Understanding the Pay Gap

Insights from Industry/Practice

−**Measuring Pay Gap**

−**Evaluating Systems and Functional Infrastructure**

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Date: August 19, 2016
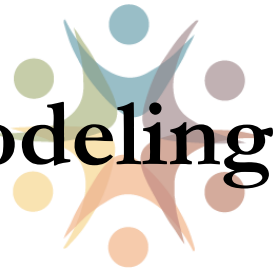
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consulting group

Presentation Outline

- Insights from Data Modeling

- Proactive Analysis—Practical Considerations

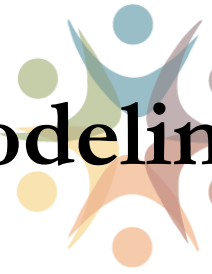- Defending Against Pay Discrimination Charges—An Expert's Insight

INSIGHTS FROM DATA MODELING
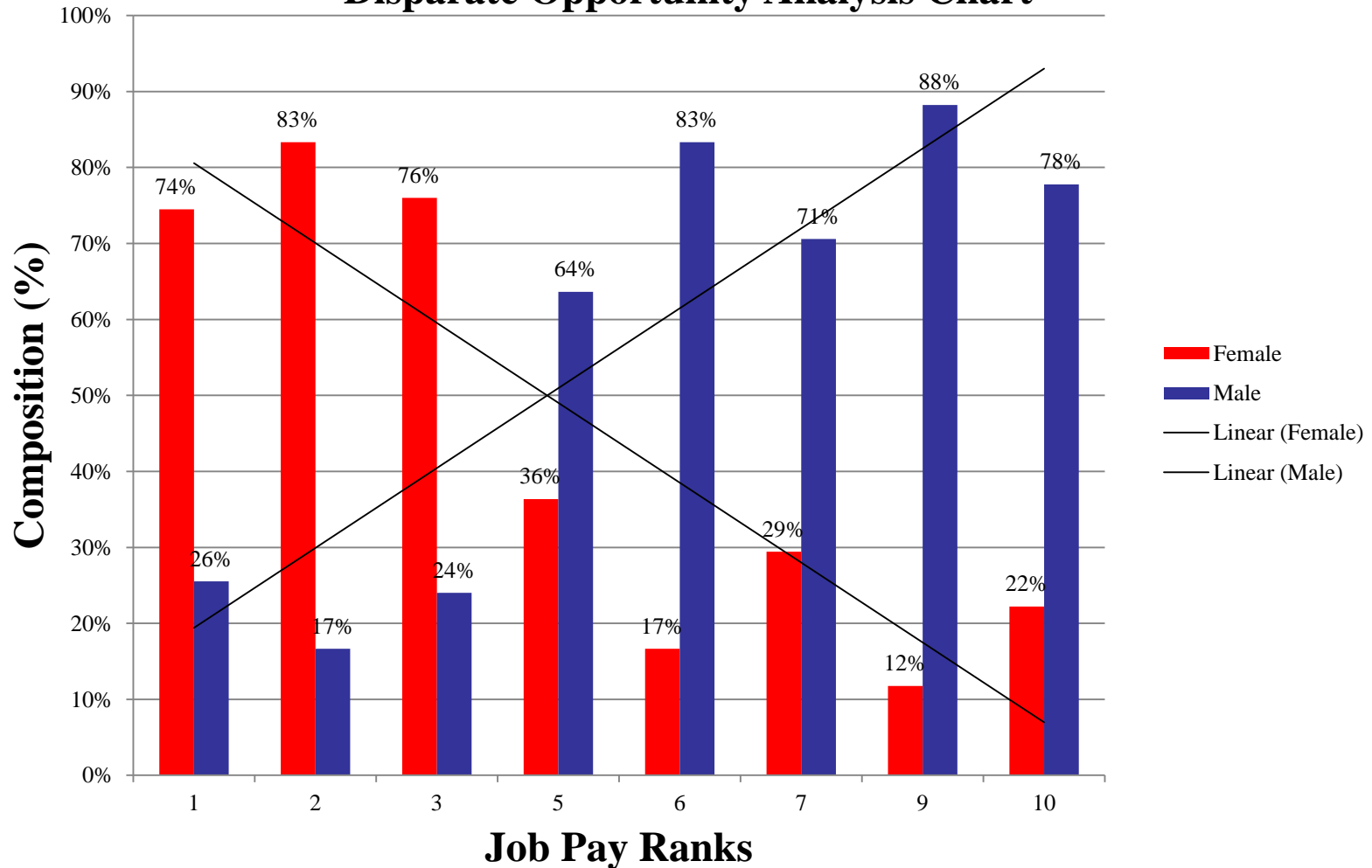
Pay Disparity Insights from Data Modeling

