Economists Incorporated
Economists INK
A BRIEF ANALYSIS OF POLICY AND LITIGATION
SPRING 2015

Special Issue: Topics in Labor and Employment Economics

Using Regressions in Employment Audits

Wayne E. Strayer

Wayne E. Strayer provides expertise in matters involving claims of employment discrimination, studies of pay equity and wage and hour compliance. Dr. Strayer assists clients who are involved in litigation and clients who are conducting proactive studies of their employment practices.

With the increase in class action lawsuits and government investigations involving alleged employment discrimination, many companies engage outside counsel and economists to proactively audit potential compensation differences between groups of employees. In such an audit, as in litigation, the most commonly used technique for assessing unexplained differences in salaries is a linear regression analysis (regression). Regressions allow an economist to identify average pay differences after accounting for various factors that determine pay.

Regressions estimate average relationships between pay and explanatory factors. For example, a regression might indicate that each additional year of tenure is associated with, on average, an additional $500 in salary. The regression does not speak to any single employee's pay increases. Instead, it estimates the average return to tenure across the population holding constant other factors that affect salary. Regression differences can help identify areas where there are unexplained pay differences, and therefore potential pay equity issues. If a company chooses to adjust salaries based on the audit findings, however, caution should be exercised in moving from the aggregate results of the regression to the individual's salary.

The regression can be used to predict the salary of an employee. This prediction can be interpreted as the expected salary of an employee given his or her specific characteristics. The difference between an employee's actual and predicted salaries is referred to as the residual. A positive residual indicates that an employee's actual salary is higher than predicted, whereas a negative residual indicates the opposite.

A common interpretation of negative residuals is that the employee is "underpaid," perhaps because of discrimination. However, this interpretation is not necessarily correct, as the differences between actual salaries and predicted salaries may result, in part, from the omission of explanatory factors from the regression. Such omissions may be especially important when analyzing salaries because each salary is the result of decisions made by the employer and employee, possibly over many years, as well as skills and abilities that are difficult to measure. In fact, an examination of the differences between actual and predicted salaries by someone familiar with the employees may reveal valid explanations for the differences. For example, an employee with an actual salary much higher than his or her predicted salary may hold a certification or license not captured in the available data.

If a company chooses to adjust an employee's salary, basing adjustments on predicted salary is a tempting option. Nevertheless, salary adjustments must be carefully reviewed to determine whether omitted factors explain the differences identified by the regression. This review can be time consuming, but the effort should result in adjustments that are better tailored to individual employees.

Also In This Issue

Wage and Hour Litigation – Measuring the Unmeasurable

Michael DuMond

The number of cases filed in federal court alleging violations of the Fair Labor Standards Act (FLSA) increased in 2014 for the 10th time in the past 11 years. Moreover, the number of wage and hour lawsuits filed in state courts has either mirrored or exceeded this growth. The increase in wage and hour cases shows no sign of abating.

Furthermore, in March 2014, President Obama directed the Department of Labor to "modernize and streamline" the regulations that determine whether white collar employees are eligible for overtime pay. If the FLSA exemption standards are narrowed, then millions of additional workers may have putative claims of wage and hour violations. Given the steady growth in these cases and the possible change in standards, if an employer has not yet been sued for wage and hour violations, then it is likely only a matter of time until that happens. Additionally, lawsuits filed under the FLSA generally include multiple types of allegations, such as payments below the minimum wage, miscalculation of overtime and unpaid overtime hours (i.e., working "off the clock").

> "Obtaining an accurate assessment of the potential liability in wage and hour cases is critical in successfully resolving these disputes. . ."

For wage and hour cases that involve allegations of the miscalculation of the regular rate of pay, the uses of data analysis are obvious. While the parties may disagree about factual issues, such as whether employee bonuses are discretionary (thus affecting whether they should be included in the regular rate of pay), the mathematics behind the proper calculation of overtime pay are seldom in dispute. Similarly, in situations in which workers are paid a fixed salary regardless of the number of weekly work hours, minimum wage violations and the associated economic damages are typically straightforward.

On the other hand, many wage and hour cases include allegations that seemingly cannot be tested with the available data. Intuitively, since time spent off the clock is not tracked in the same way as time "on the clock," one might fear that off the clock time cannot be measured. However, in the current "big data" era, other data sources may be leveraged to gauge off the clock time. Consider a typical lawsuit involving off the clock work: a group of call center workers allege that they were required to report to work prior to their scheduled start time to boot up their computers and ready themselves to begin taking calls exactly when their shift began. The employees were not paid for any of this pre-shift time, as they were instructed not to punch-in to the time clock until their shift's scheduled start time.

Michael DuMond, Ph.D. is a labor economist in EI's Tallahassee office. In addition to issues related to wage and hour litigation, his areas of expertise include pay equity analysis and the examination of alleged disparate impact in employment actions by race, gender and age.

