disadvantaged in the hiring process, although, in contrast to the lab experiment, fathers were not advantaged relative to nonfathers. (However, a recent experimental study in academic labor markets by Williams and Ceci (2015) did not show a motherhood penalty; we discuss this study further below.) To the extent such discrimination against mothers exists, it could be due to statistical discrimination based on employers’ perceptions of average differences in productivity between mothers and nonmothers.

\(^{46}\) For a recent review of the literature and comparative findings across economically advanced countries see, Sigle-Rushton and Waldfogel (2007). Early influential treatments include, Fuchs (1988), Korenman and Neumark (1992), and Waldfogel (1998).
There has also been some research focusing on the impact of family status on men’s wages, with most of the focus on the observed strong positive association between marriage and male earnings controlling for measured characteristics. Here again the question arises as to whether this relationship is causal and, if so, why. The possibility that it reflects selection is intuitively plausible in that, even today, men tend to be the primary wage earners in most families. This gives women a considerable incentive to select spouses with higher earnings potential. There are, however, also reasons for expecting that the relationship to be causal. Specialization in the family à la Becker (1981, enlarged edition 1991) allows married men to focus on the market while their wives have primary responsibility for nonmarket production. Related to this, traditional notions of gender roles which view the husband as the primary earner may increase married men’s effort and motivation and hence their wages. It is also possible that employers discriminate in favor of married men—this is hinted at by the findings on parental status discussed above. Overall, as in the case of the motherhood wage penalty, the empirical evidence suggests that some portion of the observed relationship is causal.47

As noted earlier, women’s generally greater nonmarket responsibilities could impact labor market outcomes in a number of ways. Becker’s (1985) theoretical analysis focused on the longer hours that married women and mothers tend to spend in these activities which could reduce the effort that they put into their market jobs, controlling for hours, and thus decrease their hourly wages compared to men. Indeed, it is has been found that additional hours spent in housework are associated with lower wages, all else equal, although results are stronger for married women than married men (see, e.g., Hersch and Stratton 1997 and 2002). The Hersch and Stratton studies pay careful attention to endogeneity by estimating instrumental variable and fixed effect models. An interesting result in Hersch and Stratton (2002) links the strength of the negative effects to the type of housework that women are typically more likely to perform—routine tasks like meal preparation, cleaning, shopping, and laundry—that are more likely to be engaged in on a daily basis and that, the authors argue, are more likely to interfere with market productivity.

Another factor identified by research in this area is the location of the family (see early work by Frank 1978, Mincer 1978, and Sandell 1977). To the extent that families place priority on the husband’s, rather than on the wife’s, career in determining the location of the family, her earnings are likely to be decreased. She may be a “tied mover,” relocating when it is not advantageous for her to leave a job where she has accumulated firm-specific training or that is a particularly good match. Alternatively, she may be a “tied stayer,” unwilling to relocate despite better opportunities elsewhere. This pattern need not merely reflect adherence to traditional gender roles. It is economically rational for the family to place greater emphasis on the employment and earnings prospects of the larger earner (generally the husband) whose gains to migration may outweigh any losses of the spouse who is a tied mover. Cooke, Boyle, and Couch (2009) present recent evidence that this is indeed still the case on average, i.e., that migration is associated with a significant increase in total family earnings, despite declines in women’s earnings.

Anticipation of a lesser ability to determine the geographic location of the family may also lead women to select occupations in which jobs are likely to be readily obtained in any labor market, thus constraining their occupational choices to geographically flexible jobs. As Benson (2014) points out, even as women have entered higher-level, traditionally-male occupations in recent years, their entry into the more geographically-dispersed occupations (e.g., physicians, accountants, pharmacists, and managers) has been considerably greater than the more geographically-clustered (e.g., specialized engineers and physical scientists). In light of the examples offered by Benson, this factor may play a role in women’s lower representation in STEM fields—it would be interesting to know if being geographically clustered is a general characteristic of such jobs.

47 For useful reviews of the literature, see, Ribar (2004) and Rodgers and Stratton (2010). For an early influential study, see Korenman and Neumark (1992). There is also some evidence that fatherhood increases male earnings, particularly when the mother experiences a workforce interruption (Lundberg and Rose 2000).
Some recent work has elaborated on how location decisions are likely to be affected as some couples, particularly college-educated “power couples,” try to accommodate both careers by making a joint location decision. Costa and Kahn (2000) report that college-educated couples became increasingly located in large metropolitan areas over the 1970-1990 period. They argue that this is because large metropolitan areas offer more potential job matches for both members of the couple. They point to the increase in the share of dual career households among the college educated over this period and note Goldin’s (1997) evidence that the career-orientation of college-educated women also increased. They also note that, if returns to education are higher in larger cities, power couples have a greater income loss of locating outside of them than do other dual career couples. Costa and Kahn show that the concentration of power couples in larger metropolitan areas is greater than for other household types and exceeds what would be predicted for observationally identical single individuals, thus supporting the colocation argument.

On the other hand, Compton and Pollak (2007), using longitudinal data, do not find that power couples (again, in which both spouses have college degrees) are more likely to migrate to larger cities than other couples. Rather, their findings suggest that it is the education (and presumably the earning power) of the husband that principally affects the couple’s propensity to migrate to a large metropolitan area, implying that, even among of power couples, relocations may still adversely affect women’s wages relative to men’s. This is plausible in that, even in power couples, it is likely that the husband is the higher earner, as well as more likely to be in an occupation that is geographically clustered.

3.7 Occupations, Industries, and Firms

In this subsection we consider empirical evidence on the extent and dimensions of employment segregation by sex. The results in Section 2 indicate that, while the share of the gender wage gap due to human capital (education and experience) has declined noticeably, the share accounted for by locational factors like occupation and industry actually increased from 27% of the 1980 gap to 49% of the much smaller 2010 gap. Moreover, although occupational upgrading by women contributed to the narrowing of the gap over this period, much of this effect was offset by adverse (to women) movements in returns to occupations. The firm dimension, not accessible in data sets like the PSID and CPS that were used above, has also been shown to be important. Finally, gender differences in representation across the hierarchies within occupations, as particularly emphasized in discussions of the glass ceiling, constitute another dimension of employment differences that is also generally not captured by these data sets, at least directly. Indirectly, some light on this may be shed by quantile regression analyses focusing at the top, as illustrated by our estimates in Section 2.

Of these dimensions of employment differences, occupational differences between men and women have received the most attention. Gender differences in occupations have been and continue to be striking, although they have declined significantly since 1970. In terms of general outlines, in 1970, women were considerably more concentrated than men in administrative support and service occupations, and a bit more highly represented in professional jobs overall, and particularly in predominantly female professions like teaching and nursing. Men were considerably more likely to be in managerial jobs and much more concentrated than women in blue collar occupations, including relatively high-paying craft and skilled positions. They were also considerably more likely than women to be in predominantly male professions like law, medicine, and engineering. Since 1970, women have reduced (but not eliminated) their over-representation in administrative support and service jobs and made significant inroads into management and male professions. There has been little change in gender differences in representation in blue collar occupations. Further, occupational dissimilarity was reduced by men’s loss of production jobs

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48 They suggest that the location trends delineated by Costa and Kahn are due to higher rates of power couple formation in larger metropolitan areas. They also note that the trend of increasing concentration of power couples in larger metropolitan areas did not continue between 1990 and 2000.
and increased representation in service occupations.\textsuperscript{49}

The Census provides information on some 500+ detailed occupational classifications. The Duncan and Duncan (1955) segregation index provides a useful summary measure, giving the percentage of females (or males) who would have to change jobs for the occupational distribution of women and men to be the same, with a value of 0 indicating no segregation and a value of 100 indicating complete segregation. Early work suggested little change in the extent of occupational segregation prior to 1970 (Gross 1968, Jacobs 1989). Starting in 1970, there was considerable progress in reducing the extent of occupational segregation (Beller 1982, Bianchi and Rytina 1986). For the 1970-2009 period Blau, Brummund, and Liu (2013 a and b) provide estimates based on a comparable set of Census occupational categories for 2000.\textsuperscript{50} They report that the index was 64.5 in 1970 and fell to 51.0 by 2009, a sizable decline from an extremely high initial level. However, the index declined at a diminished pace over the decades, falling by 6.1 points over the 1970s and 4.3 points over the 1980s, but only 2.1 points over the 1990s and just 1.1 points (on a decadal basis) over the 2000s. They also report that trends differed across educational groups: substantial progress was made by highly educated women, who succeeded in moving into formerly male managerial and professional occupations; gains were smaller for less-educated women, reflecting the lack of progress in integrating male blue-collar occupations.

While the overall decline in the segregation was substantial, the 51 percent figure for 2009 indicates that occupational differences between men and women remain large. A sizable literature indicates that female occupations pay less than male occupations for workers with similar measured characteristics (e.g., Levanon, England, and Allison 2009).\textsuperscript{51} Our estimates in Section 2 imply that occupational differences can explain (in an accounting sense) one third of the gender wage gap in 2010. This estimate includes controls for actual labor market experience and industry but is based on only 21 occupations. Nonetheless, it is very similar to Goldin’s (2014) estimate for a number of samples (based on education and labor force attachment) based on the American Community Survey (2009-2011) using the full set of three-digit occupations, but with no control for actual experience (which is not available in the ACS) or industry. Our results in Table 4 also indicate that occupation is the largest single factor accounting for the gender pay gap, with the second being industry (14 categories and government employment) at 18 percent. Taken together occupation and industry differences account for over one half of the gender wage gap. There has been less focus in the literature on industry differences in explaining the gender wage gap.

Another related dimension of employment differences between men and women that has also gotten less attention, perhaps in part due to data limitations, is gender differences in the distribution of employment by firm. An early study by Blau (1977) presented evidence of high levels of employment segregation of men and women by firm within narrowly-defined occupational categories and showed its important contribution to gender wage differentials within occupations. She developed a model in which employer tastes for discrimination against women à la Becker (1971, orig. pub. 1957) are widespread, but the ability to exercise them is constrained by the firm's position in the wage hierarchy, which is

\textsuperscript{49} This discussion is based on Blau, Ferber and Winkler (2014), Chapter 7; 1970 occupational data were converted into Census occupational categories for 2000 using a crosswalk developed in Blau, Brummund and Liu (2013a).

\textsuperscript{50} Their findings are similar to earlier studies for overlapping periods, where available.

\textsuperscript{51} Early studies highlighting the empirical importance of occupational and in some cases industry differences in explaining the gender wage gap include, Fuchs 1971; Blinder 1973; Oaxaca 1973; and Sawhill 1973. For examples of early studies examining the effect of percent female in the occupation on earnings, see Sorensen (1990) and Macpherson and Hirsch (1995); there is also a wide literature in sociology examining this issue, see Levanon, England, and Allison (2009) for a review. More recently some research suggests that “care work”—occupations in which “concern for the well-being of others is likely to affect the quality of services provided”—may pay less ceteris paribus (for a review see Folbre 2012, quotation is from p. 66). Women are disproportionately represented in such jobs.
determined by a variety of institutional and market forces and cannot easily be altered to accommodate employer discriminatory preferences (comparable to the notion of firm effects). Consistent with this model, she found women were concentrated in firms that paid lower wages to both men and women across all occupations, and conversely men tended to be employed at the firms which paid higher wages to both sexes. Subsequent work confirmed the continued importance of differences in the distribution of employment across firms in accounting for overall gender wage differences, although Groshen (1991) finds a larger role for firms than Bayard, Hellerstein, Neumark, and Troske (2003).

With the growing availability of matched firm-worker data, the firm dimension has the potential to become an increasingly active area of research. For example, recent work has considered the role of monopsony in explaining the gender wage gap. A number of studies (discussed in greater detail below) find, consistent with a role for monopsony, that women have lower labor supply elasticities to the firm than men. One of these studies, Webber (forthcoming), uses matched firm-worker data and reports that women’s lower labor supply elasticities are primarily due to cross-firm, rather than within firm, differences in elasticities, suggesting a reason why firms that disproportionately employ women tend to be lower paying overall. As another example, a recent study by Card, Cardoso, and Kline (2014), using Portuguese firm-worker data, investigates the relative importance of sorting across firms (i.e., women’s greater likelihood of working at low wage firms) and within firm bargaining (with women receiving less of the premium men receive in working for high-wage firms) in explaining the gender wage gap. They find evidence that both factors play a role.

Finally, not only do men and women tend to work in different occupations, they also tend to be employed at different levels of the hierarchy within occupations. This is the case in a number of arenas, ranging from business to academia to unions. So, for example, recent data on Fortune 500 companies indicate that, although women are nearly half of managers, they comprise only 14.3 percent of executive officers, and 3.8 percent (19) of CEOs, and hold just 16.6 percent of board seats. Or, in law, women are less likely than men to be employed as partners in large firms (over 50)—as was true for 26 percent of male compared to 14 percent of female 1979-1985 graduates of the University of Michigan Law School fifteen years after graduation (Noonan, Corcoran, Courant 2005). Similarly, in 2012 only 15 percent of AFL-CIO executive council members were women. And, as a final example, in academia, the female share decreases as we move up the ranks—from assistant professors (61 percent) to associate professors (50 percent) to full professors (28 percent) (Blau, Ferber, and Winkler, Chapter 7).

