

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF KENTUCKY  
SOUTHERN DIVISION at LONDON

CIVIL ACTION NO. 6:01-CV-339-KKC

EQUAL EMPLOYMENT OPPORTUNITY COMMISSION,

PLAINTIFF

v.

**OPINION AND ORDER**

WAL-MART STORES, INC.,

DEFENDANT

\*\*\*\*\*

This matter is before the Court on the Defendant Wal-Mart Stores, Inc.'s Motion to Exclude the Proposed Testimony of EEOC Expert Burt S. Barnow (DE 360). For the following reasons, the Court will DENY the motion.

**I. BACKGROUND.**

In its Complaint, the United States Equal Employment Opportunity Commission (the "EEOC") asserts that, since at least January 1, 1998, Wal-Mart engaged in unlawful employment practices within Wal-Mart Distribution Center No. 6097 ("DC 6097) in violation of Section 703(a)(1) of Title VII, 42 U.S.C. 2000e-2(a)(1). (DE 1, Complaint, ¶ 7).

That statute prohibits an employer from failing or refusing to hire a woman or from otherwise discriminating against her because of her gender.

The EEOC brings this claim pursuant to Section 707 of Title VII, 42 U.S.C. § 2000e-6, which allows the federal government, through the EEOC, to bring a civil action directly against an employer charging systematic discrimination against a protected group.

In these cases, the government has to demonstrate that there exists "a pattern or practice of resistance to the full enjoyment of any of the rights secured by [Title VII]...." 42 U.S.C. § 2000e-6(a).

To do so, the EEOC must prove more than the “mere occurrence of isolated, ‘accidental’ or sporadic discriminatory acts.” *International Brotherhood of Teamsters v. United States*, 431 U.S. 324, 336 (1977). Rather, the EEOC must show that discrimination was the employer's “standard operating procedure” and “the regular rather than the unusual practice.” *Teamsters*, 431 U.S. 324, 336 (1977). *See also Cooper v. Federal Reserve Bank of Richmond*, 467 U.S. 867, 874-76(1984). Such an action focuses on whether there exists a “pattern of discriminatory decisionmaking.” *Cooper*, 467 U.S. at 876.

The plaintiffs may establish a prima facie case of pattern or practice disparate treatment by the use of statistics which show a gross disparity in the treatment of workers based on a protected characteristic. *Anderson v. Douglas & Lomason Co., Inc.*, 26 F.3d 1277, 1285 (5th Cir.1994). The plaintiffs may bolster their case by introducing historical, individual, or circumstantial evidence. *Id.* The employer may then rebut the plaintiffs' prima facie case by showing that the plaintiffs' statistics are inaccurate or insignificant, or by providing a nondiscriminatory explanation for the apparent discrimination. *Id.*

If the employer fails to rebut the government's prima facie case, the resulting finding of a discriminatory pattern or practice gives rise to an inference that all employees subject to the policy were its victims and are entitled to appropriate remedies. *See Teamsters*, 431 U.S. at 362.

The EEOC proffers Dr. Burt S. Barnow as its statistical expert. Specifically, Dr. Barnow was hired to analyze data on hiring by Wal-Mart from January 1, 1998 to present to determine if there is a statistically significant disparity in hiring by sex at DC 6097 after controlling for relevant factors. In his report, Dr. Barnow states that the statistical approach he used “to control for factors that might affect hiring decisions is logit analysis, sometimes referred to as logistic regression analysis.” (DE

359 at 13). Barnow concludes that, for the relevant time periods, “men were more likely to receive an offer than women after controlling for information available on the application, and these results are statistically significant and highly unlikely to have occurred by chance.”

## II. ANALYSIS.

Wal-Mart now moves to exclude Dr. Barnow’s testimony. The Court conducted a hearing on the motion at which Dr. Barnow testified and counsel presented arguments.