If these employees' workplace is secured through an electronic lock, then the exact time that the employees used their electronic key to enter the building is recorded. The amount of time between when employees first enter the workplace and when their paid shift begins represents the maximum amount of off the clock time. Further, if the alleged pre-shift work necessarily involves booting up or logging into computers, then those time-stamps may also be electronically maintained, thus allowing for an even more precise calculation of the pre-shift work time.

Similarly, many wage and hour cases (especially those filed under California state law) center on requirements to provide meal and rest periods. Workers covered by those requirements include non-exempt delivery drivers, who are necessarily performing their duties remotely. A typical lawsuit would allege that the drivers are over-scheduled with deliveries, which in turn prevents them from taking a meal break. Without time data or direct supervision of the employees, this type of claim could be difficult to quantify. However, unconventional data sources can again provide insight into the validity of the allegations.

Modern delivery trucks, for instance, are often equipped with GPS tracking, so the business can provide real-time tracking information to customers waiting for the packages. The GPS data typically include the precise coordinates of the vehicle (i.e., latitude and longitude) and the vehicle's speed or the amount of time it has not moved. Analyzing

continued on page 4

Estimating Lost Earnings for a Single Plaintiff

Benjamin S. Shippen and Laura A. Malowane

Single plaintiff cases involving personal injury, death or wrongful employment actions often involve estimating economic damages. Labor economists can provide a rigorous estimate of past and potential future earnings losses to use as the basis for an appropriate award or a fair settlement. Economic theory and empirical research show that several critical factors need to be considered when calculating past and potential future loss estimates.

The concepts of "but for" and "expected value" are the foundation for earnings loss estimates. If these values are calculated reasonably, they provide the most accurate estimates of the potential loss of earnings to the plaintiff. But-for estimates should be based on the expected value of the plaintiff's earnings and benefits had the alleged improper actions of the defendant not occurred. For example, in a wrongful termination case, the earnings loss is the amount the plaintiff could have reasonably been expected to earn but-for the termination less what the plaintiff can be expected to earn in the actual world (or, if appropriate, what the plaintiff can be expected to earn if he or she had properly mitigated).

Estimates of damages include earnings losses from the date of injury forward. These can be classified as back pay and front pay, which are calculated over different time periods. Back pay is computed up until the time of the expert's report and front pay from the time of the report until either the time at which the plaintiff is expected to be made whole or the end of the plaintiff's expected work life. These estimates are combined in a single lump-sum payment that reflects the total net present value of the back pay and the projected lost future earnings stream.

> "The earnings loss estimates in a single plaintiff case are directly affected by the assumptions regarding the most likely economic outcome for the plaintiff, but for the event that led to the litigation."

When estimating the past and potential future earnings losses, it is important to consider what is included in the plaintiff's earnings. Earnings may include not only wages and salary but also other forms of compensation and benefits, such as bonuses, stock options and overtime pay. Estimates of earnings may also include employer-provided fringe benefits. These can include health insurance; contributions to retirement plans; and use of company resources, such as a company car.

Benjamin S. Shippen has worked as an expert and a consultant in employment litigation cases since 2000.

Laura A. Malowane has over 15 years of experience in analyzing and testifying on economic damages related to wrongful termination, defamation, injury and death.

Not all fringe benefits should be included in the loss estimates. For example, employer-provided life insurance, which is only a benefit in the event of the plaintiff's death, is inconsistent with the concept of the plaintiff's being alive and earning salary or wages in future years, so it need not be included in the loss estimates. As another example, Medicare payments are not directly tied to the worker's future benefits. Since these payments offer no direct benefit to the plaintiff, they should not be included in loss estimates.

Once the components of earnings and benefits have been determined, it is necessary to estimate their future growth. Earnings typically grow due to inflation and increases in worker productivity. The plaintiff's previous earnings provide important wage growth information and may be ascertained from W-2 tax data or pay-stubs. Earnings from a number of years should be considered, if possible. Federal government data can also be helpful. If the plaintiff's occupation and industry closely match the Standard Occupation Codes and North American Industry Classification System codes, then wage and salary changes over time can be inferred from Bureau of Labor Statistics (BLS) data, either nationally, by state or by municipality. When the plaintiff's occupation does not align with the BLS data, future predictions of the average age-earnings profile of wages and salaries by education and demographic group are available from Census data.

Damages are usually paid as a lump sum that includes the

continued on page 4

Wage & Hour Litigation

these data may show that the drivers' trucks were almost always in motion, supporting plaintiffs' contention that there were rarely opportunities for uninterrupted, work-free meal periods. On the other hand, a review of the GPS coordinates of the delivery trucks may suggest that the drivers routinely stopped for potential meal periods. Overlaying the GPS coordinates when the driver stopped with satellite imagery may indicate that periods of inactivity occurred when the delivery truck was in a McDonald's parking lot.