In all these cases, it is difficult to determine whether the scarcity of women at the top is simply due to the fact that women are relative newcomers and it takes time to move up through the ranks (the “pipeline” argument) or whether it represents particular barriers to women’s advancement (i.e., a “glass ceiling”). Moreover, a lower representation of women at higher levels could be due to discrimination or subtle barriers facing women but could also reflect greater work-family conflicts for women that reduce their productivity and/or interest in high level positions.

Nonetheless, there are indicators that at least some of the gender difference reflects discrimination. For example, a number of studies (e.g., Blau and DeVaro 2007, Cobb-Clark 2001, McCue 1996, and Addison, Ozturk, and Wang 2014 for college women), find that women are less likely to be promoted, all else equal, although some do not (e.g., Hersch and Viscusi 1996). For academics, some studies find lower

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probabilities of promotion for women, even after accounting for indicators of qualifications like number
of publications, although results differ by field and gender differences appear to have diminished in recent
years (Ginther and Kahn, forthcoming and Ceci, Ginther, Kahn, and Williams 2014). The possibility of
discrimination is further suggested by studies in both the corporate world (Bell 2005, Shin 2012, Kurtulus
and Tomaskovic-Devey 2012) and academia (Ehrenberg, Jakubson, Martin, Main, and Eisenberg 2012)
finding that women at the lower ranks fare better (in terms of representation or wages) when women are
more highly represented at the higher ranks.54

A study by Gayle, Golan and Miller (2012) on executives finds that women are less likely overall to
become executive managers. However, the authors attribute this difference to women’s greater likelihood
of leaving the occupation; among those who survive in the occupation, the authors find that women are in
fact more likely to be promoted, all else equal. Whether women’s higher exit level is due to
discrimination is, in the authors’ view an open question. We would also point out that, given women’s
higher exit rate, women survivors in the executive labor market may be an especially positively-selected
group, which might suggest that a promotion comparison could understate ceteris paribus gender
differences.

Whatever the sources of the women’s lesser representation at the top, research suggests it can
have substantial consequences for gender wage differences. For example, our own data analyses in
Section 2 indicated that gender wage gaps at higher levels of the wage distribution were larger and
declined more slowly over time than at lower levels. And, as we noted, this result appears in line with
other research both in the United States and abroad. As another example, Bertrand and Hallock’s (2001)
study of gender differences in pay among the five highest-paid executives in S&P 1500 firms found that
the 2.5 percent of executives in their sample who were women earned 45 percent less than their male
counterparts. This was partly due to female executives being younger and thus having less seniority.
However, three-quarters of the gender pay gap was due to women managing smaller companies, as well
as their lower likelihood of being the CEO, chair, or president of their company.

3.8. Theoretical Perspectives on Labor Market Discrimination

To the extent that gender differences in outcomes are not fully accounted for by productivity
differences due to gender differences in human capital and other supply-side sources, models of labor
market discrimination offer an explanation. Theoretical work in this area was initiated by Becker’s (1971,
orig. pub. 1957) model of racial discrimination. Becker conceptualized discrimination as a taste and
analyzed three cases: those in which the discriminatory tastes were held by employers, co-workers, and
customers or clients. Under certain circumstances, such discrimination will cause a wage differential
between men and women. Discriminatory employers will only hire women at a sufficient wage discount
that compensates them for the disutility of employing women. Discriminatory male workers will demand
a wage premium to work with women thus raising men's relative wages, and the reluctance of
discriminatory customers or clients to buy goods or services provided by women will make women less
productive in terms of revenue brought in, thus depressing their relative wages.

54 Focusing on the most recent research, evidence of a ceteris paribus female shortfall in promotions is found for
economics and the life sciences, but not for other social sciences and natural sciences.

55 A recent paper by Bertrand, Black, Jensen, and Lleras-Muney (2014) examining the effects of corporate board
quotas for women in Norway found that the reform increased the representation of women on corporate boards and
reduced their pay gap relative to male board members. However, although they found evidence suggestive of a
growing representation of female employees at the very top of the firms’ income distribution (top 5 highest earners),
they did not find evidence of female gains elsewhere in the firms’ income distribution (i.e., they found no evidence
of “trickle down” below the top 5 highest earners).
Becker (1971, orig. pub. 1957) and others (e.g., Arrow 1973) have pointed out that competitive forces should reduce or eliminate employer discrimination in the long run because the least discriminatory firms, which hire more lower-priced female labor, would have lower costs of production and should drive the more discriminatory firms out of business. One answer to why this does not appear to have occurred, suggested initially by Becker himself, is that discrimination will be located in sectors of the economy that are not competitive.

While Becker emphasized monopolistic elements in the product market, a related approach targets monopsonistic power on the part of the employer in the labor market (e.g., Madden 1973; Black 1995). Monopsony could help to explain how discriminatory gender wage differences arise and persist if employers wield greater monopsony power over women than men workers. For this to hold, women's supply of labor to the firm must be less wage elastic than men's. This might seem counter-intuitive at first blush, in that there is clear evidence that women have a larger own-wage elasticity of labor supply to the labor market than men, although, as noted previously, in the United States the gender difference has been decreasing since 1980 (Blau and Kahn, 2007; Heim, 2007). However, a variety of factors could still potentially result in women having a smaller responsiveness to wage changes at the firm level. Perhaps the most intriguing possibility is discrimination itself. Black (1995) develops a model in which search costs give employers a degree of monopsony power. If there is discrimination against women, women will face higher search costs than men, increasing employers’ monopsony power over them.

In addition, models of statistical discrimination (Phelps 1972) were developed, in part to explain the persistence of discrimination in the long run in the face of competitive forces. Such models assume uncertainty and imperfect information; thus differences between groups in the expected value of productivity or in the reliability with which productivity may be predicted may result in differences in the treatment of members of each group. As a consequence, firms may pay women less, exclude them from jobs requiring substantial firm-specific training, or deny them promotions (for promotions, see Lazear and Rosen 1990).

It has been argued that such statistical discrimination (making decisions on the basis of the average characteristics of the group) is consistent with profit maximization and can thus persist in the face of competitive forces. However, Aigner and Cain (1977) contend that such models are no more convincing in explaining the persistence of discrimination than models based on tastes. To the extent that employers' views are correct, the lower expected productivity of women will reduce their wages but women as a group will be paid their expected productivity. This does not constitute labor market discrimination as economists define it, i.e., pay differences that are not accounted for by productivity differences. Moreover, they argue that when employer beliefs regarding average differences are erroneous, discrimination clearly exists but discrimination based on such misperceptions is even less likely to persist in the long run than discrimination based on tastes. However, if women’s productivity is less reliably predicted than men’s, this difference may lead to a productivity shortfall among women if assignment mistakes are important. In this case, even with free entry, a discriminatory differential might persist, although the authors expect that a market for more accurate productivity assessment would arise, reducing such a differential. Finally, although they acknowledge that less reliable predictions of a group's productivity combined with risk aversion by employers could produce a discriminatory differential, a perfectly elastic supply of risk neutral entrepreneurs would be expected to erode discriminatory differentials based on this factor.

In the context of Aigner and Cain’s model, suppose first that employer perceptions are correct— is it appropriate to consider this a form of ‘discrimination’ in any sense? From a normative perspective, the answer may be yes, to the extent that basing employment decisions on a characteristic like sex could

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56 See Manning (2003) for a systematic development of the “new monopsony” literature and its application to the gender wage gap among other issues.
be viewed as inequitable. Indeed, the practice of judging an individual on the basis of group characteristics rather than upon his or her own merits seems the very essence of stereotyping or discrimination. Such behavior is certainly not legal, for example, under antidiscrimination laws and regulations.

Now consider the situation where employer perceptions are incorrect. If statistical discrimination is accompanied by feedback effects, this may be a credible source of persistent discriminatory pay differences (Arrow 1973; Lundberg and Startz 1983). For example, if employers incorrectly expect that women are more likely to quit their jobs, they may respond by giving women less firm-specific training or assigning them to dead-end jobs. Faced with fewer incentives to remain on the job, women may respond by exhibiting the higher turnover that employers expect.

Further insight on the persistence of discrimination is suggested by what Bertrand, Chugh and Mullainathan (2005) have termed implicit discrimination. This is based on findings from social psychologists that discriminatory attitudes and stereotyping may be unconscious (e.g., Fiske 1998)—suggesting that they would not be easily eliminated. Indeed, as gender discrimination has become less socially acceptable, it has likely become less overt and more subtle, as well as unconscious. Finally, as our discussion of statistical discrimination above suggests, discrimination can adversely affect women's human capital investments and labor force attachment by lowering the market rewards to this behavior—i.e., through feedback effects (e.g., Weiss and Gronau 1981).

Models based on tastes for discrimination are consistent with employment segregation, but do not necessarily predict it will occur. If wages are flexible, it is possible that discrimination will result in lower pay for women, but produce little or no segregation. However, if discriminatory tastes against women in traditionally male pursuits are both strong and prevalent, women may tend to be excluded from these areas. If such segregation does occur, it may or may not be associated with gender pay differentials. In the presence of sufficient employment opportunities in the female sector, equally qualified women may earn no less than men. The relationship between occupational segregation and earnings differentials in an otherwise competitive setting is clarified in Bergmann’s (1974) overcrowding model. If potentially equally qualified men and women are segregated by occupation, the wages in male and female jobs will be determined separately by the supply and demand for labor in each sector. Workers in male jobs will enjoy a relative wage advantage if the supply of labor is more abundant relative to demand for female than for male occupations.

3.9 Evidence on Labor Market Discrimination

Empirical research on the extent of discrimination began with work that used regression methods and versions of the Oaxaca-Blinder decomposition discussed above to calculate unexplained female wage shortfalls (i.e., a wage gap not accounted for by gender differences in measured characteristics) as estimates of discrimination. For example, in Section 2, we presented results on the unexplained gap for a number of years based on PSID data. We found an unexplained gender wage gap in each year, although the magnitude of the gap had declined over time. The finding of such an unexplained gap is fairly standard in the literature (for reviews, see e.g., Altonji and Blank 1999, Stanley and Jarrell 1998, and Hersch 2006). Such an unexplained or residual wage gap is often taken as an estimate of labor market discrimination. However, as is well known, such estimates are suggestive, but not conclusive. Discrimination is overstated if men have higher levels of unmeasured productivity (or poorer working conditions). On the other hand, if women are better endowed with unmeasured characteristics on average, as may be the case with some variables, like people skills discussed below, regression methods would understate discrimination. The unexplained gap will also understate discrimination if some of the explanatory variables such as experience, occupation, industry or union status have themselves been influenced by discrimination—either directly through the discriminatory actions of employers, co-workers or customers or indirectly through feedback effects. For these reasons, the literature has moved in the direction of research designs that use various strategies to overcome the problems of traditional
statistical analyses. For example, some studies use samples of men and women such as lawyers or MBAs in which samples are more homogeneous and the controls for qualifications are much more detailed than in commonly-used databases such as the CPS or the PSID. Presumably omitted-variable biases are less severe in such homogeneous samples.\(^{57}\) In addition, experimental research, such as audit studies, tests for discrimination under circumstances where, by construction, men and women have identical qualifications. Finally, we will briefly consider the small number of studies that have tested other predictions of Becker’s (1971, orig. pub. 1957) discrimination model for gender to see whether or not the results are consistent with discrimination.

As noted above, studies applying the same statistical techniques as labor-market wide studies, but focusing on more homogeneous groups of workers like lawyers and MBAs may provide more convincing evidence of labor market discrimination. In addition, given their data sources, they are able to control for detailed characteristics (e.g., grade point averages while in school), not available in broader studies. We have already considered such studies above and found that they also provide deeper insights into the supply-side sources of gender differentials, particularly the important role of hours worked and workforce interruptions in demanding professions. Here we focus on their implications for estimates of discrimination.

One qualification that must be made in interpreting the results of such studies for this purpose is that, when we focus on specific occupations, we introduce an additional element of selection, beyond selection into employment discussed above. The direction of such selection is unclear a priori, however it seems reasonable to us that, when we focus on high-level, traditionally male-oriented professions, women may be a positively selected group relative to men. If this is the case, then studies of such occupational subgroups will understimate the extent of discrimination.

The studies of lawyers (Noonan, Corcoran, and Courant 2005) and MBAs (Bertrand, Goldin, and Katz 2010) referenced earlier find that, even if one accounts for variables related to family status, like work force interruption and fewer hours worked, unexplained gender earnings differences remain which are potentially due to discrimination, although they are of course susceptible to other explanations. In the law study, men earned 11 percent more, controlling for an extensive list of worker qualifications and other factors, including grades while in law school, detailed work history data, and type and size of employer. In the MBA study, men earned nearly 7 percent more even accounting for work force interruptions, fewer hours worked, and gender differences in business school GPAs and finance courses taken.

There has also been research analyzing gender differences in the most mathematically-intensive academic fields (geoscience, engineering, economics, mathematics/computer science and the physical sciences). The findings of this literature have recently been reviewed by Ceci, Ginther, Kahn and Williams (2014). These results are mixed, with some studies finding little gender salary gap in these fields once experience and productivity are controlled for, while others finding that a male salary premium persists even after controlling for these factors.

Given the problems with traditional statistical studies, researchers have been interested in uncovering alternative sources of evidence on discrimination. As noted above, one approach that provides particularly persuasive evidence of discrimination is experiments, either naturally occurring labor market events that may be seen and analyzed as if they were experiments or actual experiments in which the researcher manipulates the treatment so as to test for discrimination, either in the laboratory or in the field. An advantage of experimental studies is that they offer estimates of the role of discrimination that are potentially less contaminated by unmeasured factors. A disadvantage is that they do not yield evidence about discrimination (i.e., the presence or absence thereof) beyond the focal group of the study.