- Pay Gap—Findings from Recent Studies
- Pay Gap is due to placement differences—Between-Job Difference
  - CA State Auditor—County Pay Practices
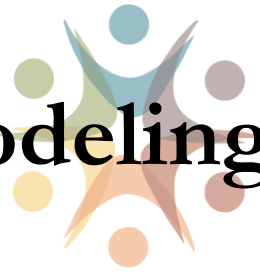   - http://www.auditor.ca.gov/pdfs/reports/2015-132.pdf
  - Glassdoor Study
    - https://www.glassdoor.com/research/studies/gender-pay-gap/
    - http://fortune.com/2016/03/23/unexplained-wage-gap/

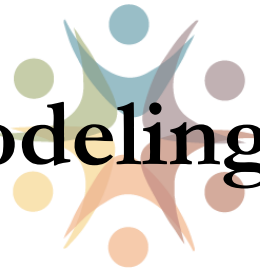# Pay Disparity Insights from Data Modeling

Pay Disparity Insights from Data Modeling

- It is not that simple.

- Experts agree that the Pay Gap is significantly more complex.

- Pay Disparity can be largely accounted for by ***Starting Salary***

- It's a complicated mess.

  - Pay Gap is due to differences in Starting Salary WITHIN jobs and Placement BETWEEN jobs?

