

# EconOne

INSIDE

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## FALL SEASON FASHION: LAWSUITS FROM WAL-MART?

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### *Suggestions for Improving the Analysis on both sides in the Wal-Mart Class Action Lawsuit.*

Attention Wal-Mart shoppers. Welcome to the largest private civil rights case in U.S. history. On June 22nd this year (2004), U.S. District Judge Martin Jenkins approved class-action status for a sex-discrimination lawsuit against Wal-Mart Stores Inc. As many as 1.6 million current and former female employees will now have recourse to seek punitive damages, back pay and other compensation. The suit alleges Wal-Mart created a system that frequently pays its female workers less than their male counterparts for comparable jobs and bypasses women for key promotions. The question is, how to show that the evidence either supports or does not support the claim, at a reasonable level of certainty (in a statistical sense).

While the Judge noted that in their case, "plaintiffs present largely uncontested descriptive statistics which show that women working at Wal-Mart stores are paid less than men in every region, that pay disparities exist in most job categories, that the salary gap widens over time, that women take longer to enter management positions, and that the higher one looks in the organization the lower the percentage of women." For this short piece,

I examined three pieces of work (presented by both the plaintiffs and the defense) from the class action hearing on the Wal-Mart class action plaintiff attorney website (<http://www.cmht.com/casewatch/civil/walmart.html>): 1. "Statistical Analysis of Gender Patterns in Wal-Mart Workforce", Richard Drogin, Ph.D, February 2003. 2. "The Representation of Women in Store Management at Wal-Mart Stores, Inc.", Mark Bendick, Ph.D, January 2003. 3. "Plaintiffs' Reply in Support of their Motion for Class Certification," July 25, 2003. For both the plaintiffs and defense, there are areas for improvement that, if addressed, would help in establishing whether or not Wal-Mart did discriminate against its female employees, as well as in estimating damages (conditional on Wal-Mart being shown to have discriminated against its female employees).

Most professional economists who have seen an earnings equation (a regression model with wages as the dependent variable) will tell you that the indicator for female earnings is negative and at a level of significance that leaves the result almost no probability of occurring by chance. However, such analysis is usually rudimentary in its approach and does not represent econometric science at its most insightful. It would not prove the case that Wal-Mart discriminated against female employees,

and it would over-estimate the extent of damages.

The database on Wal-Mart's employees presents a rich and interesting problem. The analysis to answer the central question for the case could be improved by using recent econometric methods in the analysis of employer-employee data. This type of analysis is only just finding its way into professional journals and, as such, is not yet widely known throughout the economics/statistics profession. In particular, little use has been made of the fact that information is available on employees over time, observed at the Wal-Mart stores (also observed over time).

Over time (or longitudinal) observation is important as it allows consideration of 'unobserved' attributes of workers. Wal-Mart may try to claim that it promoted people because of appearance, motivation at the store, initiative, or some other attribute that is particular to the individual, and which should be consistent for an individual over time. But there are unobserved elements that may influence the observed outcome. Without accounting for unobserved differences across individuals and stores in the analysis, results will be biased or misleading. Using the longitudinal variation in the data, it is possible to remove these elements from any estimates developed as part of the statistical analysis.

Modern techniques for analyzing employer-employee data allow the consideration of ALL employers in one set along with ALL employees. In the Wal-Mart case, this would entail the consideration of all the stores together with all of their employees. By considering all stores and all employees, it is possible to test for differences in the pay awarded to employees based on their gender, thereby removing from the analysis both observed and unobserved attributes (such factors that you might describe as motivation, time keeping, appearance – anything not measured) describing each employee and store. This technique would ensure that the commonality issue has been maintained, that there is a common pay and promotion policy across Wal-Mart stores, and that account has been taken of all factors that could be responsible for differences in pay EXCEPT gender. As all observations are used, the statistical tests would have a great deal of 'power;' they would not suffer the small sample size problem that plagued the analysis by defense experts. However it should be noted that neither plaintiff nor defense experts (to date) took account of unobserved factors for either employees or stores in the documents cited. The techniques can be used to establish if discrimination did occur and, if so, the extent of damages to be awarded.