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\(^{57}\) While we believe the findings of such studies are instructive for studying discrimination, we do not mean to imply that the Bertrand, Goldin, and Katz (2010) study which we reference below was designed for this purpose.
This is a rapidly growing research approach and we illustrate the findings by a selection of studies that impart the flavor and show the breadth of these findings.

The first study we consider is Goldin and Rouse’s (2000) investigation of the impact of the natural experiment created when symphony orchestras began to adopt “blind” auditions for musicians in which a screen is used to conceal the identity of the candidate. They found that the adoption of the screen substantially increased the probability that a woman would advance out of preliminary rounds and be the winner in the final round. The switch to blind auditions was found to explain one quarter of the increase in percentage female in the top five symphony orchestras in the United States, from less than 5 percent of all musicians in 1970 to 25 percent in 1996.

A second study, Neumark (1996), was a field experiment or hiring audit. Male and female pseudo-job seekers were given similar résumés and sent to apply for jobs waiting on tables at the same set of 65 Philadelphia restaurants. The results provided statistically significant evidence of discrimination against women in high-priced restaurants (where earnings of workers are generally higher). In these restaurants, a female applicant’s probability of getting an interview was 40 percentage points lower than a male’s and her probability of getting an offer was 50 percentage points lower.

A third experimental study, a field experiment by Moss-Racusin, Dovidio, Brescoll, Graham, and Handelsman (2012) sheds light on possible bias in academic science. Science faculty from the fields of biology, chemistry, and physics at six large, research-intensive universities (three public and three private) were asked to provide feedback on the application materials of (fictitious) senior undergraduate students who they were told ultimately intended to go to graduate school and had recently applied for a science laboratory manager position. Faculty participants rated the male applicant as significantly more competent and suitable for the position than the (identical) female applicant. Participants also set a starting salary for male applicants that was almost $4,000 higher than the salary offered to female applicants, and offered more career mentoring to the male applicants. Female faculty were equally likely to exhibit bias against the female students as male faculty.

A fourth study, by Reuben, Sapenza, and Zingales (2014), implemented a laboratory experiment where some subjects (employers) hired other subjects (applicants) to perform an arithmetic task that, on average, men and women perform equally well. Their findings are consistent with negative stereotyping of women in math-related areas. They found that when employers had no information about applicants other than appearance (which makes sex clear), both male and female employers were twice as likely to hire a man as a woman. The discrimination (sex differential) was similar when applicants self-reported their expected performance, largely because men tended to overestimate future performance (women also slightly underestimated theirs)—and employers did not correct for this. Gender discrimination in hiring was reduced, but not eliminated (i.e., women were still under-hired), when employers were provided with full information about applicants’ previous performance on the task. One very interesting feature of this study is that subjects (employers) were given the Implicit Association Test (IAT), a computer-based behavioral assessment designed to measure implicit or unconscious gender stereotyping or bias. They found that that IAT scores were correlated with the initial bias in sex-related beliefs (when employers only knew the sex of the applicant) and with a bias in updating expectations when performance information was self-reported (i.e., not sufficiently correcting for male overestimation). While, as we have noted, discrimination against women persisted even when information about applicants’ previous performance was available, the extent of such discrimination was not correlated with IAT score.

Fifth, we point to the results of the study by Correll, Bernard, and Paik (2007) summarized above that suggests that women, but not men, face discrimination based on their parental status. Using both laboratory and field experiments, they found that the participants had less favorable views regarding the

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résumés of equally-qualified mothers relative to those of nonmothers, while fathers were not disadvantaged relative to nonfathers. Such a finding suggests discrimination against women based on parental status.

Finally, in a field experiment of university hiring of STEM field faculty, Williams and Ceci (2015) confronted faculty respondents with materials for matched male and female applicants. In their main experiments, subjects received, for each of three shortlisted candidates, a search-committee chair’s narrative summary of the candidate’s credentials (with no curriculum vitae or specifics on publications in order that the same narratives could cover multiple fields and institutions). Importantly, the narratives included the mean numerical rating given by faculty members of the hypothetical department based on research publications, job talk, reference letters, and interviews with individual faculty. Two of the applicants, one male and one female, received an identical highest rating of 9.5, with a third “foil” candidate receiving a lower but still excellent rating. The authors found that the respondents exhibited, on average, a preference for female applicants in biology, psychology, and engineering, and gender neutrality in economics. One difference between this study and the previous ones we have reviewed that found evidence of discrimination is that, as emphasized by the authors, it focused on a select group of applicants, with Ph.D.’s, publications, etc., for tenure-track positions. Williams and Ceci speculate that bias is more likely to arise when applicants’ records are more ambiguous. Even to the extent this the case, it is still of concern that there may be discrimination in opportunities like lab manager or in mathematics tasks that could provide the gateway to STEM fields. However, a concern that we have about the Williams and Ceci setup is that it equalizes the candidates with a specific numerical rating, which seems to us unrealistic in most hiring situations in academia. This in effect experimentally eliminates any discrimination that could take the form of a biased evaluation of qualifications; such a bias may arise in the more realistic situation in which qualifications are appraised by those making the hiring decision.

As we have seen, Becker (1971, orig. pub. 1957) and others (e.g., Arrow 1973) have pointed out that competitive forces should reduce or eliminate employer discrimination in the long run because the least discriminatory firms, which hire more lower-priced female labor, would have lower costs of production and should drive the more discriminatory firms out of business. For this reason, Becker suggested that discrimination would be more severe in firms or sectors that are shielded to some extent from competitive pressures. Consistent with this reasoning, Hellerstein, Neumark and Troske (2002) found that, among plants with high levels of product market power (and hence the ability to discriminate), those employing relatively more women were more profitable. Similarly, Black and Strahan (2001) reported that, with the deregulation of the banking industry beginning in the mid-1970s, the gender wage gap in banking declined. (Deregulation was viewed as increasing competitiveness within the industry.) And Black and Brainerd (2004) found that increasing vulnerability to international trade (i.e., increased competitive pressure) reduced apparent gender wage discrimination in concentrated industries, again as predicted by the Becker model. In a similar vein, Heyman, Svalerty, and Vlachos’ (2013) study based on Swedish worker-firm matched data found evidence that a firm takeover was associated with a reduction in the gender wage gap. They interpret takeovers as a manifestation of competitive pressure.

There is also some evidence consistent with statistical discrimination against women, based on employers’ difficulty in distinguishing more from less career oriented women. So, for example, Gayle and Golan (2012) propose a model in which workers have private information on their costs of participating in the labor force. They show that this asymmetric information is quantitatively important in explaining of the gender pay gap. Similarly, Thomas (2015) proposes a model which shows that if there is asymmetric information about worker’s future labor force participation, the imposition of mandated maternity leave policies can increase the gender gap in promotion. This is because such policies make it more difficult for employers to distinguish between more and less family-oriented women, since they disproportionately raise post-birth employment by the former. Consistent with the model, she presents evidence that the Family and Medical Leave Act of 1993 increased women’s probability of remaining
employed but lowered their probability of promotion and that information asymmetry played a role in producing this result.

Finally, as we discussed above, greater monopsony power of employers over women than men workers provides a possible mechanism for the existence and persistence of a discriminatory gap. This requires greater elasticity of labor supply to the firm for men than women. Evidence on gender differences in labor supply elasticities at the firm level for the United States is mixed. On the one hand, using data from labor force surveys, Viscusi (1980), Blau and Kahn (1981), and Light and Ureta (1992) all find that women's quit rates are at least as wage responsive as men's; Manning (2003) too finds no evidence of lower female separation elasticities in data for the United States and the United Kingdom. On the other hand, Ransom and Oaxaca (2010) report some evidence consistent with the monopsony model as an explanation for gender wage differentials at a chain of grocery stores, as do Ransom and Sims (2010) for schoolteachers in Missouri. Moreover, using economy-wide linked employer-employee data, Webber (forthcoming) finds evidence of lower labor supply elasticities for women. Internationally, Barth and Dale-Olsen (2009) and Hirsch, Schank, and Schnabel (2010) find evidence using matched employer-employee data that men's turnover is more wage-elastic than women's in Norway and Germany, respectively.

4. Norms, Psychological Attributes, and Noncognitive Skills

Labor economists have become increasingly interested in the effect of noncognitive or “soft” skills—including psychological attributes, preferences, and personality—on labor market outcomes and behavior (Heckman and Kautz 2012). This trend has been driven by a number of factors but perhaps most important is that, although considerable evidence supports the importance of traditional economic variables in explaining labor market behavior and outcomes, there is almost always a sizeable component of any behavior or outcome that is not explained by these variables, leading researchers to reach out beyond the confines of traditional economic models for explanations. With respect to gender, intriguing findings suggest a number of psychological attributes that differ between women and men. For example, women have been found to be less willing than men to negotiate and compete and to be more risk averse (for reviews, see, Bertrand 2011; Croson and Gneezy, 2009). Gender differences in such characteristics have been proposed as an explanation for women’s lower wages and lower representation in high-level jobs.

In considering research on gender differences in psychological attributes or noncognitive skills, some cautions must be borne in mind. First, even if men and women do differ on average, it is not possible at this point to know the role of nature versus nurture. We do not attempt to address this fundamental issue here, however, we consider it important that research suggests social factors play a part and have highlighted such findings. Moreover, whatever their origin (nature or nurture), gender differences may still be malleable—so, for example, women may be encouraged to negotiate and given tips on improving their negotiating skills. Second, gender differences in noncognitive skills do not necessarily all favor men. For example, there is some evidence that women have better interpersonal or “people” skills than men (Borghans, ter Weel, and Weinberg 2014). Another area where differences favor women is that, as we saw in our discussion of education, the greater behavioral problems of boys appear to contribute to their lower rate of college going. Also, it should be noted that a particular psychological attribute—like men’s willingness to compete or lower risk aversion—may be an advantage in some settings but a disadvantage in others. In addition, as we shall see below, the same trait may be rewarded differently for men and women, or indeed even be penalized for women when it is rewarded for men.

59 For example, Eckel and Füllbrunn (2015) provide experimental evidence from a financial asset market that female traders are less likely to produce speculative price bubbles.
Finally, much of the evidence on gender differences in psychological attributes has been gleaned from laboratory experiments and there are reasonable concerns about generalizing the results of such experiments outside the lab. And, while confirmation of lab results in the field is suggestive, even in this case, there may be questions about how well the experiment represents what would occur in a real world setting (Harrison and List 2004, and Pager 2007). Moreover, importantly, findings from laboratory or field experiments generally cannot be easily translated into accounting for a particular portion of the gender wage gap. Studies based on survey questions in data sets that include information on respondents’ attitudes and preferences along with other characteristics and labor market outcomes are more promising in this regard but elicit their own sets of concerns about endogeneity and precisely what it is (i.e., what particular trait or traits) one is really measuring.

Capitalizing on two excellent recent reviews (Bertrand 2011; Croson and Gneezy, 2009), we discuss this work selectively. And, in light of the above cautions, we particularly focus on research that contributes to our understanding of the applicability and broader significance of the findings from lab experiments, as well as on research that sheds light on the role of social factors in producing the observed gender differences. To particularly address the gap in our knowledge of the quantitative importance of noncognitive factors, we begin by summarizing survey-based evidence where authors have provided sufficient information for us to compute the contribution of these factors to explaining the gender wage gap. We acknowledge that such studies, still relatively scarce, do not comprise the “last word” on the importance of such factors and discuss the issues such studies confront below. However, we believe it is nonetheless useful to get some indication of the potential impact of such factors.

4.1 Survey-Based Evidence on the Impact of Psychological Attributes on the Gender Pay Gap

As our decompositions of the gender pay gap showed, there is a persistent unexplained pay gap; moreover, gender differences in occupations and industries also contribute importantly to the gender pay gap. While discrimination could explain such results, a recent series of papers (see Table 7) based on survey evidence attempts to test whether gender differences in personality traits, or noncognitive skills, could provide an alternative explanation for both types of outcomes. Men are found to place a higher value on money, to have higher self-esteem, to be less risk averse, more competitive, self-confident and disagreeable, and to believe that they control their own fate (an internal, as opposed to external, locus of control) to a greater extent than women (see the studies in Table 7). Psychological attributes such as self-confidence may contribute to a worker’s productivity and thus act like human capital variables in a wage regression (Mueller and Plug 2006). Alternatively, a trait such as placing a high value on money may signal a willingness to accept a difficult working environment in return for higher pay (Fortin 2008). In this latter case, psychological factors stand in for compensating wage differentials. Under either interpretation (human capital or compensating differentials), in equilibrium, we expect such traits to be related to wages, and, if men and women differ in psychological attributes, then they will contribute to explaining the gender pay gap.

Some of the studies of the impact of psychological factors on the gender pay gap use information on respondents’ answers to attitudinal questions to construct indexes of psychological traits, which then become explanatory variables in wage regressions. One can then assess the quantitative importance of such controls in explaining the level or change in the gender pay gap. In addition, one study measured respondents’ tastes for competition at a time before labor market entry and then estimated the effect of gender differences in these tastes on the gender pay gap observed after they entered the labor market (Reuben, Sapienza and Zingales 2015).

