

Making Decisions in the Current Employment Environment: The Role of Economic and Statistical Analysis¹

Joan G. Haworth, Ph.D.
ERS Group

The passage of the Civil Rights Act of 1991, which provided for compensatory damages and jury trials for plaintiffs in employment discrimination matters, has modified the legal playing field for employers.² Statistical analysis has become more popular and increasingly complex. The likelihood of jury trials has increased. Further, as the stakes rise in employment litigation, there has been an increased use of dispute resolution vehicles (including mediation and arbitration) which has provided additional venues for expert analysis. All of these changes have led counsel and corporate executives to include experts on their legal team when facing challenges from their employees. This paper focuses on the use of expert analyses on certain current employment issues – monitoring employment decisions (e.g. compensation and reductions in force); certification of a class in employment litigation; and wage and hour litigation – and how these analyses affects corporate decision making.

1. MONITORING EMPLOYMENT DECISION-MAKING

Although employers may recognize the increasing use of monitoring programs in court mandated settlement agreements, the development, implementation and follow up on such plans is difficult. Even when consent decrees or settlements require periodic statistical analysis of employment decisions such as selections for promotion and compensation, the analyses are designed to be as limited as possible in the enforcement document and are rarely used in managing the risk of further employment litigation or regulatory enforcement actions.

Unfortunately, these analyses often identify specific areas that need further policing and policy

¹ This essay adapts some portions published in an earlier piece by J. Haworth, J. Thornton, and P. White (2005). “Recent Developments in the Analysis of Employment Practices,” *Developments in Litigation Economics*. Eds. P. Gaughan and R. Thornton, Amsterdam: Elsevier.

² See 42 U.S.C. §1981a (2000).

action – which makes them ideal instruments for plaintiffs to use if there was no follow up on the results of the analysis. Thus, they become a serious liability when lawsuits are filed or enforcement action taken if the analysis cannot be protected legally.

Despite employers' good intentions to achieve diversity of their workforces, there will always be disagreements as to the effectiveness or the legality of monitoring programs.³ For example, in *Frank v. Xerox Corp.* (2003), the Fifth Circuit Court of Appeals examined the plaintiffs' claims that they were denied promotions and pay increases because they were black.⁴ The allegations arose from Xerox's "balanced workforce initiative" (BWF), a monitoring plan implemented by the company with the purpose of "insuring that all racial and gender groups were proportionately represented at all levels of the company" (p. 133). The annual targets, which were based upon local population data, showed that black employees were consistently over-represented and white employees consistently under-represented in the company's Houston office. Subsequent company documents directed the Houston office to remedy the imbalance and set specific racial goals for each job and each grade level.

Based on statistical evidence, the plaintiffs claimed that the BWF program was used to reduce the number of black employees in the Houston office. The Fifth Circuit Court ruled that regardless of whether the program directly influenced the reduction in the number of black employees, "the existence of the BWF program is sufficient to constitute direct evidence of a form or practice of discrimination" (p. 137). Factors that influenced the court's decision were the fact that Xerox had explicit racial goals and that managers' evaluations were influenced in part by how well they met their racial goals.

³ *Beck v. Boeing Co.*, 203 F.R.D. 459, 461 (W.D. Wash. 2001).

⁴ *Frank v. Xerox Corp.*, 347 F.3d 130 (5th Cir. 2003).

Consent decrees in civil rights cases often prescribe exactly how certain employment decisions are to be made, what data will be recorded, and how the data will be analyzed. For example, in *Thornton v. National Railroad Passenger Corp.* (2000), the consent decree specifically required reports on promotion decisions and ordered that sufficient data be retained to permit an analysis of the applicant flow data for those promotions.⁵ In many of these agreements the reports are filed with the court and are available to potential plaintiffs. If employment management has not responded with corrective action to adverse results in these reports they become useful for subsequent litigation. Often employment management does not produce corrective actions and discontinues the analyses (and reports) as soon as the consent decrees or other enforcement vehicles permit them to do so. At that juncture they no longer have a systematic program in place in order to properly recognize potential employment issues.