Rule 702 of the Federal Rules of Evidence provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

In *Daubert v. Merrell Dow Pharmaceuticals Inc.*, 509 U.S. 579 (1993) and *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137 (1999), the Court clarified that expert testimony is admissible only if it is both relevant and reliable. *Daubert*, 526 U.S. at 589; *Kumho Tire*, 526 U.S. at 147.

As to reliability, a witness must first establish that he is qualified on the basis of “knowledge, skill, experience, training, or education.” *Pride v. BIC Corp.*, 218 F.3d 566, 577 (6<sup>th</sup> Cir. 2000)(citing Fed. R. Evid. 702). The Court then must “determine whether the principles and methodology underlying the testimony itself are valid.” *Id.* The Court is not to “second guess the validity of conclusions generated by otherwise valid methods, principles, and reasoning.” *Id.*

As to relevancy, “[t]his requirement has been interpreted to mean that scientific testimony must ‘fit’ the facts of the case, that is, there must be a connection between the scientific research or

test result being offered and the disputed factual issues in the case in which the expert will testify.”  
*Id.* at. 578.

The party proffering the expert testimony must prove its reliability and relevancy by a preponderance of the evidence. *Id.*

Wal-Mart does not object to Dr. Barnow’s qualifications. Dr. Barnow has a Ph.D in economics and has taught, researched, consulted and testified in the area of labor economics for more than 35 years. He has performed statistical analyses for government, research and consulting firms, and universities and his research has been published in books and scholarly journals.

Wal-Mart’s objection to Dr. Barnow’s testimony is centered on its reliability and its relevancy.

**A. Reliability.**

In its response to Wal-Mart’s motion, the EEOC explains that Dr. Barnow’s analysis began with raw applicant materials provided by Wal-Mart. The EEOC explains that, in response to the EEOC’s discovery requests, Wal-Mart provided hundreds of thousands of pages of handwritten and “sometimes illegible and incomplete applicant materials.”

In his rebuttal report, Dr. Barnow explains that he concurred in the EEOC’s decision to hire CompuPacific, a contractor that specializes in data entry. He states that CompuPacific double-key entered all data. This means two data entry clerks entered the data and then compared the entered data. Any discrepancies between the two entries were then resolved.

Dr. Barnow states that the EEOC then contracted with Dr. Ibrahim Imam, a Ph.D. in mathematics and a faculty member of the computer engineering and computer science department at the University of Louisville, to take the data prepared by CompuPacific and “place the data into

a data management system for use in statistical analysis.” Finally, according to Dr. Barnow, the EEOC contracted with the Lewin Group to perform quality control on the data and to convert the data to a format for use in his statistical analysis.

**1) Dr. Barnow’s Role in Creating the Underlying Database.**

Wal-Mart argues “Barnow had no role in, nor any awareness of, how the data was gathered, and yet his opinions exclusively rely on that data.” Dr. Barnow obviously could not have *personally* entered the data contained in the 25,000 applicant packets and on the hundreds of thousands of pages provided by Wal-Mart. Wal-Mart does not argue that the various parties with whom the EEOC contracted were unqualified to perform the work they did toward the construction of the final database.

In support of its argument that Dr. Barnow should have been more involved with the creation of the database, Wal-Mart cites *Dreyer v. Ryder Automotive Carrier Group, Inc.*, 367 F.Supp.2d 413 (W.D.N.Y. 2005). In that case, the district court found fault with the fact that the proposed expert “made no effort to independently verify the accuracy of the data.” *Id.* at 446. Wal-Mart retained James Freeman as its expert to respond to Dr. Barnow’s statistical analysis. Freeman states in his report that Dr. Barnow could not have possibly checked the codes used and data developed by Dr. Imam for accuracy.

At the hearing on this matter, however, Dr. Barnow clarified that the Lewin Group was hired for the purpose of analyzing Dr. Imam’s initial database for errors. Again, Dr. Barnow was not required to perform this work himself in order for the Court to find his testimony sufficiently reliable to present to a jury. Wal-Mart makes no argument that the Lewin Group was unqualified to verify the accuracy of Dr. Imam’s initial database. Dr. Barnow testified that he had extensive experience

with the Lewin Group. In his report, Dr. Barnow stated that regular discussions were held between Dr. Imam, CompuPacific, the Lewin Group and the EEOC during the creation of the database.