Researchers in this area have had to confront several difficult empirical issues in implementing their tests. First, if the psychological factors are measured at the same time wages are measured, then one cannot rule out the possibility of reverse causality. For this reason, some authors use data in which psychological attributes were measured before labor market outcomes (e.g. Fortin 2008, Reuben, Sapienza and Zingales 2015, and Cattan 2014), reducing the possibility of reverse causality. In other
cases, authors appeal to psychological research suggesting that basic personality traits do not change much over the life cycle (Mueller and Plug 2006); if so, then labor market developments would not affect personality traits. We would point out, however, that anticipated discrimination can affect one’s attitudes even if they are measured before one enters the labor market. Second, combining a battery of questions into a usable index presents measurement issues that have been the subject of much psychometric research; attention is paid in the economics literature to the reliability of such measures (Mueller and Plug 2006; Cattan 2014; Nyhus and Pons 2011). Third, as suggested above, psychological traits can affect wages directly, controlling for measured factors such as human capital, industry and occupation, as well as indirectly through their influence on schooling, experience, and occupation and industry (e.g., risk takers are likely to be more attracted to the financial sector). Some of the economic research in this area attempts to separate the direct and indirect effects of psychological factors. This is usually done in one of two ways. One may estimate reduced form wage regressions, excluding the intermediate factors and including the psychological factors; one can then compare the impact of psychological factors controlling and not controlling for covariates that they are believed to affect. Alternatively, one can estimate a structural model where the intermediate factors (schooling, occupation, etc.) and wages are endogenous variables (Cattan 2014).

A fourth issue in estimating the impact of psychological factors on wages concerns the possible heterogeneity of effects. For example, self-confidence may be rewarded differently among executives than clerical workers (Cattan 2014). Importantly from our point of view is, as mentioned earlier, that the labor market may reward the same trait differently for men than for women (Manning and Swafford 2008). For example, ambitiousness may be seen as a positive trait for men but a negative one for women. This discussion raises the issue of how one should assess gender differences in psychological factors. Some studies run a pooled regression to estimate the wage effects of psychological factors, while others present estimates based on male and then female coefficients.

Table 7 summarizes the results of several studies that examine the importance of psychological factors or noncognitive skills on the gender pay gap where, if needed, we estimated this impact based on data presented in the paper. The notable finding from this table is that, in each case, gender differences in psychological factors account for a small to moderate portion of the gender pay gap. The proportion of the total gender pay gap accounted for by gender differences in psychological factors ranges from 2.5% to 28%, with all of the studies except for Manning and Swafford (2008) finding that these traits account for 16% or less of the gender pay gap. Recall from Table 4 that in 2010, occupation and industry differences accounted for about 51% of the gender pay gap. Of course, as noted, some of these occupational and industry effects may have due to psychological factors, and below, we discuss some research that sheds light on this possibility.

A related question these analyses can potentially address is whether our estimates of the unexplained gap such as those shown in Table 4 would be smaller if one had data on psychological factors. To the extent that some of the measured factors (like occupation or education) are in part the outcome of noncognitive skills, or at least correlated with them, controls for these measurable may implicitly adjust for much of the effect of noncognitive factors. And there is also the related question of whether any such reduction would be large in magnitude. Of the studies in Table 7, Semykina and Linz’s (2007) analysis of Russia, Nyhus and Pons’s (2011) study of Denmark, and Reuben, Sapienza and Zingales’ (2015) study of the University of Chicago Booth MBA cohort of 2008 shed light on this question. In Nyhus and Pons’s (2011) paper, the authors did not control for occupation or industrial sector but did include a control for working in the public sector. They found that adding psychological traits to the equation reduced the unexplained gender pay gap from 0.185 to 0.154 log points, a reduction of 0.031 log points, or 17% of the unexplained gap. Semykina and Linz (2007) controlled for sector and whether the respondent was a manager. Adding psychological traits led to a reduction in the unexplained pay gap from 0.196 to 0.185 log points, or about 6% of the unexplained gap. Reuben, Sapienza and Zingales (2015) measured MBA students’ tastes for competition while they were students using a similar
instrument as in Niederle and Vesterlund’s (2007) study of gender differences in competitiveness (discussed below). The authors then collected data on respondents’ total earnings in their first year after leaving the MBA program and analyzed the impact of competitiveness on the gender pay gap. Using a pooled regression of log earnings on covariates, the data showed a statistically significant female wage shortfall of 0.097 log points when the authors controlled for a measure of risk aversion, several psychological traits such as trust and reciprocity, age, race, marital status, GMAT test scores, performance in business school and pre-MBA work experience and sector, but not competitiveness. When the authors’ measure of competitiveness was added to the model, the female pay shortfall was reduced to 0.087 log points, or by about 10%. Note that the raw gender pay gap was 0.119 log points, so controlling for a long list of psychological factors (other than competitiveness), ability measures, demographic information, and prior work experience only reduced the gap to 0.097 log points. Based on the results of these three studies, psychological factors do not account for a large share of the unexplained pay gap.

As noted, several studies examined both the direct and indirect effects of psychological traits on the gender pay gap (Nyhus and Pons 2011; Cattan 2014; Fortin 2008; Mueller and Plug 2006; Semykina and Linz 2007). With the exception of Mueller and Plug’s (2006) study of the 1957 high school senior class in Wisconsin as of 1992, these papers found that the indirect effects of psychological factors were small—most of the modest effects we see in Table 7 occur controlling for covariates such as schooling, industry and occupation. In Mueller and Plug’s (2006) case, adding psychological factors alone explained 16% of the gender pay gap; however, when the authors controlled for human capital, region, marital status and number of children, psychological factors accounted for 10% of the raw pay gap. And when the authors further controlled for industry and occupation, these traits explained only 7% of the gender pay gap. Thus, this paper suggests some important indirect effects of psychological factors on schooling, industry and occupation. Notably, this study had the most extensive industry and occupation controls of those in Table 7.

While Mueller and Plug (2006) did not assess the contribution of adding psychological factors to the unexplained pay gap, we note that when they added industry and occupation to a model that controlled for human capital, region, marital status, children and psychological factors the unexplained gap fell from 0.280 to 0.184 log points, a reduction of 0.096 log points, or about 34% of the unexplained gap. This reduction is similar to the decrease in the unexplained gap we found for the Full vs. the Human Capital Specifications in Section 2 (Table 4), where we of course did not have psychological variables available. Hence the Mueller and Plug (2006) results provide further support for the importance of industry and occupation even, in this case, controlling for psychological factors.

Of the studies in Table 7, Fortin’s (2008) is noteworthy because it assesses the importance of psychological factors both at a point in time and in accounting for the reduction in the gender pay gap since the 1970s. Specifically, as noted earlier, she analyzed two cohorts of students (the National Longitudinal Study of the High School Class of 1972 and the National Education Longitudinal Study of 1988/94) to examine the effect of psychological factors measured while in school. For workers in their mid-twenties, she found that a reduction in gender differences in psychological factors accounted for about 10% of the intercohort reduction in the gender pay gap between 1979 and 2000 (from 0.237 to 0.181 log points). She also found that psychological traits were somewhat more important for the 1972 cohort when they reached their early thirties, explaining up to 14% of the gender pay gap in 1986

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60 Reuben, Sapienza and Zingales (2015) were only able to observe first year earnings, and it is likely that in the long run the gender pay gap would increase, as in Bertrand, Goldin and Katz’s (2010) study of an earlier cohort of Chicago Booth MBAs. Whether competitiveness differences would help account for such an increase in the gender pay gap within a cohort is an open question.

61 In Table 4, adding industry, occupation and union status to the human capital model led to reduction in the unexplained gap of 0.109 log points in both 1980 and 2010, or 32-55% of the unexplained gap.
compared to 6% in 1979 when they were in their mid-twenties. The within-cohort comparison suggests that some of the gender difference in career advancement may be related to psychological traits.

Finally, we note that although most of the studies in Table 7 used a pooled regression to assess the effects of gender differences in psychological traits, Manning and Swafford (2008) used separate regressions and then male and then female regression coefficients. The authors found that, using male coefficients, gender differences in psychological factors accounted for 28% of the gender pay gap among 30 year olds in 2000, a seemingly important effect. However, when they used female coefficients, psychological factors account for only 2.5% of the gender pay gap. This discrepancy in findings suggests generally lower rewards to psychological traits for women than men. The female coefficients might be most relevant for an individual woman who happens to have “male” levels of the psychological factors however, it is possible that if women in general were to change their traits, then then the male and female wage functions might change as well.

As noted earlier, not all gender differences in noncognitive factors favor men in their relationship to wages. For example, Mueller and Plug (2006) found that women are on average more conscientious than men, a difference also suggested in Goldin, Katz and Kuziemko’s (2006) analysis of why female education levels have overtaken those of males. Moreover, Borghans, ter Weel, and Weinberg (2014) present evidence that there is a female advantage in “people skills” and find evidence of a people skills premium in wages. Further, Borghans, ter Weel, and Weinberg’s (2014) results indicate a growing importance of interpersonal interactions (in part due to increased computer use) in affecting wages that can help explain rising female relative wages, although they do not assess the quantitative importance of people skills in accounting for the reduction in the gender pay gap.

The issue we raised earlier, of gender differences in returns to psychological attributes is highlighted by Mueller and Plug’s (2006) study of the reward to the “big five” personality traits–openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism. One of the most consistent gender differences in personality traits has been found for agreeableness, with women being found to be more agreeable than men (Bertrand 2011). Agreeableness refers to being more trusting, straightforward, altruistic (warm), compliant, modest, and sympathetic. Perhaps not surprisingly given labor market realities, Mueller and Plug (2006) find, in a regression context, that men earned a premium for being disagreeable. However, this attribute was not found to be related to women’s wages. Thus, the gender difference in agreeableness contributed to the gender earnings gap both because men were considerably more disagreeable than women, but also because only men were rewarded for this trait (Mueller and Plug 2006). These findings hint at a double bind for women. As in the case of negotiation

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62 In a recent study of 624 graduating seniors from the classes of 2011, 2012 and 2013 at the University of Santa Clara and Haverford College, Kanas and Preston (2015) study the effect on the gender gap in pay of personality traits measured while the students were seniors using experiments similar to those of Niederle and Westerlund (2007). Men were found to be more competitive and confident and less risk averse than women. The authors then collected information on the students for the 2012-2014 period, a very early stage of their career. Controlling for performance on a math task and years since graduation, competitiveness did not appear explain the gender pay gap in this sample. However, the subgroup of women who were confident and chose to compete earned as much money as men did and much more than other women. While this result was based on a small number of women (9.9% of the original 344 female participants—i.e. 34 students-- were judged as confident and chose to compete), the result does suggest that psychological attributes can interact, increasing their importance.

63 For a definition of each trait, see Mueller and Plug (2006).

64 See also Judge (2012). One must of course be cautious in basing conclusions about the contribution of gender differences in individual regression coefficients (on either categorical or continuous variables) to the gender pay gap in isolation from the other coefficients in the model (Oaxaca and Ransom 1999). Additional results were that men were also rewarded for emotional stability and openness to experience, while women were rewarded for conscientiousness and openness to experience.
(discussed below), women face potential penalties for not engaging in this behavior but, if they do, may elicit negative or less positive responses than men. Also striking is Manning and Swafford’s (2008) finding noted above that psychological attributes accounted for a much larger share of the gender wage gap using male than female coefficients.

While findings such as those in Table 7 are informative in elucidating some of the possible omitted factors that lie behind gender differences in wages as well as the unexplained gap in traditional wage regressions, in general, the results suggest that these factors do not account for a large portion of either the raw or unexplained gender gap. Moreover, the coefficients on noncognitive skills in a wage equation cannot necessarily be given a causal interpretation. Both wages and attitudes, for example, may be determined by the same exogenous factor(s). And, as in the case of the traditional productivity proxies discussed above, there may be important feedback effects from differential treatment in the labor market (and the anticipation of such differential treatment) to noncognitive traits. So, for example, gender differences in the importance placed on money may influence wages through negotiating behavior or effort, but the source of women's lower emphasis on money could be, at least in part, anticipation of lower income due to labor market discrimination. Finally, in analyses based on self-reported survey data, there is likely to be some ambiguity as to precisely what trait one is measuring. For these reasons, just as research on labor market discrimination has tended to move towards experimental evidence, at least in confirming findings based on statistical analyses of survey data, there has been a parallel development in studying the impact of psychological characteristics. We move to a consideration primarily of experimental evidence in the next subsections.

4.2 Negotiation

Researchers have found that men’s and women’s average propensity to negotiate differs, with women being much less likely to do so (Babcock and Laschever 2003; see also reviews in Bertrand 2011; and Croson and Gneezy, 2009). Women’s lower propensity to negotiate over salaries, raises, or promotions, could reduce their pay relative to men’s. The observed gender difference could reflect social factors, including women being socialized to feel that they are being pushy or overbearing (unfeminine) if they negotiate—i.e., pursue their own goals in the face of conflict with others (Babcock and Laschever 2003). Consistent with the notion that the female gender role is seen as incongruent with negotiating, a meta-analysis by Mazei et al (2015) found that gender differences in negotiating outcomes were reduced when negotiators negotiated on behalf of another individual. Moreover, women may have learned that their negotiating can trigger a negative response from others. For example, in a series of laboratory experiments, Bowles, Babcock, and Lai (2007) asked study participants to evaluate managers based on a transcript or a video of a job placement interview. They found that participants were disinclined to work with female managers who negotiated for higher compensation but that negotiating had little effect on their evaluation of male managers.