2. CLASS CERTIFICATION

Plaintiffs filing employment litigation are now much more likely to file the case as a class action and support their class action motions with statistical evidence. As a result of the more complex (and costly) analyses used for class certification, and the lack of certainty with regard to what evidence will be considered by the court during the class certification process, many corporate decision makers are proactively evaluating the costs of potential class action litigation – even before the class motions are filed. This evaluation benefits from their understanding of the uses and ramifications of statistical evidence in the class certification stage of litigation.

Employment monitoring, employment litigation, and Affirmative Action issues all center on the question of whether or not there is “parity” in the employment decision making process in question. Statistical analysis provides a tool for assessing whether or not decisions are neutral with respect to each employee group (e.g., male and female, minority and non-minority, older

⁵ *Thornton v. National R.R. Passenger Corp.* (2000).

and younger). This question is at the center of any employment litigation allegation, regardless of whether it is a single plaintiff or class action case. However, lawsuits in which a plaintiff seeks to represent a class also focus on a legal issue – whether or not the plaintiff, plaintiff’s counsel, and the characteristics of the putative class meet the legal standards required of putative class actions.

Class certification also compels the plaintiffs to demonstrate that the Rule 23(a) requirements have been met.⁶ Often they demonstrate their ability to pursue a class action using statistical analyses. Rule 23(a) requires, among other things, that the plaintiffs are sufficiently numerous and their claims are sufficiently typical of the other employees in the putative class. It also requires that the plaintiffs’ show that their claims are common to employees in the putative class. Usually the employment actions in question – e.g., a hiring or promotion issue – are shown by plaintiffs’ expert to be inconsistent with a race or gender neutral process by producing a statistical analysis of a simple employment model assuming that all of the relevant actions for the group claimed as a class, taken as a whole, is appropriate. An analysis that includes a very large number of decisions without considering the job-related factors that affected the decision is very likely to result in an adverse difference that is *not* consistent with policies that produce parity. The defendant’s expert usually examines these differences identified by the plaintiffs’ expert at the class certification stage to see if there are similar results for employees who are subsets of the putative class to show, if the results differ, that there is not a common pattern across the claimed class and/or that plaintiffs’ claims are not typical across the putative class.

Obviously, these analyses may require review of vast amounts of data, involve extensive discovery and can become quite complicated when complex employment factors are considered.

⁶ Fed. R. Civ. P. 23(a) requirements may be summarized as “numerosity,” “typicality,” “commonality,” and whether counsel and plaintiffs are appropriate representatives of the putative class.

Should a class become certified, then the court sets a date for the trial on the merits of the plaintiffs' claims and additional discovery and analysis (with the likelihood of additional data needs) is required. The merits evidence may differ from the class evidence because the court's "class" definition may not be the "class" on which the original analysis focused, or some of the issues initially raised by the plaintiff may not be included in the court's class definition.⁷ Of course, the merits evidence is focused on parity issues rather than the Rule 23(a) issues of class certification. Differentiating between the type of evidence useful in the class certification stage and that required at the merits stage (after a class is certified) is difficult.⁸ As recently stated in *Carpenter v. Boeing Co.* (2004) decision, while the court may not decide the merits on class certification, it may "probe behind the pleadings and consider the proof necessary to establish class-wide discrimination" (p. 2).⁹

In a motion for class certification, one of the underlying questions is whether or not the employment-related decisions being litigated are common to all groups of employees within the proposed class. In an alleged pay disparity case, for example, the court will generally wish to know whether the pay disparity is likely to be restricted to the areas of the firm in which the plaintiff(s) work, only in a few of these areas, or whether the alleged pay disparities occur in all or most of the employer's workforce. Likewise, the court may wish to know whether the alleged pay disparity is likely to occur only in certain jobs or at certain salary types or levels. In this situation, the analytical issue is the likelihood of similarity in pay practices among the different areas of the firm, jobs or salary types and levels. Whether or not there is a similar pay model in each area of the firm, or in every job, etc., is usually the issue that statisticians and economists must consider in class certification. In class actions the plaintiffs' experts tend to present

⁷ *Jennings v. Regents of Univ. of Cal.* (2003).