Pay Disparity Insights from Data Modeling
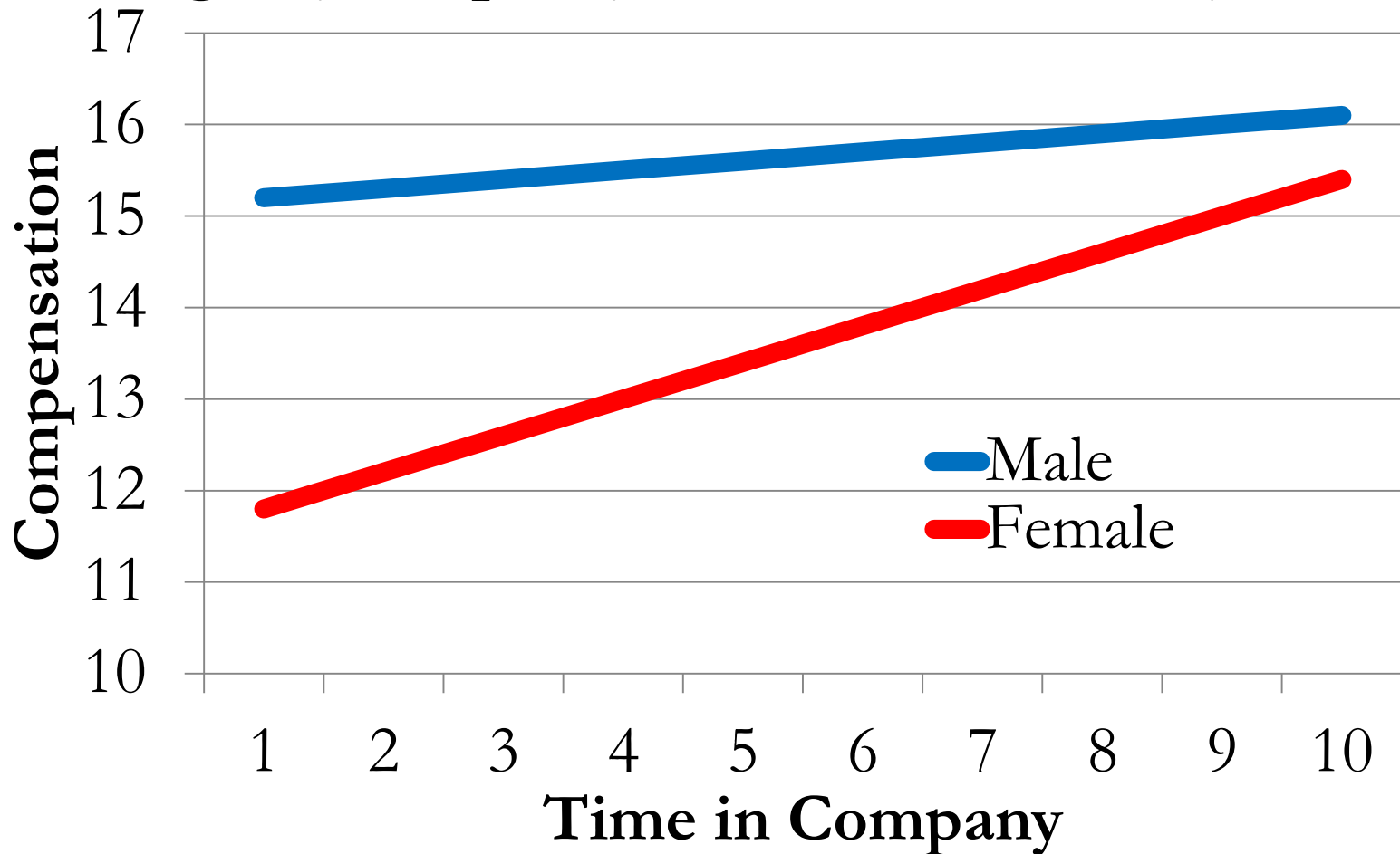
- Pay Gap: double-whammy problem.
  - Women tend to have lower Starting Salary compared to men WITHIN the same job.
  - Women tend to have lower Starting Salary compared to men BETWEEN jobs (enter into lower paid positions).

Pay Disparity Insights from Data Modeling
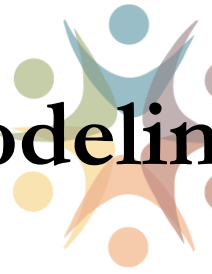
Modeling Pay Disparity: Visual Data Analytics

PROACTIVE ANALYSIS— PRACTICAL CONSIDERATIONS

Proactive Analysis--Facts to Consider

- Laws work: Many companies conduct proactive compensation analyses to minimize legal exposure.
- Many proactive analyses are done incorrectly.
  - 10+ Compensation *Common* Mistakes
- Data is rarely "complete" and available.
  - Best data are often not in electronic form.
- Data is often unreliable and not 100% valid.
- Operational/Functioning reality clashes with analytical methods

Proactive Analysis—*Rarely* Ideal

Statistical Analyses Is Not (Too) Common

- 75%-90% of S-SSEGs cannot be statistically analyzed due to small **sample size**.

- Most statistical analyses capture 35%-45% of workforce.

- Most of the workforce are not captured in typical compensation analyses.

Proactive Analysis—*Rarely* Ideal

When things are messy, keep it simple and *focused*.

- Compensation Data (4×):
  - Pay (Base/Total Comp)
  - Group Identity (Gender/Race)
  - Explanatory Factors (TIC, TIJ, PA)
  - (Substantially) Similarly Situated Employee Groups (S-SSEG)
- Simple Models are *best models, e.g.*:
  - Pay=Gender+TIC+TIJ+PA
  - Pay=Gender+TIC+TIJ+PA+GeoDiff

Proactive Analysis—*Rarely* Ideal

Statistical Analysis Example.