Results from a field experiment by Leibbrandt and List (forthcoming) confirm the gender differences in negotiating behavior obtained in the lab studies but suggest that such differences may be sensitive to the cues given. In examining the response of applicants to job advertisements, they found that men were more likely to negotiate than women when there was no explicit statement that wages were negotiable. However, when it was explicitly stated that wages were negotiable, the gender difference disappeared and even reversed. This suggests that, for women, negotiating is less acceptable behavior but the gender difference can be overcome if it is signaled to be appropriate.

While it may be possible to enhance women’s negotiating skills and reduce the gender difference in negotiating, it is also important to realize that there are limitations to what may be achieved by doing so. Negotiation is a form of bargaining and as such the outcome is influenced by the alternatives available to the individual. To the extent that women face discrimination in the labor market that lowers their wages relative to men’s, their expected outcome from the bargaining process will be smaller than for their male counterparts. Moreover, if, as we have seen may be the case, women who negotiate elicit negative
responses compared to men, the gender difference in the prospective result from negotiating is further widened.

4.3 Competition

There is evidence from laboratory experiments that, on average, men are more competitively inclined than women (Bertrand 2011; Croson and Gneezy 2009). In Niederle and Vesterlund’s (2007) influential study, for example, subjects were given a task (adding up sets of two-digit numbers) for which there was no average gender difference in performance. Subjects received feedback on their own performance but not on their performance relative to others. When subsequently given a choice between a noncompetitive compensation scheme (a piece rate—pay according to the number of problems correctly solved) and a competitive compensation scheme (a tournament where only the highest scorer out of a group of 4 was compensated), men overwhelmingly (73 percent) selected the tournament while only a minority (35 percent) of the women did so. Low performing men chose to compete more than high performing women. Interestingly, while high-scoring women lost out financially by shying away from competition, low-performing men competed too much from a payoff-maximizing perspective. The gender difference in attitudes towards competition could be a disadvantage for women in the labor market, potentially lowering their relative pay and leading them to avoid certain occupations or business settings, although these findings also suggest that men may sometimes compete more than is optimal.

An interesting recent study suggests that differences in attitudes toward competition observed in the lab do translate into differences in career choices. Buser, Niederle, and Oosterbeek (2012) collected data on the competitiveness of high school students in the Netherlands through in-class experiments and then tracked their subsequent education choices across four study profiles at age 15. While boys and girls had very similar levels of academic ability, boys were substantially more likely than girls to choose the more prestigious profiles. The authors found that up to 23 percent of the gender difference in profile choice could be attributed to gender differences in competitiveness, as assessed by the in-class experiments.

Some evidence that women shy away from competitive environments is also indicated by a recent large-scale field experiment. Flory, Leibbrandt and List (2015) randomly assigned job-seekers into viewing online job advertisements with different compensation schemes. Consistent with the results of lab experiments, the more heavily the compensation package tilted towards rewarding the individual’s performance relative to a coworker’s performance, the more the applicant pool shifted to being more male dominated. However, there was little or no gender difference when compensation was only slightly (rather than heavily) based on performance relative to a coworker’s or when the job was to be compensated based on team (rather than individual) relative performance. Moreover, the sex-type of the job mattered. The occupation under study was administrative assistant. A male-oriented ad described tasks focused around sports. The “female” ad was similar in other respects but the focus was general—the authors deemed this a female-type job because, nationally, administrative assistant is a predominantly female occupation (79 percent female in 2001). Strikingly, there were no gender differences in propensity to apply under any of the compensation schemes for the female treatment—the gender differences described above were only obtained for the male-type job. While it would have been interesting to see results for a completely neutral occupation, these findings suggest a strong interaction between the gender role or identity of the task and men’s and women’s propensity to compete. Moreover, while individual responses to compensation schemes were not correlated with readily observable characteristics like education and experience, a blind analysis of the quality of interview questionnaire responses suggested that the highly competitive regime disproportionately attracted low-ability males. As the authors note, this is consistent with Niederle and Vesterlund’s (2007) finding that “males compete too much” in terms of maximizing monetary payoffs.

While much of this evidence does indeed suggest that men are, on average, more attracted to competitive environments than women, what are the effects of this difference on the gender pay gap? Using the British Workplace Employment Relations Survey for 1998 and 2004, Manning and Saidi
(2010) find, as expected, that women were indeed less likely to have jobs with pay for performance than men. However, this gender difference accounted for only a very small portion of the British pay gap overall and among managerial workers. Thus, the impact of gender differences in competitiveness on the gender pay gap based on this evidence appears to be very limited.

Finally, also of interest is a study that compared the results of lab experiments testing for gender differences in preferences for competition in two different cultures (Gneezy, Leonard and List 2009). The findings of this study strongly suggest that men’s and women’s attitudes towards competition are influenced by broader social factors. The authors found that, consistent with the results in developed countries, men opted to compete at roughly twice the rate of women in a traditional patriarchal society (the Maasai of Tanzania). However, in a matrilineal/matrilocal society where inheritance and residence are determined by the female lineage (the Khasi of India), women chose the competitive environment more often than men.

There is also some evidence that competition increases the relative performance of men compared to women when both participate in the activity, although the evidence on this is more mixed (Croson and Gneezy 2009). On the one hand, Gneezy, Niederle and Rustichini (2003), for example, found no significant difference in performance by gender under piece rates for a maze solving task on the computer. However, when pay was competitive, men’s performance was increased significantly and women’s stayed the same, yielding a gender difference. On the other hand, Niederle and Vesterlund’s (2007) study discussed above found that the performance of both men and women improved similarly under the tournament and that there was still no gender difference in performance.

Some particularly compelling evidence on the impact of competition on performance is presented in a recent study by Örs, Palomino, and Peyrache (2013). The authors examined gender differences in performance for the same group of subjects on real-world academic achievement examinations that differed in their levels of competition. They found that men performed better than women on the highly competitive entrance exam for admission to the Master of Science in Management at the École des Hautes Études Commerciales (HEC) in Paris even though, for the same cohort, women performed significantly better than men on the national baccalauréat exam two years prior, which the authors characterize as “noncompetitive.” Moreover, among the subset admitted to HEC, women outperformed the same males in first year grades in nonmathematically-oriented classes (where grades are based on relative performance only in a very loose sense).

4.4 Risk Aversion

Based on the laboratory experiments they review, Croson and Gneezy (2009) report that women are, on average, more risk averse than men. All else equal, occupations with more variable earnings are expected to pay a compensating wage differential to induce workers to accept the higher levels of risk. To the extent women are more likely to avoid such jobs, women’s greater risk aversion could lower their earnings relative to men (Bertrand 2011). Risk aversion could also plausibly affect job performance in particular occupations, such as money managers.

Interestingly, Croson and Gneezy (2009) report that, while women are found to be more risk averse among persons drawn from the general population or among university students, studies that focus on managers and professionals have found little or no evidence of gender differences in financial risk preferences. For example, one study of mutual fund managers found that funds managed by men and women did not differ in risk or performance. Similarly, male and female managers and entrepreneurs

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65 See also the review of recent studies in Örs, Palomino, and Peyrache (2013).

66 Manning and Swafford’s (2008) survey evidence also indicates that women are more risk averse than men. A review and analysis by Nelson (2015) finds the results to be more mixed, with some studies reporting higher female average risk taking and many cases in which the male advantage lacked statistical significance.
displayed similar risk propensities. It is not possible to know whether such findings are due to the type of selection we have just discussed (with more risk-taking individuals of both sexes choosing to enter or remain in particular fields) or learning (people who initially differ in their risk propensities may learn from their professional environment). In either case, however, these findings suggest that while women’s relative aversion to risk may lower their relative earnings due to occupational sorting, this factor probably does not help to explain within occupational earnings differences (or at least not within the occupations studied). Further, to the extent these findings are due to learning, it suggests that these preferences can be shaped by environment.

4.5 Norms and Gender Identity

Recent work by Bertand, Kamenica, and Pan (2015) points to possible far-reaching effects of adherence to traditional gender roles on the relative outcomes of men and women. They draw on Akerlof and Kranton’s (2010) development of the concept and implications of identity, defined as a sense of belonging to a social category, combined with a view about how people who belong to that category should behave. Departures from these norms are perceived as generating costs and hence people seek to avoid them.

Bertrand, Kamenica, and Pan probe the consequences of the view that a wife should not earn more than her husband and find it to impact a number of outcomes. For example, they find that, within marriage markets, as the probability that a randomly chosen woman would outearn a randomly chosen man increases, marriage rates decline. Similarly, couples in which the wife outearns her husband have lower rates of marital satisfaction and are more likely to divorce. Of particular relevance to the issues under consideration here, they find that, in couples in which the wife’s potential income is likely to exceed her husband’s (based on predicted income), the wife is less likely to be in the labor force and, if she does work, her income is lower than predicted. Such a selection pattern would lower the observed relative wages of employed married women. Also of interest, given the inverse relationship between housework and wages, they find, based on time use surveys, that the gender gap in nonmarket work is increased if the wife earns more than her husband. This finding is particularly surprising given that Beckerian notions of comparative advantage would lead us to expect the opposite (Becker 1981, enlarged edition 1991), assuming that relatively higher earning women do not generally have even higher relative values of nonmarket time. A possible interpretation of this pattern is that these high earning wives are attempting to compensate for violating the gender norm of earning more than their husbands. As we have seen, greater housework time is expected to negatively affect wages.

The findings from Bertrand, Kamenica, and Pan suggest that additional explorations of gender norms and identity by economists would be fruitful in understanding the gender wage gap and other gender differences in outcomes. However, while the findings in this paper are striking, it is possible that the strength of this norm may be diminishing. First, the share of married couple families in which the wife outearns her husband has been growing steadily, as married women’s labor force participation and education levels have increased and the male-female wage gap has declined. For example, this share increased by over 80 percent between 1988 and 2012, both among families in which both members of the couple had earnings (from 15.9 to 29.0 percent) and among married couples overall (from 8.2 to 15.4 percent). Moreover, there is evidence that in the bulk (60 percent) of couples in which the wife outearns

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67 That is, the division of labor in the family should be determined by the comparative advantage of each spouse in market vs. nonmarket activity.

her husband, this disparity is relatively permanent—that is, it persists over a three-year period (Winkler, McBride, and Andrews 2005). Second, attitudes seem to be becoming more permissive along this dimension. A 2013 attitude survey found that only 28 percent of adults agreed that “It’s generally better for a marriage if the husband earns more than his wife” compared to 40 percent in 1997. College graduates had especially permissive views, with only 18 percent supporting this view (Wang, Parker, and Taylor 2013). While an adherence to traditional gender norms need not be conscious and overt in order to influence behavior, it is nonetheless of interest that such views, as expressed, are becoming more permissive. Moreover, this has been occurring at the same time the share of couples where the wife outearns her husband has been increasing. This points to the likelihood that couples are acting on their more permissive views and also to the possibility that behavior (the increasing incidence of such families) influences norms and attitudes as well as the reverse.

5. Evidence on the Impact of Policy

Women's relative skills and the degree of discrimination they face can be affected by equal employment opportunity laws and regulations, as well as by government policies directed at the difficulties of combining work and family. In this section, we briefly consider what is known about these types of policies and their impacts, focusing primarily on the United States.

The United States was a world leader in implementing equal employment opportunity policy as the first economically advanced nation to pass and implement antidiscrimination laws and regulations (Blau and Kahn 1996b). The centerpiece of the government’s antidiscrimination activities is Title VII of the Civil Rights Act of 1964 which broadly bans discrimination by sex (as well as by race, religion and national origin) in virtually all aspects of the employment relationship, including hiring and firing, training, promotion, wages, and fringe benefits and covers all businesses employing 15 or more workers. Title IX, an important amendment to the Civil Rights Act passed in 1972, prohibits sex discrimination in most educational institutions. In addition, the Equal Pay Act of 1963 mandates equal pay for men and women who do substantially equal work in the same establishment. Further, under some circumstances, affirmative action, or “pro-active steps … to erase differences between women and men, minorities and nonminorities, etc.” (Holzer and Neumark, 2000a, p. 484), is also required, primarily for government contractors under an Executive Order promulgated in 1965 and amended to include women in 1967. Affirmative action has also been voluntarily adopted by many employers.

In thinking about the impact of the government’s antidiscrimination enforcement effort, one question that arises is whether the time path of the increase in women’s relative earnings (see Figure 1) appears compatible with an effect of these laws and regulations. This question arises because we see no indication of a notable improvement in women’s relative earnings in the immediate post-1964 period that might be attributable to the effects of the government’s antidiscrimination effort; the gender pay ratio remained basically flat through the late 1970s or early 1980s, after which it began to increase. In contrast, blacks experienced considerable increases in their relative earnings in the decade following the passage of the civil rights laws that many scholars attribute, at least in part, to the impact of these laws (e.g., Donohue and Heckman 1991).