⁸ See, for example, *Love v. Turlington*, 733 F.2d 1562 (11th Cir. 1984).

⁹ *Carpenter v. Boeing Co.*, No. 02-1019-WEB (D. Kan., Feb. 24, 2004).

analytical results for the proposed class (to support “commonality” claims) and the defendants’ experts present results for the components of the proposed class when these results reflect a lack of commonality.

One way to evaluate the possibility of uniform decision-making processes from organization to organization within a firm is to identify the decision maker(s) responsible for the issues in question. Typically, for class certification as well as for monitoring purposes, the analyst must determine who makes the hiring, pay, promotion, termination, and other employment-related decisions within a firm in order to test whether these decisions are made by one person in the firm or by hundreds, if not thousands, of decision-makers in larger firms. Even when numerous decision-makers are involved, any modeling of the decision-making processes should determine whether the employment policies are reflected in the results of the decisions. In the matter of *Carpenter v. The Boeing Co.* (2004), the court did not certify the class, indicating that the plaintiffs’ expert failed to provide evidence of unfair treatment across the various units within the company. The court pointed out that while the evidence revealed “pockets of disparate impact,” it also revealed that many class members worked in neutral or advantageous environments. As a result, the court concluded that “it would be unjust to proceed to judgment” with the evidence at hand (p. 7).

The increased scope of statistical evidence presented at class certification as well as the accompanying increased scrutiny of expert reports have led the courts to become more involved in the specifics of statistical methods and the economic modeling of employment processes. In addition, attorneys are much more likely to seek a motion in limine (or a “Daubert” motion) to exclude the expert testimony. The grounds on which such a motion would be argued are based on the criteria described in *Daubert v. Merrell Dow Pharmaceuticals* (1995) and *Kumho Tire Co.*

v. Carmichael (1999).¹⁰ These criteria are often described as a failure to apply or use a theory or technique that is scientifically based, accepted, tested, and that has a low error rate.

In this context, there are many questions that may need to be addressed. These include whether or not the data on which the expert report is based are sufficiently accurate and complete; whether the analysis is consistent with professional standards; whether the question being addressed is relevant to the issues in the case; whether the variables included are appropriate; whether the statistical technique used is appropriate; whether the results are correctly reported; and whether the model is appropriate. For class certification, there are also questions of whether or not the decision processes analyzed are properly modeled, whether it is appropriate to combine decisions across decision-makers, and whether statistical significance alone is meaningful when examining a firm's decisions. These questions have resulted in a closer assessment of the factors included in the economist's and statistician's models, the level of the analysis (by decision-maker or not), and the statistical techniques applied.

3. WAGE AND HOUR LITIGATION

The past decade has seen a rapid increase in employment cases that involve overtime payment issues, the provision of work breaks and meal periods, working without payment ("off-the-clock" or "donning and doffing"), and the determination of the exempt/non-exempt status of jobs. In FY 2007 alone, \$220,613,703 dollars in back wages were collected in wage and hour litigation.¹¹ Corporate decision-makers should have a good understanding of the issues surrounding wage and hour litigation when crafting data collection, timekeeping, and other employee record-keeping systems, in order to limit their exposure to such suits.

¹⁰ *Daubert v. Merrell Dow Pharmaceuticals*, 43 F.3d 1311 (9th Cir. 1995); *Kumho Tire Co. v. Carmichael v.* 526 U.S. 137 (1999).

¹¹ 2007 Statistics Fact Sheet, Wage and Hour Division of the Department of Labor, <http://www.dol.gov/esa/whd/statistics/200712.htm>.