Descriptive

Data		Male	Female
Gender	Count	15	15
Salary2	Average	$80,958	$68,142
Tenure	Average	2.7	2.1
Difference	Raw ($)		$12,816
	Pct (%)		16%

Outcome

Impact		Male	Female
	Group		Female
	Amount		$2,057
	SD		0.47

Statistical Results

Regression		Male	Female
Overall	R-Square		0.56
	Sample (n)		30
	p-Value		0.00
Gender	Beta		2057.40
	SD		0.47
	p-Value		0.65
Tenure	Beta		16636.42
	SD		4.78
	p-Value		0.00

Proactive Analysis—*Rarely* Ideal

Tenure to Salary by Gender Analysis
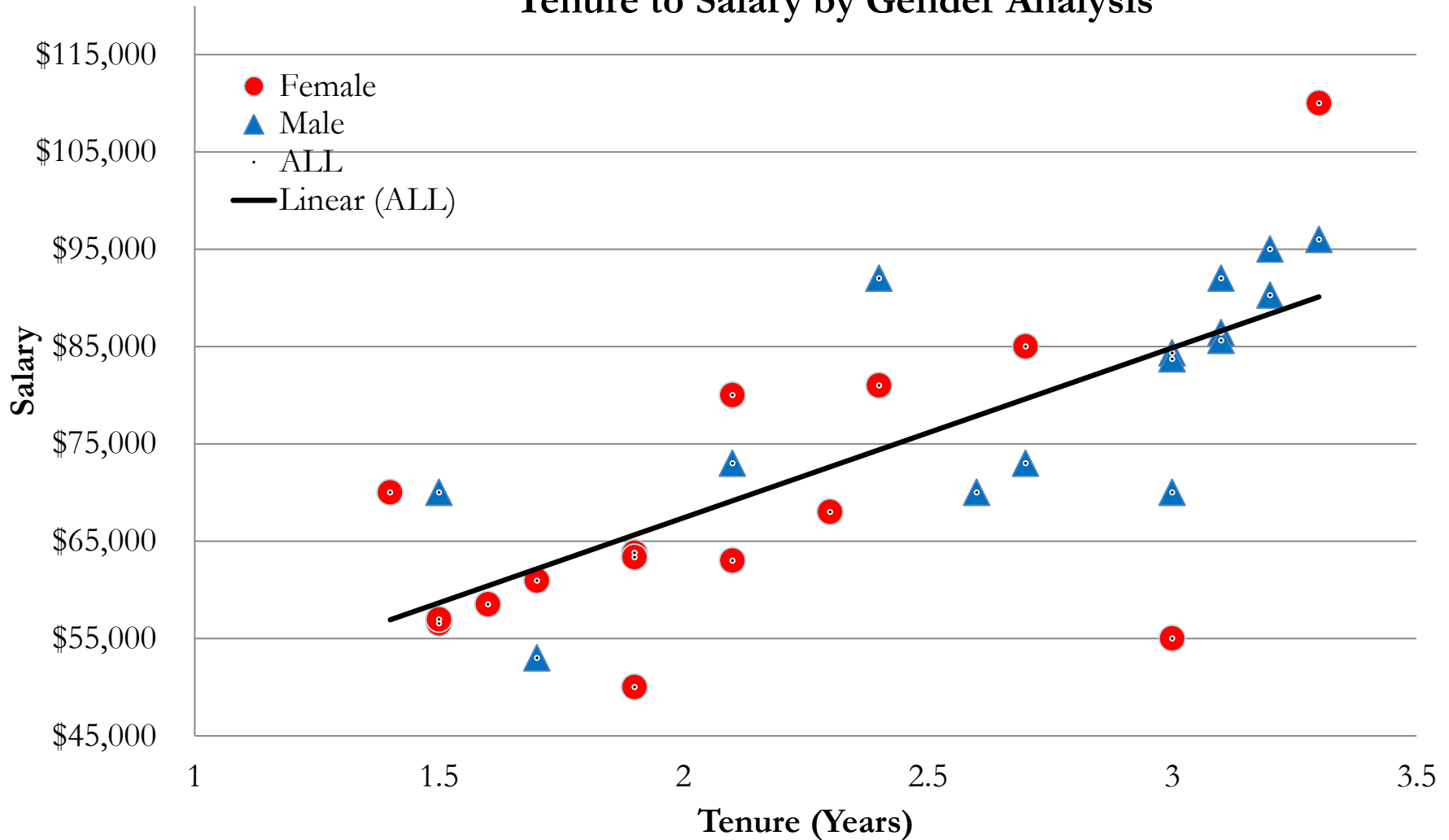
Proactive Analysis—*Rarely* Ideal

Non-Statistical *Econometric* Data Modeling

- Pay Gap cannot be closed with Statistics alone.