 Nonetheless, there is some evidence from a variety of detailed, micro-level studies of a positive effect of government equal employment opportunity policies on women's earnings and occupations. Beller (1979, 1982) used enforcement activity as an indicator of the strength of government sanctions under Title VII and found evidence of improvements over the 1967-1974 period in women’s relative earnings (Beller 1979) and their probability of being employed in a predominantly male occupation (Beller 1982). Carrington, McCue and Pierce (2000) took firm size as an indicator of coverage and enforcement and found that, over the 1963-87 period, the relative employment of women and blacks by larger employers increased. Kurtulus (2012) found that the share of women and minorities in high-paying skilled occupations grew more over the 1973–2003 period at federal contractors than other employers. Moreover, she found that these gains took place primarily prior to or in the early years of the Reagan
Administration and after 1991; a pattern that matches what is known about climate of enforcement of
affirmative action and antidiscrimination laws more broadly, including a winding down of the
enforcement effort during the Reagan years. Kurtulus’ (2012) findings are consistent with an earlier
study by Leonard (1990), which found faster employment growth for black and white females at
contractor establishments over the 1974-80 period. Finally, Holzer and Neumark (1999 and 2000 b)
measured affirmative action by employer self-reports (this could include both mandated and voluntary
programs) and found cross-sectional evidence that affirmative action reallocates women and minorities to
the affirmative action sector by increasing both their applications and employment. This is likely to raise
their relative wages since the authors find that such firms are higher paying and, in addition, have smaller
race and sex differences in wages (see also Holzer and Neumark 2000a for a review).

We find these results of female gains due to equal employment policy not implausible, despite the
time pattern of aggregate female relative earnings gains, for at least two reasons. First, we note that some
improvements in women’s status do indeed date to the 1970s—chiefly, the growth in women’s
enrollments in professional schools and the beginning of a substantial decline in occupational segregation.
The educational shifts may reflect, at least in part, the impact of Title IX, but also a response to perceived
increases in labor market opportunities that improved the incentives for women to train for nontraditional
jobs. (Of course these shifts also reflect a variety of supply-side factors that we discussed in Section 3.3.)
Moreover, since occupational segregation by sex was considerably more pronounced than by race (Fuchs
1988 and Jacobsen 1994), such occupational shifts may have been more necessary for women than for
blacks to reap wage gains from the government’s antidiscrimination efforts, thus resulting in a greater lag
in the impact of the government’s equal employment opportunity policies on women’s relative earnings.
Second, these laws and regulations were rolled out during a period of extremely high growth in female
labor supply; the negative wage effects of this expansion in labor supply could have camouflaged an
otherwise positive effect of the government’s efforts. On the other hand, it is puzzling that the largest
female relative wage gains and the strongest evidence of a decline in the unexplained gender wage gap
were during the 1980s (see Section 2 and Section 6), which includes a period in which the government’s
antidiscrimination effort was noticeably scaled back.

Turning to work-family policy, we focus on parental leave, although we note that there are a wide
range of other possible policies, including child care that might be considered. The Family and Medical
Leave Act (FMLA) of 1993 mandates that eligible workers be allowed to take up to 12 weeks of unpaid
leave for birth or adoption, acquiring a foster child, illness of a child, spouse, or parent, or their own
illness. (Firms may voluntarily provide longer and/or paid leave.) Workers are entitled to their jobs
upon returning from the leave. To the extent that parental leave policies strengthen worker attachment to
the firm, they may encourage firm-specific investments, thus raising women's relative wages (since
parental leave is much more likely to be taken by women than men). However, they may also encourage
labor force withdrawal for longer periods of time than otherwise (especially if they are of long duration),
reducing women's accumulation of experience. Mandated leaves, again, particularly of long duration,
may also diminish women's opportunities by increasing employer costs of hiring women and hence
providing incentives to discriminate against them. Mandated leaves might also reduce women’s relative
wages to finance the benefit (e.g., Gruber 1994). Thus, the effect of parental leaves on the gender wage
gap is theoretically ambiguous. Empirical evidence for the United States suggests that the effect of the
FMLA has been modest; it has been found to have a small positive effect on employment and no effect on

69 In addition, prior to 1980, large increases in the labor force participation of younger women resulted in a small
decline in average experience for women as a whole, due to the shifting age composition of women workers (Goldin
1990, p. 41).

70 The FMLA requires the individual to have worked at least 1250 hours in the past year and covers only workers in
firms with at least 50 employees. In addition, the Pregnancy Discrimination Act of 1978 (an amendment to Title VII
of the Civil Rights Act) prohibits employers from discriminating against workers on the basis of pregnancy.
wages (Baum 2003 and Waldfogel 1999). Results are broadly similar for California’s introduction of 6 weeks of paid leave (with a replacement ratio of 55 percent) in 2004. Employment probabilities in the post-leave period were increased; and the effect on wages was not statistically significant (see, Baum and Ruhm 2013). A recent study by Thomas (2015), discussed above, does however suggest that FMLA increased the gender gap in promotion.

Since provision of parental leave in the United States is considerably less generous (in both duration and payment) than in other economically advanced countries, international comparisons may shed light on potential effects of more generous leave policies. In a study of 9 Western industrialized countries, Ruhm (1998) found that female earnings were unaffected by rights to short parental leaves, while longer leaves (more than 5 or 6 months) lead to reductions in women's relative wages. These findings are consistent with results from Blau and Kahn (2013a), which found that the greater expansion of family-friendly policies in other economically advanced countries than in the United States between 1990 and 2010 increased female labor force participation in these countries relative to United States, but was associated with a lower likelihood of women having full-time jobs or working as managers or professionals. (The mean duration of leave in these other countries was 57 weeks in 2010, up from 37 weeks in 1990.) Taken together, these results suggest that a number of offsetting factors may be at work, with a little impact on wages for shorter leaves and a negative effect dominating for long periods of mandated parental leave. Some innovative policies have been developed recently, including parental leave entitlements that incentivize fathers' leave taking (Dahl, Løken, and Mogstad 2013; Patnaik 2015), which may reduce the negative effects of extended leaves on women. The long run impact of these policies on gender and the labor market as well as the division of labor within the family is an important research topic.

6. Wage Structure, Demand and Institutions

Much research on the gender pay gap focuses on gender-specific factors: differences in qualifications, including experience, or treatment of women by firms (discrimination). In addition, however, men and women work in a world economy in which labor market prices, such as the returns to education or experience, are affected by larger forces of supply and demand as well as by labor market institutions in the various countries. We now consider research that studies the impact of these larger economic forces on the gender pay gap.

A useful starting point is a key insight of Juhn, Murphy and Pierce (1991), a study of black-white wage differentials, that the overall wage structure can affect the relative wages of specific groups. By “wage structure,” we mean the returns that the labor market offers for various skills and for employment in various industries or occupations. For example, countries with strong unions that raise the wages of less-skilled workers tend to have a relatively compressed wage structure, while, in the United States, wages are determined in a more decentralized manner, resulting in a more dispersed wage structure. The wage structure can also change over time as rewards to skills and premiums for employment in high-wage occupations and industries increase or decrease.

Both the human capital and discrimination explanations of the gender pay gap suggest a potentially important role for wage structure in determining how women fare relative to men across countries or over time. We illustrate by some examples focused on the temporal dimension. For example, despite important recent gains, women still have less experience than men, on average. If the labor market return to experience rises over time, women will be increasingly disadvantaged by their lesser amount of experience. In addition, both the human capital and discrimination models suggest reasons why women are likely to be employed in different occupations and perhaps in different industries than men. This implies that an increase in the returns to employment in “male” occupations or industries will also place women at an increasing disadvantage. In fact, the patterns of rising overall wage inequality in the labor market, particularly in the 1980s, resulted from precisely such increases in the market rewards to skill and to employment in high-wage male sectors (Blau and Kahn 1997). This means
that women as a group were essentially “swimming upstream” in a labor market growing increasingly unfavorable to workers with below-average skills—in this case, below-average experience—and for workers employed in disproportionately female occupations and industries. Yet the 1980s were precisely the time period in which women made the largest gains.

6.1 U.S. Evidence on the Impact of Wage Structure on the Gender Wage Gap

How were U.S. women able to swim upstream and narrow the gender wage gap in the face of economy-wide forces working against them? Blau and Kahn (1997 and 2006) found that this was the outcome of two broad sets of countervailing factors. On the one hand, working to decrease the gender wage gap, women increased their qualifications relative to men and, in the 1980s, the unexplained gender gap also narrowed substantially. On the other hand, working to widen the gender wage gap, particularly during the 1980s, were changes in wage structure (or returns to characteristics) that favored men over women. Of particular importance were a rise in the return to experience and increases in returns to employment in occupations and industries where men are more highly represented. The sizable increase in the supply of women over the 1980s is another factor that likely worked to widen the gender wage gap as well. The decrease in the gender wage gap occurred because the factors favorably affecting women’s wages were large enough to more than offset the impact of unfavorable shifts in returns and increasing female labor supply.

However, the matter may be more complicated than a simple decomposition of the trends would suggest. While rising demand for skill did shift labor market prices in a way that worked against women on net in the 1980s, the underlying labor market demand shifts that widened overall wage inequality appear to have favored women relative to men in certain ways. Thus these demand shifts likely also contributed to a decrease in the unexplained gender gap identified in Blau and Kahn (1997 and 2006) and Section 2. Overall, manufacturing employment declined, particularly in the 1980s. In addition, some evidence indicates that technological change produced within-industry demand shifts that favored white-collar relative to blue-collar workers in general. Given that men have tended to hold a disproportionate share of manufacturing and blue-collar jobs, these shifts would be expected to benefit women relative to men (Berman, Bound and Griliches 1994; Blau and Kahn 1997 and 2006). Further, evidence suggests that increased computer use favors women’s wages compared to men (Krueger 1993; Weinberg 2000; Welch 2000; Autor, Levy and Murnane 2003; Beaudry and Lewis 2014). This may reflect women’s greater comparative advantage in cognitive relative to manual or motor skills (“brains” versus “brawn” to borrow Welch’s (2000) terminology). Moreover, Borghans, ter Weel and Weinberg (2014) present evidence that interpersonal interactions have become more important with the spread of computers. Since women’s interpersonal skills tend to exceed men’s, on average, this factor worked to increase women’s wages relative to men’s (Borghans, ter Weel and Weinberg 2014).

Finally, Figures 1 and 2 show that the gender pay gap closed much more slowly after 1990 than during the 1980s. Some evidence for the importance of demand shifts in causing this slowdown comes from Blau and Kahn (2006), who find that demand shifts related to industries and occupations favoring women were smaller in the 1990s than in the 1980s. Moreover, Borghans, ter Weel and Weinberg (2014) find that the growth in the demand for interpersonal skills was faster in the 1980s than in the 1990s. In both of these studies, the slowdown in demand shifts favorable to women coincided with the slowdown in

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71 While this was true of price shifts in the 1980s, our findings in Table 5 indicate that for the 1980-2010 period, only changes in rewards to occupations produced substantial adverse price shifts for women.

72 Bacolod and Blum (2010) present evidence that there has been an increase in the labor market return to cognitive skills and a corresponding decrease in the return to motor skills. This has likely benefited women relative to men since women tend to be more highly represented in occupations where cognitive skills are important while men are more likely to be in jobs that emphasize motor skills.
gender wage convergence overall and in the unexplained gap obtained in decompositions like those presented in Section 2.

6.2 International Comparative Evidence on the Impact of Wage Structure on the Gender Wage Gap

As mentioned earlier, many other countries have far more centralized wage-setting institutions than the United States, resulting in a far higher degree of wage compression. Centralized collective bargaining tends to reduce wage differentials through the negotiation of relatively high wage floors, which raise the relative wages of those near the bottom of the distribution, including women (Blau and Kahn, 1996a). In countries such as many of those in the OECD, unions cover a much larger portion of the labor market than in the United States, and wage-setting is much more centralized, leading to overall wage compression. Several studies have found that this kind of overall wage compression helps to explain in international differences in the gender pay gap at a point in time. For example, Blau and Kahn (1992 and 1996b) found that wage compression explained all of the difference between the United States (with a relatively high) gender pay gap and that in nine other industrialized countries; and Blau and Kahn (2003) found that differences in wage compression were an important factor explaining differences in the gender pay gap across 22 countries. Similarly, Kidd and Shannon (1996) found that wage compression helped explain Australia’s smaller gender pay gap in relation to Canada’s. And some studies have found that changes in wage compression over time within a country help explain changes in the gender pay gap (Edin and Richardson 2002—Sweden; Datta Gupta and Smith 2006—Denmark).

One of the most dramatic changes in the world over the last 25 years has been the fall of Communism. In former Soviet Bloc countries and in China, highly centralized wage-setting institutions with considerable wage compression were replaced with market-oriented, decentralized wage setting. These changes in institutions may be expected to widen the gender pay gap and this has indeed been found to be the case. For example, Brainerd (2000) found for the Czech Republic, Hungary, Poland, Russia, the Slovak Republic, and Ukraine that, after the fall of Communism, the wage structure became more dispersed and this raised the gender pay gap. Moreover, Orazem and Vodopivec (2000) found similar results for Slovenia after the fall of Communism there, although there was little effect of the changing wage structure on the gender pay gap in Estonia. Finally, focusing on the 1988-2004 period during which China’s labor market became much less centralized as its economy became much more market oriented, Zhang, Han, Liu and Zhao (2008) found that the resulting spread in the wage structure raised the gender pay gap considerably.

If firms take labor costs as given, high union-negotiated wage floors should lower female relative employment. And this is precisely what Bertola, Blau and Kahn (2007) find in a study of relative employment in 17 countries over the 1960–96 period. Specifically, they find that greater coverage by highly centralized unions lowers female employment and raises female unemployment compared with men’s.