The venue for these wage and hour cases varies. If brought under federal statutes, the Fair Labor Standards Act of 1938, as amended (29 U.S.C. § 201, et seq. (2000)) will apply and results will be measured by the definitions and standards defined by this act. However, many more of the wage and hour cases are filed in state courts. These cases are usually filed as collective actions and have many of the same risk issues as class actions. When cases are filed against the same defendant in multiple jurisdictions the courts may give the cases a Multi-District Litigation status. For example, Wal-Mart has had multiple wage and hour cases filed by the same plaintiff firm in several different state and federal jurisdictions. Some of those cases were joined in a multi-district litigation to be heard by a Nevada judge (one of the states in which a case was filed).¹²

Laws vary among states – both as to what can be raised as an issue and the standards to be met in each case. For example, the state of Washington has specific rest break and meal period requirements that are not the same as the federal laws. Under Washington law, employees are allowed a meal period of at least thirty minutes that begins no less than two hours and no more than five hours from the beginning of the shift. They shall also be allowed a paid rest break of not less than 10 minutes for every 4 hours worked, and there must be no more than 3 consecutive hours of work without a rest break or a meal period.¹³ However, the scheduled rest breaks are not required if the nature of the work allows intermittent rest breaks equal to ten minutes during each four hours of work. Any analysis of wage and hour practices must recognize the restrictions of relevant state laws as well as federal wage and hour laws.

¹² *MDL 1735 – In RE: Wal-Mart Wage & Hour Employment Practices Litigation*, 2:06-cv-00225-PMP-PAL (D. Nev.).

¹³ Administrative Policy, State of Washington Department of Labor and Industries Employment Standards, *Wash. Admin. Code*, § 296-126-092. <http://apps.leg.wa.gov/WAC/default.aspx?cite=296-126-092>

The issues that usually involve economists and statisticians in these cases are unpaid time worked and exempt status. For instance, economists calculate potential exposure in cases where a company allegedly fails to pay a non-exempt employee for overtime worked, or fails to pay that employee the overtime rate for that time. The failure to pay overtime rates for unpaid time worked, or for time worked but not properly assigned overtime, is also an issue. In this instance, the economist would calculate the financial exposure when a company is alleged to have misclassified an employee as exempt, and consequently failed to pay that employee for overtime worked.

The economic value of an *individual* wage and hour case is relatively small since it is rare that individuals have a very large amount of unpaid work. However, the financial exposure becomes much greater when individual cases are filed as collective actions and cover *all of the hourly employees* likely to be affected. For example, in a recent collective action involving a retailer, the putative class covered by the collective action numbered approximately 50,000 employees. Furthermore, the value of the unpaid work can be more substantial when it includes allegations that training was conducted during unpaid time, or collateral duties (such as caring for police dogs in canine units or cleaning, donning and doffing uniforms) were assigned but no time was scheduled for performing those duties. However, the difference between exempt and non-exempt status can provide larger economic benefits if there is substantial overtime worked by employees with exempt status who claim that their position should be non-exempt. In any case, most wage and hour cases that require significant expert input are brought as a “collective action.” Once again, the issue of whether the allegations are common to all the proposed members must be addressed.

A common analytical problem arises in wage and hour cases when unpaid work time is alleged because work time that is not paid is unlikely to be recorded. In more recent years that problem has been resolved in fairly creative ways by various experts. For example, there may be key systems which record the date and time in which the key is used each time an employee enters the store. There may also be time records of computer use or security systems with a time stamp of entry to specific work locations or films of employees working. As the recording of employees' activity becomes even more prevalent, those data will be increasingly more useful in wage and hour matters.

Sometimes data is obtained after the suit is filed – either by surveys or work process studies. In these cases data is collected on what proportion of time is spent on various tasks (exempt or non-exempt) or on employees' estimates of time spent performing tasks that were not compensated. These data usually require an expert to design, supervise and analyze the process of data collection in order to be certain that it can be admitted as a reasonable and professionally sound foundation for the court to use in reaching a decision.