Accordingly, the Court will not exclude Dr. Barnow's testimony on the basis that he had an insufficient role in the creation of the database or that he failed to verify its accuracy.

**2) EEOC's Role in Creating the Underlying Database.**

As to the EEOC's role in creating the database at issue, Wal-Mart argues that it had such an extensive role that the database is "biased." Wal-Mart argues that the EEOC made decisions about the Social Security numbers and gender of applicants, and whether or not the applicants qualified as members of the class.

In his rebuttal report and at the hearing, however, Dr. Barnow stated that the EEOC and its resources were used to locate gender, social security numbers, and other factual information. He stated that the EEOC has a contract with entities such as Accurint that were able to determine applicant gender. He stated that the EEOC was also able to request gender information from state motor vehicle departments.

At the hearing, Dr. Barnow explained that the EEOC staff was not actually determining the gender of applicants. Instead, it would go to Accurint who would make that determination for applications where the gender was questionable. At the hearing, Dr. Barnow explained that the EEOC would then transmit that information to him. Dr. Barnow stated in his report that the EEOC was used only for basic tasks but made no decisions as to class membership or on anything substantive.

Accordingly, the EEOC's role in the creation of the underlying database does not require the Court to exclude Dr. Barnow's testimony.

### **3) Errors in the Underlying Database.**

Wal-Mart argues that the underlying database is “littered with massive errors and extensive mistakes.” (DE 360, at 20). In support of this argument, Wal-Mart cites the report of its expert James Freeman.

Freeman did not undertake a complete review of all 25,000 files. Instead, it appears he checked Dr. Barnow’s accuracy in three ways. First, Freeman checked the files for six particular categories of applicants identified by Dr. Barnow (applicants with bad references; applicants under 18; applicants with no proof they could legally work in the United States; applicants who indicated they were convicted felons on their application; applicants who applied for only white-collar jobs but were hired as order fillers; applicants who were transfers).

Second, Freeman also reviewed the files for each of the class members identified by Dr. Barnow in his initial report to determine whether each had been accurately identified as a member of the class

Third, Freeman selected a random sample of 425 application files and reviewed Dr. Barnow’s data regarding these files for accuracy.

Freeman indicated in his report that “a statistically valid random sample is the logical way to test the accuracy of Dr. Barnow’s database.” Accordingly, in determining whether Dr. Barnow’s database is so error-ridden that his analysis cannot be presented to a jury as Wal-Mart argues, the Court will focus on the results of Freeman’s random sample.

Freeman states in his report that, “[f]or purposes of the database, the four most important pieces of information are gender, Social Security number, application date, and whether the applicant was hired by Wal-Mart.” Accordingly, the Court will begin with a look at Freeman’s analysis of

these four pieces of data contained in Dr. Barnow's database.

Freeman states that of the 425 applications, he matched the social security number and application date for 390. It is not clear from Freeman's report what number of the "mis-matches" is due to errors in the database. Dr. Barnow states that Freeman identified 12 errors in Social Security number and 13 errors in application date. Wal-Mart has not contested that. Dr. Barnow states he agrees with 6 of Freeman's asserted errors in social security number and 9 of Freeman's asserted errors in application date for error rates of, respectively, 1.4 % and 2.1%.

Of the 390 applications in which the Social Security number and application date matched, Freeman identified four errors in the offer rate for the applicants. This would seem to indicate that Dr. Barnow was incorrect on the offer rate for four of 390 applications, or on approximately 1% of the applications. Freeman asserts that Dr. Barnow's error rate on this variable was 20% because, of the 20 offers identified by Dr. Barnow, four were incorrect. While the Court finds Freeman's error rate calculation questionable, it has no way of discerning which error rate calculation is accurate. At a minimum, there are two reasonable interpretations of the error rate that can be put before the jury, one of which indicates that any error in the offer rate variable was insignificant.