7. Conclusion

We have shown that the gender pay gap in the United States fell dramatically from 1980 to 1989, with slower convergence continuing through 2010. Using PSID microdata, we documented the improvements over the 1980-2010 period in women’s education, experience and occupational representation, as well as the elimination of the female shortfall in union coverage, and showed that they played an important role in the reduction in the gender pay gap. Particularly notable is that, by 2010, conventional human capital variables (education and labor market experience) taken together explained little of the gender wage gap in the aggregate. This is due to the reversal of the gender difference in education, as well as the substantial reduction in the gender experience gap. On the other hand, gender differences in location in the labor market—distribution by occupation and industry—continued to be important in explaining the gap in 2010. A decrease in the unexplained gap over the 1980s contributed to the robust convergence in the gender wage gap over that decade, with the unexplained gap falling sharply from 21-29% in 1980 to 8-18% by 1989. However, the unexplained gap did not fall further subsequently,
remaining in this range over the succeeding 20 years. We also found that both the raw and the unexplained gender pay gap declined much more slowly at the top of the wage distribution that at the middle or the bottom. By 2010, the raw and unexplained female shortfalls in wages, which had been fairly similar across the wage distribution in 1980, were larger for the highly skilled than for others, suggesting that developments in the labor market for executives and highly skilled workers especially favored men.

Our review of the literature was designed to shed light on the explanations for the gender wage gap, both factors that have been traditionally emphasized and newer explanations that have been offered. We provided a discussion of the causes of women’s improvements in measured skills, emphasizing the remarkable reversal of the gender gap in college attendance as well as women’s increasing commitment to the paid labor force. In light of the persistent unexplained pay gap, we then discussed recent research on gender differences in factors that standard data sets cannot measure, or which have not been the focus of conventional wage gap studies. We considered the ways in which conventional gender roles and gender identity as well as the presence of children, can contribute to the gender wage gap. We also examined evidence on gender difference in mathematics test scores and noncognitive skills such as gender differences in attitudes toward competition, negotiation, and risk aversion.

We conclude that many of the traditional explanations continue to have salience for understanding the gender wage gap and changes in the gap, although some factors have increased and others have decreased in importance. One of our findings is that while convergence between men and women in traditional human capital factors (education and experience) played an important role in the narrowing of the gender wage gap, these factors taken together explain relatively little of the gap wage gap in the aggregate now that, as noted above, women exceed men in educational attainment and have greatly reduced the gender experience gap. For a portion of the labor market, however, recent research suggests a continued and especially important role for work force interruptions and shorter hours in explaining gender wage gaps in high skilled occupations than for the workforce as a whole—this work is particularly relevant in that, as we have seen, the gender wage gap at the top of the wage distribution appears to have decreased more slowly than at the middle and the bottom. While this might suggest a continued relevance of human capital factors for these labor markets, the interpretation of these findings in a human capital framework has been challenged. Goldin (2014), for example, argues that they more likely represent the impact of compensating differentials, in this case wage penalties for temporal flexibility. Additional research pinpointing when and where labor force interruptions and hours differences are important and testing the reasons for their impact would be useful.

Although decreases in gender differences in occupational distributions contributed significantly to convergence in men’s and women’s wages, gender differences in occupations and industries are quantitatively the most important measurable factors explaining the gender wage gap (in an accounting sense). Thus, in contrast to human capital factors, gender differences in location in the labor market, a factor long highlighted in research on the gender wage gap, remains exceedingly relevant. The continued importance of gender differences in employment by industry and occupation, as well as by firm, suggest the fruitfulness of research aimed at better understanding the underlying reasons for these gender difference as well as their consequences. The growing availability of matched firm-worker data should facilitate such research.

Another factor emphasized in traditional analyses that remains important is differences in gender roles and the gender division of labor. Current research continues to find evidence of a motherhood penalty for women and of a marriage premium for men. Moreover, the greater tendency of men to determine the geographic location of the family continues to be a factor even among highly educated couples. The importance of dual career issues in the location of families highlights another area of potentially useful research in an era in which such couples have become increasingly important. Here, as in other areas, greater understanding of feedback effects would be important—the division of labor in the family potentially responds to, as well as causes, gender differences in wages.
The persistence of an unexplained gender wage gap suggests, though it does not prove, that labor market discrimination continues to contribute to the gender wage gap, just as the decrease in the unexplained gap we found in our analysis of the trends over time in the gender gap suggests, though it does not prove, that decreases in discrimination help to explain the decrease in the gap. We cited some recent research based on experimental evidence that strongly suggests that discrimination cannot be discounted as contributing to the persistent gender wage gap. Indeed, we noted some experimental evidence that discrimination against mothers may help to account for the motherhood wage penalty as well. Future work could usefully focus on efforts to test for discrimination and understand its quantitative importance as well as better understand which model or models of discrimination are most consistent with the patterns we observe.

Psychological attributes or noncognitive skills comprise one of the newer explanations for gender differences in outcomes and we have reviewed an impressive array of recent research suggesting that there are indeed notable gender differences along this dimension. While male advantages in some of factors like risk aversion, and propensity to negotiate or compete may help to explain not only some of the unexplained gender wage gap but also gender differences in occupations and fields of study, it is important to note that women may have advantages in some areas, like interpersonal skills. Moreover, we found evidence that these gender differences can themselves be affected by social context and thus might not be independent causes of the gender pay gap in the first place. And, while there are gender differences in some psychological attributes/noncognitive skills, more work is needed to confirm these differences outside the laboratory setting where much of the research has been focused, although we have reviewed some recent studies that have done so. In addition, there is also relatively little research that would enable us to determine the quantitative importance of these differences for the gender wage gap. To address this issue, we focused on a subset of papers in this area that used methods, primarily regression analysis of survey data, which permitted us to calculate the quantitative evidence on the importance of these factors. The notable finding from this exercise is that, in each case, gender differences in psychological factors account for a small to moderate portion of the gender pay gap, considerably smaller than say occupation and industry effects, though they appear to modestly contribute to these differences. Thus, this source of the gender gap, based at least on what we know at this point, while worth pursuing, does not appear to provide a silver bullet in our understanding of gender differences in labor market outcomes. Continued research in this and other areas is likely to benefit from field experiments, which arguably provide credible exogenous variation in the economic environment facing workers as well as real-world settings, will likely continue to provide insights into gender differences in preferences, behavior, and labor market outcomes.

Finally, we reviewed research that finds that, given men’s and women’s differing skill levels and locations in the economy (by occupation, industry, and firm), overall labor market prices can have a significant effect on the gender wage gap. In particular, the more compressed wage structures in many other OECD countries due to the greater role of unions and other centralized wage setting institutions in these countries have served to lower the gender pay gap there relative to the United States by bringing up the bottom of the wage distribution. This appears to have also lowered female employment and raised female unemployment compared with men, as would be expected if higher wage floors are binding. This evidence on the impact of wage setting institutions on the gender wage gap could become increasingly relevant to the United States as minimum wage hikes, some quite substantial, are being contemplated at many levels of government.
Data Appendix

The analysis in Tables 1-6 is based on microdata taken from the indicated waves of the PSID and
the March CPS. The PSID is the only data source which has information on actual labor market
experience for the full age range of the population. However, because the PSID only supplies this work
history information for family heads and spouses/cohabiters, it does not cover adults who are living with
relatives, such as grown children living at their parents’ house. In addition, the PSID’s base sample began
with roughly 5,000 families from 1968, when immigrants were a much smaller portion of the population.
This means that the current PSID sample, which consists of these original families plus splitoffs,
undercounts immigrants today. For these reasons, we also show data from the CPS which are more
representative of the whole U.S. population.

We focus on men and women age 25-64 who were full time, non-farm, wage and salary workers
and who worked at least 26 weeks during the preceding year. We also excluded those in the military. See
Table 1 for sample sizes. This age group has, for the most part, left school, allowing us to abstract from
issues of combining work and school attendance. Limiting the top of the age range to 64 to some degree
abstracts from normal retirement issues (patterns were very similar when we limited the sample to ages
25-54). In addition, by limiting our sample to those who worked full time and had at least 26 weeks of
work in the prior year, we are focusing on those with a relatively strong labor market commitment. This
sample restriction leads to a relatively homogeneous sample with respect to this commitment, allowing us
to reach more accurate conclusions about the prices women and men face in the labor market. We
exclude the self-employed and those in agriculture on the grounds that it is difficult to separate labor
income from capital income or income in kind for these groups. Our basic dependent variable is the log
of average hourly earnings, which we compute in the PSID by dividing annual labor earnings by annual
hours worked and in the CPS by dividing annual wage and salary earnings by annual hours worked.
Means and other data presented here are for the sample used in our regression analyses. In the PSID,
we exclude cases with missing data on the dependent or explanatory variables, or variables needed to
compute them. In the CPS, we exclude cases with allocated earnings.

For early years of the PSID, separate values for wage and salary income and self-
employment/farm income are not available for wives. In earlier work (Blau and Kahn 2004) we showed
that this omission did not have an important effect on average hourly earnings among household heads, a
group for which we had data on wage and salary earnings. While the PSID does not topcode earnings, the
CPS does. To adjust for this in the CPS, we multiplied the topcoded value by 1.45. (In each year, less
than 2% of the sample was topcoded.) In both data sets, we exclude those earning less than $2/hr in 2010
dollars, using the Personal Consumption Expenditures deflator (taken from www.bea.gov). This cutoff
equals 28-38% of the real Federal minimum wage across our sample period (see
http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=3&isuri=1&904=1980&903=4
&906=a&905=2014&910=x&911=0 , accessed August 19, 2014 and
http://www.dol.gov/whd/minwage/chart.htm , accessed August 19, 2014). We experimented with other
cutoffs, including a flat $3/ hour in 2010 dollars, as well as using 50% of each year’s real minimum wage
as a cutoff. The results were very similar to those presented here.
References


Notes: Updated version of Figure 7-2 from Blau, Ferber, and Winkler (2014); for additional information on references, see p. 148. Workers aged 16 and over from 1979 onward, and 14 and over prior to 1979.
Figure 2: Female to Male Log Wage Ratio, Unadjusted and Adjusted for Covariates (PSID)

Source: Authors’ calculations from Panel Study of Income Dynamics (PSID) data. See text for definitions.
Figure 3: Trends in Female and Male Labor Force Participation Rates, 1947-2014
(age 16 and over)

Table 1: Unadjusted Female/Male Log Hourly Wage Ratios, Full Time Workers

<table>
<thead>
<tr>
<th>Year</th>
<th>Men</th>
<th>Women</th>
<th>Mean</th>
<th>10th Percentile</th>
<th>50th Percentile</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>2282</td>
<td>1491</td>
<td>62.1%</td>
<td>64.8%</td>
<td>60.1%</td>
<td>62.4%</td>
</tr>
<tr>
<td>1989</td>
<td>2617</td>
<td>2068</td>
<td>74.0%</td>
<td>76.3%</td>
<td>72.4%</td>
<td>74.6%</td>
</tr>
<tr>
<td>1998</td>
<td>2391</td>
<td>2146</td>
<td>77.2%</td>
<td>80.3%</td>
<td>79.8%</td>
<td>73.8%</td>
</tr>
<tr>
<td>2010</td>
<td>2368</td>
<td>2456</td>
<td>79.3%</td>
<td>81.5%</td>
<td>82.4%</td>
<td>73.9%</td>
</tr>
</tbody>
</table>

Panel Study of Income Dynamic (PSID)

<table>
<thead>
<tr>
<th>Year</th>
<th>Men</th>
<th>Women</th>
<th>Mean</th>
<th>10th Percentile</th>
<th>50th Percentile</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>21428</td>
<td>13484</td>
<td>63.5%</td>
<td>68.7%</td>
<td>61.9%</td>
<td>64.3%</td>
</tr>
<tr>
<td>1989</td>
<td>21343</td>
<td>16487</td>
<td>72.4%</td>
<td>78.1%</td>
<td>72.2%</td>
<td>71.4%</td>
</tr>
<tr>
<td>1998</td>
<td>17520</td>
<td>14231</td>
<td>77.1%</td>
<td>81.3%</td>
<td>76.2%</td>
<td>76.1%</td>
</tr>
<tr>
<td>2010</td>
<td>24229</td>
<td>20718</td>
<td>82.3%</td>
<td>87.6%</td>
<td>82.2%</td>
<td>76.6%</td>
</tr>
</tbody>
</table>

March Current Populations Survey (CPS)

Notes: Sample includes nonfarm wage and salary workers age 25-64 with at least 26 weeks of employment. Entries are exp(D), where D is the female mean log wage, 10th, 50th or 90th percentile log wage minus the corresponding male log wage.
Table 2: Schooling and Actual Full Time Work Experience by Gender, PSID