Given the volume of data of time-keeping information that is at issue in these matters, statistical sampling is often used. If an organization has thousands of employees with daily time entry records over several years, it may not be reasonable to analyze all the data. In these situations, a sample of locations, particular months, or jobs is often used to determine the patterns that exist within the organization or to compute estimated damages. One issue that arises is whether or not the units sampled (such as the particular months) are representative of the other units that are not included in the sample. Again, an expert is often used to reach an opinion on these issues.

4. COMPENSATION DIFFERENCES AMONG GROUPS

Many employment class action claims allege that protected groups receive lower compensation than non-protected groups due to discrimination. In addition, the Office of Contract Compliance Programs (OFCCP) within the Department of Labor considers compensation to be part of its area of concern when auditing the Affirmative Action Plans (AAP) it requires of government contractors.

Compensation decisions in most firms involve both external market forces and internal market equity. Usually there is some compensation structure which provides guidelines for those making compensation decisions. Since there are a variety of corporate criteria used in setting wages (such as job titles and level of responsibility) as well as individual criteria (such as qualified experience, relevant education, or other special skill credentials), the economic model describing the compensation decisions can be quite complex. If the class is large there may be several different compensation models – including those that are the result of collective bargaining, those that are individually negotiated (such as high-level executives) and those that fit within the corporate compensation policy. Under the OFCCP’s analysis, the group of employees to be analyzed is usually based on the firm’s definition of a similarly situated employee group. This group may be defined to be employees in a particular EEO category (such as “Officers and Managers” or “Professionals”) or employees in a subset of jobs –a “job group” from the firm’s AAP or some other related set of jobs identified by the firm as relevant.

Compensation claims may be brought indirectly – through a failure to promote claim. The lost promotions are assumed to have resulted in lost compensation that is litigated as a separate issue. In this situation it may be less complicated to focus on the claim of failure to promote because if that claim is not supported then the compensation claim derived from the promotion issue is no longer relevant.

The analysis of compensation in this type of litigation provides an assessment as to whether the claim that an entire class of people was paid less, on average, than its counterparts. The assessment is more valuable and more relevant when it compares reasonably similar employees – those whose individual credentials and corporate role is similar so that we would expect them to be paid, on average, at similar levels. When the group being analyzed is dissimilar the analysis identifies compensation differences that may simply be the result of differences in the qualities being compensated for business reasons – level of education, skill type and level, etc. In this type of litigation it is important to separate those reasons for any differences between groups from other differences that do not seem to be related to the job and quality of the employees, given their assignments.

Compensation analysis is perhaps the most complex of the employment decisions and experts and courts have substantial guidance on the types of analyses that are appropriate and how the results should be viewed.

5. REDUCTIONS IN FORCE – LARGE SCALE TERMINATIONS

Another type of employment action that has significant potential liability and a need for statistical and economic review is termination. While there are single person lawsuits resulting from firing or termination decisions, the more costly lawsuits usually involve situations in which a firm has a substantial re-organization as a result of a business downturn, a change in product or a merger with another firm. While recent studies suggest that lay-offs are not always the most effective means of restructuring a company, sometimes there is simply no choice. In these cases there is a great likelihood that there will be a significant number of employees who are terminated as a result of business-related decisions, such as lack of work for their skills or a change in product line. In these circumstances, employers need to monitor the Reduction-in-

Force (RIF) plan for other potential risks, including outcomes that might open up the company to claims of bias by protected groups.

The Worker Adjustment and Retraining Notification Act (WARN) requires that employers must provide employees with notification when there is going to be a substantial RIF.¹⁴ At this stage in a RIF, employers may calculate the average age of those affected compared to the average age of the workforce, as well as estimate the number of affected people. But these statistics are only part of the analysis that should be done before a RIF is announced. Because these reductions may result in some age, gender, race or ethnic groups having more terminations than the unprotected groups, and because these reductions are often related to subsequent litigation, it is necessary to be certain that the RIF process is well designed. A labor economist can develop a statistical model of a RIF that will reflect the decision-making process, including the business units affected, tenure, performance, recently acquired skills, credentials or certifications, education, and other RIF related factors.