Freeman did not review the accuracy of Dr. Barnow's data regarding applicant gender. Nor did Freeman undertake to determine whether the errors he identified in the database made any difference in Dr. Barnow's conclusions regarding the statistical disparity in hiring by gender at the distribution center.

Of the less important variables, some of the discrepancies identified by Freeman are certainly not sufficient to justify excluding Dr. Barnow's testimony. For example, Dr. Barnow identified two applicants as indicating they had no legal right to work in the country. Freeman found one. Dr.



Barnow identified nine applicants as self-professed convicted felons. Freeman found ten. Dr. Barnow did not identify any transfer applicants. Freeman found four.

In explaining the “significance of Dr. Barnow’s error rates,” Freeman focuses on the following variables:

- for 34 of the 424 applications Freeman was able to access, the applications did not exist in Wal-Mart’s files or the Social Security number or application date in Dr. Barnow’s database did not match Wal-Mart’s records;
- Dr. Barnow identified 179 of the remaining 390 applications as those where the applicant did not specify his or her education level; Freeman found zero such applications. Freeman states that it is likely that some applicants who Dr. Barnow found did not specify education level, actually did provide such information but the information was not legible in the scanned versions of the paper applications;
- Dr. Barnow identified 40 applicants as not having supplied a work history; Freeman found 12. Freeman explains that this is because Dr. Barnow did not include prior employment history indicated on resumes submitted by applicants but instead only included the history indicated on the application itself.

Per an order entered by the Court long before any of the expert reports were actually filed (on DE 88, dated July 24, 2006), the EEOC was permitted to file a rebuttal report by its statistical expert. Dr. Barnow’s rebuttal report states that “some of Mr. Freeman’s assertions regarding errors are correct, and some are not.”

As to education level, Dr. Barnow states that he made all the changes suggested by Freeman. As to applicants who failed to supply any work history, Dr. Barnow states that this was a difficult variable to code because applicants provided incomplete or illegible information on their applications. Dr. Barnow states that, in response to Freeman’s reports, he made changes with regard to the work history of 10 out of the 390 applications. He states that, by the rules he established for the database, an applicant was coded as “work history missing” if the applicant did not list dates for

jobs. He states that Freeman found applicants should not be coded as “work history missing” so long as the applicants listed one job, even without dates. Dr. Barnow asserts this is inaccurate.

In his rebuttal, Dr. Barnow states he reran his statistical analysis after making the appropriate corrections and arrives at the same conclusion: “the rate at which men received offers from Wal-Mart is higher than the rate for women when one controls on variables available, and the disparity is statistically significant for the 1998-2001 and 2002-2004 periods.” Dr. Barnow also states that he performed a statistical analysis on the database created by Freeman and found a statistically significant disparity in offers by gender.

The Court cannot exclude Dr. Barnow’s testimony on simply finding that the database contained some errors. Some errors are obviously to be expected considering the volume of data at issue and the condition of the raw material. As Freeman pointed out, Wal-Mart itself did not maintain a database of applicant data. Accordingly, a database had to be constructed from hundreds of thousands of pages of applicant material, some of which was illegible and incomplete.

The Court must find that any errors in the database are so profound that the jury should be prohibited from hearing Dr. Barnow’s conclusions. Freeman never asserts that the errors he identified are significant in the sense that they render inaccurate Dr. Barnow’s conclusion that there was a statistically significant disparity in hiring rates for the relevant time period. Dr. Barnow came to this same conclusion in his rebuttal report and in his analysis of Freeman’s database.

None of the errors pointed out by Freeman lead to a conclusion that there were systemic problems in the manner by which the database was created that render it too unreliable to present to a jury. The only troubling discrepancy between Dr. Barnow’s database and Freeman’s random sample is in the applicant education level. However, this appears to have been caused by difficulty

in reading scanned versions of the paper applicant materials and not in any systemic problems with the database.