<table>
<thead>
<tr>
<th>Year</th>
<th>Men</th>
<th>Women</th>
<th>Men-Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Years of Schooling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>13.3</td>
<td>13.2</td>
<td>0.2</td>
</tr>
<tr>
<td>1990</td>
<td>13.8</td>
<td>13.7</td>
<td>0.0</td>
</tr>
<tr>
<td>1999</td>
<td>14.2</td>
<td>14.3</td>
<td>-0.1</td>
</tr>
<tr>
<td>2011</td>
<td>14.3</td>
<td>14.5</td>
<td>-0.2</td>
</tr>
<tr>
<td></td>
<td>Bachelor's Degree Only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>18.1%</td>
<td>15.3%</td>
<td>2.7%</td>
</tr>
<tr>
<td>1990</td>
<td>20.0%</td>
<td>17.6%</td>
<td>2.3%</td>
</tr>
<tr>
<td>1999</td>
<td>23.4%</td>
<td>22.2%</td>
<td>1.2%</td>
</tr>
<tr>
<td>2011</td>
<td>26.2%</td>
<td>24.7%</td>
<td>1.5%</td>
</tr>
<tr>
<td></td>
<td>Advanced Degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>10.0%</td>
<td>7.4%</td>
<td>2.5%</td>
</tr>
<tr>
<td>1990</td>
<td>10.3%</td>
<td>8.7%</td>
<td>1.6%</td>
</tr>
<tr>
<td>1999</td>
<td>11.7%</td>
<td>10.8%</td>
<td>0.9%</td>
</tr>
<tr>
<td>2011</td>
<td>12.9%</td>
<td>15.7%</td>
<td>-2.8%</td>
</tr>
<tr>
<td></td>
<td>Years of Full Time Experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>20.3</td>
<td>13.5</td>
<td>6.8</td>
</tr>
<tr>
<td>1990</td>
<td>19.2</td>
<td>14.7</td>
<td>4.5</td>
</tr>
<tr>
<td>1999</td>
<td>19.8</td>
<td>15.9</td>
<td>3.8</td>
</tr>
<tr>
<td>2011</td>
<td>17.8</td>
<td>16.4</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Notes: Sample includes full time nonfarm wage and salary workers age 25-64 with at least 26 weeks of employment.
Table 3: Incidence of Managerial or Professional Jobs and Collective Bargaining Coverage by Gender, PSID

<table>
<thead>
<tr>
<th>Year</th>
<th>Men</th>
<th>Women</th>
<th>Men-Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Managerial Jobs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>21.5%</td>
<td>9.2%</td>
<td>12.3%</td>
</tr>
<tr>
<td>1990</td>
<td>21.1%</td>
<td>10.9%</td>
<td>10.2%</td>
</tr>
<tr>
<td>1999</td>
<td>21.8%</td>
<td>15.3%</td>
<td>6.5%</td>
</tr>
<tr>
<td>2011</td>
<td>18.3%</td>
<td>16.2%</td>
<td>2.2%</td>
</tr>
<tr>
<td><strong>Professional Jobs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>17.0%</td>
<td>21.8%</td>
<td>-4.8%</td>
</tr>
<tr>
<td>1990</td>
<td>19.4%</td>
<td>26.1%</td>
<td>-6.6%</td>
</tr>
<tr>
<td>1999</td>
<td>20.4%</td>
<td>26.9%</td>
<td>-6.4%</td>
</tr>
<tr>
<td>2011</td>
<td>21.7%</td>
<td>31.1%</td>
<td>-9.4%</td>
</tr>
<tr>
<td><strong>&quot;Male&quot; Professional Jobs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>14.6%</td>
<td>10.1%</td>
<td>4.5%</td>
</tr>
<tr>
<td>1990</td>
<td>17.3%</td>
<td>14.1%</td>
<td>3.2%</td>
</tr>
<tr>
<td>1999</td>
<td>17.6%</td>
<td>13.2%</td>
<td>4.4%</td>
</tr>
<tr>
<td>2011</td>
<td>18.6%</td>
<td>17.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td><strong>Collective Bargaining Coverage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>34.5%</td>
<td>21.1%</td>
<td>13.3%</td>
</tr>
<tr>
<td>1990</td>
<td>25.4%</td>
<td>19.4%</td>
<td>6.1%</td>
</tr>
<tr>
<td>1999</td>
<td>21.5%</td>
<td>18.2%</td>
<td>3.3%</td>
</tr>
<tr>
<td>2011</td>
<td>17.4%</td>
<td>18.9%</td>
<td>-1.5%</td>
</tr>
</tbody>
</table>

Notes: Sample includes full time nonfarm wage and salary workers age 25-64 with at least 26 weeks of employment. "Male" Professional jobs are professional jobs excluding nurses and K-12 and other non-college teachers.
Table 4: Decomposition of Gender Wage Gap, 1980 and 2010 (PSID)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1980</th>
<th>2010</th>
<th>1980</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effect of Gender Gap in Explanatory Variables (Log Points)</td>
<td>Percent of Gender Gap Explained</td>
<td>Effect of Gender Gap in Explanatory Variables (Log Points)</td>
<td>Percent of Gender Gap Explained</td>
</tr>
<tr>
<td>Education Variables</td>
<td>0.0129</td>
<td>2.7%</td>
<td>-0.0185</td>
<td>-7.9%</td>
</tr>
<tr>
<td>Experience Variables</td>
<td>0.1141</td>
<td>23.9%</td>
<td>0.0370</td>
<td>15.9%</td>
</tr>
<tr>
<td>Region Variables</td>
<td>0.0019</td>
<td>0.4%</td>
<td>0.0003</td>
<td>0.1%</td>
</tr>
<tr>
<td>Race Variables</td>
<td>0.0076</td>
<td>1.6%</td>
<td>0.0153</td>
<td>6.6%</td>
</tr>
<tr>
<td>Total Explained</td>
<td>0.1365</td>
<td>28.6%</td>
<td>0.0342</td>
<td>14.8%</td>
</tr>
<tr>
<td>Total Unexplained Gap</td>
<td>0.3405</td>
<td>71.4%</td>
<td>0.1972</td>
<td>85.2%</td>
</tr>
<tr>
<td>Total Pay Gap</td>
<td>0.4770</td>
<td>100.0%</td>
<td>0.2314</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

A. Human Capital Specification

Education Variables 0.0123 2.6% -0.0137 -5.9%
Experience Variables 0.1005 21.1% 0.0325 14.1%
Region Variables 0.0001 0.0% 0.0008 0.3%
Race Variables 0.0067 1.4% 0.0099 4.3%
Unionization 0.0298 6.2% -0.0030 -1.3%
Industry Variables 0.0457 9.6% 0.0407 17.6%
Occupation Variables 0.0509 10.7% 0.0762 32.9%
Total Explained 0.2459 51.5% 0.1434 62.0%
Total Unexplained Gap 0.2312 48.5% 0.0880 38.0%
Total Pay Gap 0.4770 100.0% 0.2314 100.0%

B. Full Specification

Notes: Sample includes full time nonfarm wage and salary workers age 25-64 with at least 26 weeks of employment. Entries are the male-female differential in the indicated variables multiplied by the current year male log wage coefficients for the corresponding variables. The total unexplained gap is the mean female residual from the male log wage equation.
Table 5: Effect of Changes in Explanatory Variables and Male Wage Coefficients on the Change in the Gender Wage Gap, 1980-2010

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Education Variables</td>
<td>-0.0219</td>
<td>-0.0219</td>
</tr>
<tr>
<td>Experience Variables</td>
<td>-0.0767</td>
<td>-0.0674</td>
</tr>
<tr>
<td>Region Variables</td>
<td>-0.0058</td>
<td>-0.0030</td>
</tr>
<tr>
<td>Race Variables</td>
<td>-0.0018</td>
<td>-0.0017</td>
</tr>
<tr>
<td>Unionization</td>
<td>--</td>
<td>-0.0331</td>
</tr>
<tr>
<td>Industry Variables</td>
<td>--</td>
<td>-0.0080</td>
</tr>
<tr>
<td>Occupation Variables</td>
<td>--</td>
<td>-0.0253</td>
</tr>
<tr>
<td>All X's</td>
<td>-0.1062</td>
<td>-0.1603</td>
</tr>
<tr>
<td>Effect of Changing Means</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education Variables</td>
<td>-0.0095</td>
<td>-0.0041</td>
</tr>
<tr>
<td>Experience Variables</td>
<td>-0.0004</td>
<td>-0.0006</td>
</tr>
<tr>
<td>Region Variables</td>
<td>0.0042</td>
<td>0.0037</td>
</tr>
<tr>
<td>Race Variables</td>
<td>0.0096</td>
<td>0.0049</td>
</tr>
<tr>
<td>Unionization</td>
<td>--</td>
<td>0.0003</td>
</tr>
<tr>
<td>Industry Variables</td>
<td>--</td>
<td>0.0031</td>
</tr>
<tr>
<td>Occupation Variables</td>
<td>--</td>
<td>0.0506</td>
</tr>
<tr>
<td>All B's</td>
<td>0.0039</td>
<td>0.0579</td>
</tr>
<tr>
<td>Effect of Changing Coefficients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education Variables</td>
<td>-0.1433</td>
<td>-0.1432</td>
</tr>
<tr>
<td>Experience Variables</td>
<td>-0.2456</td>
<td>-0.2456</td>
</tr>
</tbody>
</table>

Notes: Effect of Changing Means is the change over the 1980-2010 period in the male-female difference in the indicated variables multiplied by the indicated male log wage coefficients for the corresponding variables. Effect of Changing Coefficients is the change over the 1980-2010 period in the male wage coefficients for the indicated variables, multiplied by the corresponding male-female difference in the means of the indicated variables.
Table 6: Decomposition of the Gender Log Wage Gap by Unconditional Distribution Percentile (PSID)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Human Capital</td>
<td>Full</td>
</tr>
<tr>
<td>A. Effect of Covariates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10th percentile</td>
<td>0.1767 (0.0234)</td>
<td>0.2729 (0.0374)</td>
</tr>
<tr>
<td>50th percentile</td>
<td>0.1215 (0.0167)</td>
<td>0.2381 (0.0279)</td>
</tr>
<tr>
<td>90th percentile</td>
<td>0.1139 (0.0188)</td>
<td>0.2281 (0.0260)</td>
</tr>
<tr>
<td>B. Effect of Wage Coefficients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10th percentile</td>
<td>0.2958 (0.0429)</td>
<td>0.1886 (0.0487)</td>
</tr>
<tr>
<td>50th percentile</td>
<td>0.3876 (0.0220)</td>
<td>0.2598 (0.0275)</td>
</tr>
<tr>
<td>90th percentile</td>
<td>0.3316 (0.0269)</td>
<td>0.2336 (0.0285)</td>
</tr>
<tr>
<td>C. Sum of Covariate and Wage Coefficient Effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10th percentile</td>
<td>0.4725 (0.0367)</td>
<td>0.4615 (0.0353)</td>
</tr>
<tr>
<td>50th percentile</td>
<td>0.5091 (0.0226)</td>
<td>0.4979 (0.0232)</td>
</tr>
<tr>
<td>90th percentile</td>
<td>0.4455 (0.0314)</td>
<td>0.4617 (0.0311)</td>
</tr>
</tbody>
</table>

Notes: Sample includes full time nonfarm wage and salary workers age 25-64 with at least 26 weeks of employment. Entries are based on the decomposition of the unconditional gender log wage gap at each indicated percentile, based on methods in Chernozhukov, Fernández-Val and Melly (2013). Standard error are in parentheses and are computed by bootstrapping with 100 repetitions.
<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Traits Examined</th>
<th>Raw Gender Wage Gap (logs)</th>
<th>Effect of Gender Differences in Psych. Factors on Gender Pay Gap (logs)</th>
<th>Percentage of Gender Pay Gap Due to Gender Differences in Psych. Traits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mueller and Plug (2006)</td>
<td>Wisconsin 1957 HS Grads, 1992 Data</td>
<td>&quot;Big 5&quot;: Extroversion; Agreeableness; Conscientiousness; Neuroticism; Openness</td>
<td>0.587</td>
<td>0.043-0.095</td>
<td>7.3-16.2%</td>
</tr>
<tr>
<td>Semykina and Linz (2007)</td>
<td>Russia 2000-2003</td>
<td>Locus of Control; Challenge/Affiliation</td>
<td>0.311-0.397</td>
<td>0.012-0.026</td>
<td>3.0-8.4%</td>
</tr>
<tr>
<td>Fortin (2008)</td>
<td>US NELS 1972 and 1988 Cohorts: 1979, 1986 and 2000</td>
<td>Self-Esteem; Locus of Control; Money/Work Importance; People/Family Importance</td>
<td>0.181-0.237</td>
<td>0.008-0.032</td>
<td>4.4-14.0%</td>
</tr>
<tr>
<td>Manning and Swafford (2008)</td>
<td>British Cohort Study: 1970 Birth Cohort, 2000 Data</td>
<td>Risk; Competitiveness; Self-Esteem; Other-Regarding; Career Orientation; Locus of Control</td>
<td>0.203</td>
<td>0.005-0.056</td>
<td>2.5-27.6%</td>
</tr>
<tr>
<td>Nyhus and Pons (2011)</td>
<td>Denmark 2005</td>
<td>Locus of Control; Time Preference</td>
<td>0.246</td>
<td>0.028-0.035</td>
<td>11.5-14.1%</td>
</tr>
<tr>
<td>Reuben, Sapienza and Zingales (2015)</td>
<td>2008 Univ. of Chicago Booth MBA Cohort</td>
<td>Taste for Competition</td>
<td>0.119</td>
<td>0.010-0.012</td>
<td>8.4-10.1%</td>
</tr>
<tr>
<td>Cattan (2014)</td>
<td>NLSY 1979, 4 points in life cycle</td>
<td>Self-Confidence</td>
<td>0.18-0.30</td>
<td>0.010-0.036</td>
<td>5.4-14.5%</td>
</tr>
</tbody>
</table>

Notes: Manning and Swafford (2008) entries based on their model with all psychological variables included (Table 9, Line 8). Cattan (2014) entries based on marginal effect of self-confidence (Table 9, Panel C).