When reviewing the results of statistical analyses, it is important to remember that they must be interpreted in light of the actual situation at hand. For example, in the case of a business change in the products created, employees with skills that are no longer as valuable in producing the new product are often clustered in certain departments or in certain jobs. If the composition of those departments, or jobs, is not similar to the remaining workforce there may be a statistical imbalance that needs to be examined further. There may be legitimate business-related reasons for a RIF affecting a segment of the workforce differently than it affects the overall workforce.

Statistical analysis of these terminations before the RIF or other terminations are announced, is used to help determine if the decision criteria used “explain” statistically the lack

¹⁴ *Worker Adjustment and Retraining Notification Act*, 29 U.S.C. § 2101 – 2109.

of parity for various protected groups and whether any changes are warranted. It can also be used to identify which groups of employees had fewer (or more) selections for termination than others.

6. SUMMARY OF ECONOMIC ANALYSIS IN EMPLOYMENT LITIGATION

Corporations turn to outside experts and consultants now more than ever, and in the current economic climate, it makes sense to consider self-monitoring studies that assess whether an organization has potential risks, and then put mechanisms in place to minimize future potential exposure. Economists, statisticians and other experts who analyze employment decisions not only understand employment environments, but they should also recognize the potential legal contexts in which their analyses may be used. Whether preparing the analysis for litigation or for professional review, the expert consults the professional standards and knowledge of statistics and economics as well as examples provided by case law. In recent years there have been increases in the complexity of the statistical and economic models as well as additional focus on the use of this knowledge in the courtroom.

The courts have assisted analysts by defining the standards that must be met by programs that government and corporations develop to promote diversity. In the more recent cases in this area we have seen a move to use the two-pronged test of business necessity of such a program and the narrowly tailored features and requirements of the program. Therefore, the analytical issues include whether or not there are patterns of discrimination that require a governmental agency or a firm to institute a diversity program and whether the requirements of that program are narrowly tailored to the discrimination that is being remedied. Experts have approached these issues by using historical data to illustrate whether there are imbalances that provide reasons for a required program and then showing that the remedy is specific to the imbalances

when found in the historical statistics. Those same criteria have been applied to monitoring programs within firms.

In the class action arena, the courts have developed an interest in the standards to be applied in order to certify a class. In that regard, experts have presented analyses that demonstrate that the proposed class has experienced adverse disparities in pay, hiring, promotion, etc. across the entire organization or workforce. If the presentation of these analyses does not address the issue of common results across all the class or whether the plaintiffs' claims are typical of the claims of the class they propose to represent, then the court may entertain arguments from other experts that the "common" results were merely assumed and that when separate groups are investigated there is not a common pattern or the plaintiffs' concerns are not generally seen among the proposed class.

The proper management of reductions-in-force and other large-scale terminations have evolved into an organized, policy-driven process with sound statistical and economic analysis to justify and explain the selection decisions. While these selections might have been required as a result of mergers, downturns or new product emphasis, the use of the experts to assist in monitoring the decisions before they are finalized is good risk management policy.

Analysis of compensation differences among employee groups is often required today in OFCCP audits and requires a good understanding of the economics behind compensation decisions. Litigation under the CRA of 1991 and other anti-discrimination laws also bring claims of unfair compensation levels and increases. These analyses usually require more advanced statistical tools in order to properly model and assess the implementation of compensation policies. Labor economists use their knowledge of markets and wage models to develop these models.

Wage and hour cases have also begun to incorporate economic and statistical analysis. While there is great variation among the states as to the actual requirements and the standards that are applied, the economic analysis is often based on data that have been more recently collected for other purposes – such as key entry systems with time stamps in order to determine when an employee came to work and/or left work, or security systems with time stamps that film employees at work.

Economic and statistical analysis of reliable, professional quality has assisted many courts in their deliberations and appears likely to continue to do so in the future. The challenge for experts is to produce clear and accurate analyses that assist and do not mislead the court in making its decisions.