The Court recognizes that Wal-Mart argues that the error rates for certain variables were extremely high. The Court has indicated it finds these calculations to be questionable, i.e., Freeman asserts that Dr. Barnow misidentified one applicant of 390 as having no legal right to work in the country and calculates the error rate to be 50%. Regardless, Dr. Barnow's error rate calculations are at least sufficiently reasonable to put before the jury.

While Dr. Barnow's database certainly contained some errors, the Court does not find it fundamentally flawed. Accordingly, Dr. Barnow's testimony will not be excluded on the basis of errors found by Freeman in the underlying database.

**4) Aggregation of Data.**

Wal-Mart argues that Dr. Barnow's opinions are not reliable because he aggregated data for the years 2002-04. In his initial report, Dr. Barnow explains that "dividing the data into small groups results in a loss of statistical power, making it difficult or impossible to detect differences in offer rates, so using arbitrary periods for analysis such as a single years should generally not be done if one is interested in analyzing data for a longer period." Dr. Barnow states he analyzed the data for the 1998-to-2001 time period separately from the data for the 2002-to-2004 period because, beginning in 2002, Wal-Mart's hiring pattern changed.

Aggregation of data is certainly not per se improper. Despite proclaiming that Dr. Barnow's aggregation of data was most "egregious," and demonstrative of the "untrustworthiness" of his opinions, Wal-Mart provides no reason that the aggregation of data is improper in this case.

**5) Failure to Consider Interview Notes.**

As Wal-Mart's final argument regarding reliability, it argues that Dr. Barnow did not include in his analysis information disclosed during job interviews. Again this does not require exclusion of his testimony. As the EEOC points out, such information would only be available for applicants who received interviews. Further, the EEOC submits evidence that interviewers were not told by Wal-Mart what information to record during interviews. Thus, the recorded interview information is "non-standard," varying from interview to interview. Excluding such information does not render Dr. Barnow's database unreliable.

For all these reasons, the Court finds that Dr. Barnow's opinion is sufficiently reliable to present to a jury.

**B. Relevance.**

Wal-Mart argues that Dr. Barnow's opinions are not relevant to this action because his analysis cannot accurately predict which applicants will be hired. Wal-Mart may also argue that this implicates the reliability of Dr. Barnow's opinions. It argues that Dr. Barnow's inability to predict who will be hired may indicate problems in Dr. Barnow's statistical model.

Both Freeman and Dr. Barnow state that the inability of the model to predict who will be hired may simply indicate that Wal-Mart's hiring process is essentially random. Regardless, Dr. Barnow states that the overall explanatory power of the statistical model is irrelevant to its ability to make inferences on the impact of gender on receiving an offer. Dr. Barnow states that Freeman has misunderstood the purpose of Dr. Barnow's statistical model. Freeman states that the purpose of the model was to predict which applicants would be hired. Dr. Barnow states that the purpose of the model was to determine if there was a disparity in offer rates between men and women after

controlling for relevant factors.

Thus, while this may be a fair point for cross-examination, the Court will not exclude Dr. Barnow's testimony on the basis that his statistical model is unable to predict precisely which applicants will be hired.

Wal-Mart also argues that Dr. Barnow's opinion is not relevant to this action because he does not opine as to whether Wal-Mart, in fact, discriminated against women. Wal-Mart misunderstands the nature of Dr. Barnow's proffered testimony. Dr. Barnow was hired to determine whether there was a statistically significant disparity in hiring by sex at the distribution center after controlling for relevant factors. Dr. Barnow can only opine on that matter. While inferences may be drawn from his conclusion, it would be improper for him to offer any testimony as to whether Wal-Mart did, in fact, discriminate against women.

For all these reasons, the Court hereby ORDERS that Wal-Mart's Motion to Exclude the Proposed Testimony of EEOC Expert Burt S. Barnow (DE 360) is DENIED.

Dated this 12<sup>th</sup> day of February, 2010.



**Signed By:**

**Karen K. Caldwell**

A handwritten signature in black ink, appearing to read "K.K.C.", written over the printed name.

**United States District Judge**