- Non-Statistical Econometric Data Modeling methods are essential to achieving true pay equity.

DEFENDING AGAINST PAY DISCRIMINATION CHARGES— AN EXPERT'S INSIGHT

Defending Against Claims

The "General" course
1. Claims made
2. Data Analyzed—Statistical
   a) Plaintiff expert analyze data
   b) Defense expert analyze data
   c) Repeat as many iterations as necessary
3. Data Analyzed—Cohort (non-statistical)
   1. Plaintiff identifies a handful of impacted individuals.
   2. Defense explains pay difference for each identified individual with file-pulling.
4. Settlement

Defending Against Claims

Applying conventional statistical methods, plaintiffs (in general) have a difficult (~impossible) burden.

- Getting a significant model is difficult, e.g.:
  - Small sample size
  - Data challenges
  - Complex models (e.g. aggregated) validity and interpretation
- Pay differences almost always come down to a handful of individuals.
- Most compensation matters fade into small count cohort arguments.

Defending Against Claims

Defense Experts have an easier job.

- Undermining a model's validity is not difficult.
  - Picking apart and undermining plaintiff expert's models is #1 most effective defense strategy of choice (if defense experts is good).
- Differences can be explained away
  - Cohort analysis
  - Statistical gymnastics
- Defense (generally) has access to more data.
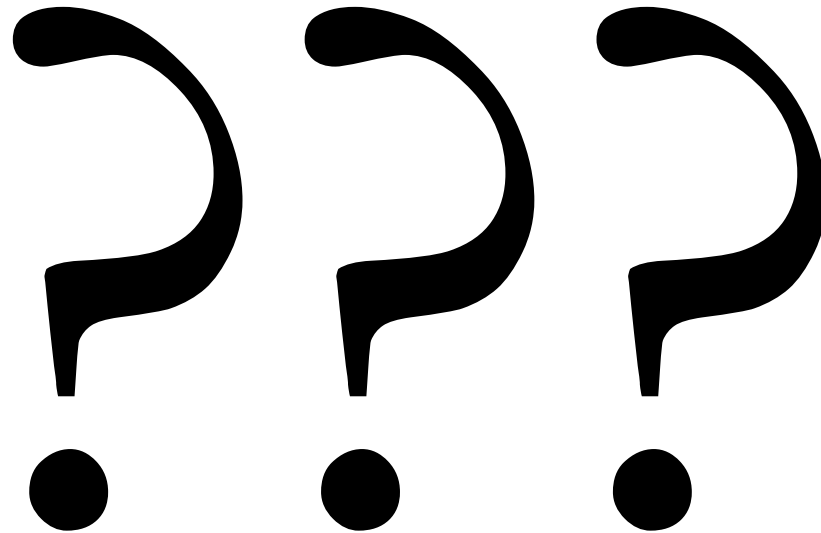
Defending Against Claims

Recommendations from a defense expert to plaintiffs

- Get a good statistician trained in the social sciences.
- Avoid a duel of statistical experts.
    - KISS-rule applies: Simple and powerful models are more difficult to deconstruct
- Develop a deep understanding of context—Depo.
- Apply unconventional methods and strategies
    - Develop strong non-statistical econometric models earlier than later.
    - Aggregate analyses unconventionally

Disclaimer

- This is far from comprehensive.
- Given the time constraints and many limitations, this is only a sample of some of the more obvious and important pieces from a practitioner's perspective.

Questions

THANK YOU