Electronic data can also help in analyzing questions relating to conditional certification or decertification of a class. The amount of pre-shift work, as measured by the time between when employees log into their computer and when their paid shift begins, may differ from one location to another owing to operational differences. Alternatively, this amount may change over time among employees at the same location, owing to management turnover, technology improvements, etc. To the extent that there are underlying patterns in the alleged wage and hour violation, the electronic data can be "mined" to find them. Identifying these patterns can lead to a more narrowly tailored putative class. In cases where the factors that affect potential pre-shift work are numerous (e.g., location, supervisor, job, seasonality), an employee's individual circumstances begin to predominate over the common claims in the lawsuit, which could arguably lead to decertification.

The availability of electronic data does not automatically mean that a common method of proof exists for establishing liability or assessing damages. For example, in cases with allegations of missed meal breaks, the data can only show when employees received a compliant meal period. If the employee did not have a meal break, the data cannot indicate if a meal period wasn't provided or if the employee opted to skip the break to finish his or her shift early. Similarly, using electronic data for a representative group of plaintiffs to compute economic exposure may be mathematically sound for determining aggregate damages, but applying an average liability calculation to every member of a putative class could result in sizable windfalls for some and significant shortfalls for others. Whether this type of outcome is sufficient to warrant class treatment is obviously a question for the fact-finder, but an analysis of the electronic data may prove to be persuasive.

Most of the thousands of wage and hour cases filed each year never proceed to trial. The vast majority of these cases are resolved through a settlement that is based on an economic valuation of the alleged violations. Obtaining an accurate assessment of the potential liability in wage and hour cases is critical in successfully resolving these disputes and is often beneficial in preparing the optimal strategies relating to class certification.

Single Plaintiff

net value of the back pay and the potential future earnings. Determining that lump sum requires using a discount rate to account for, among other things, the fact that money received in the future is less valuable than money received today. Discount rates can be determined based on three factors: the predicted rate of inflation, the risk associated with the future earnings stream, and the implied time value of money. These factors can be captured in current and historical returns on a market basket of securities, such as corporate bonds or common stock, calculated over the timeframe of the projected loss. Some experts argue for using risk-free rates offered by U.S. Treasury bonds rather than a rate on corporate bonds or stocks, which includes a risk premium. There are many reasons a plaintiff may not have continued in his or her current position, either by their choice or due to other unforeseen events. It is proper for the discount rate to include an adjustment to account for those risks.

Finally, it is necessary to calculate the amount of time that the plaintiff's damages period will cover. If the plaintiff has been terminated, the damages period should be based on a reasonable time necessary to secure suitable alternative employment. If the plaintiff was permanently disabled or died as a result of the event, the damages period is the estimated remaining work life the plaintiff had at the time of the injury. The measure of this work life can be based on case facts if appropriate. It may also be based on U.S. mortality tables, the probability of participation in the labor force, and the probability of unemployment. Forensic economists have worked with these data and developed a process to estimate the likely work life of plaintiffs based on their gender, educational attainment and age. The work life tables, which are regularly updated to adjust to changes in mortality and labor force participation, may provide reasonable estimates of a plaintiff's work life for the period after the alleged event.

The earnings loss estimates in a single plaintiff case are directly affected by the assumptions regarding the most likely economic outcome for the plaintiff, but for the event that led to the litigation. To the extent that assumptions about that outcome are grounded in defensible economic theory, the resulting expected value estimates of economic loss will be accurate, reliable and defensible.

Labor and Employment Economics at EI

Economists Incorporated (EI) provides expertise for addressing economic issues that arise in employment litigation. EI also provides audits of clients' workplace and employment decisions to ensure equity and compliance with legal standards.

EI has been involved in all stages of the employment litigation process, including class certification, liability analysis, and the estimation of economic damages. We assist our clients with sworn testimony, written reports and economic analyses tailored to be easily understood by any audience, including judges, juries and regulatory agencies, such as the Equal Employment Opportunity Commission and the Office of Federal Contract Compliance Programs. EI provides rigorous statistical and economic analyses of employment decisions to help assess the risk of litigation and determine the merits of alleged wrongful acts. EI also estimates damages for use in settlement negotiations, mediation proceedings and at trial.

Many of the labor and employment matters considered by EI involve allegations of discrimination due to gender, race/ethnicity or age. The practices at issue include compensation, promotion opportunities, termination or hiring decisions and performance assessments. Our experts use the available data to study the claims of adverse treatment or impact and to address issues related to class certification, such as common proof of impact and issues relating to typicality.

Litigation related to violations of the Fair Labor Standards Act (FLSA) and wage and hour laws at the state level has surged recently. EI economists have extensive experience in analyzing allegations related to off-the-clock work, misclassification of exempt status, missed meal or rest periods and miscalculation of the regular rate of pay.

Clients often request EI economists to audit their workforce and employment decisions. Such audits can protect clients from future litigation and increase the productivity of their existing workforce. EI economists also review compliance with the federal and state wage/hour laws. Our experts are experienced in identifying potential areas of concern and alerting clients before litigation occurs.

If you are interested in learning more about labor and employment related consulting services offered by EI, please contact Michael DuMond, Eric Mitchem, Benjamin Shippen or Wayne Strayer of our Tallahassee, FL office, Laura Malowane of our Washington, DC office or Jonathan Walker of our San Francisco, CA office.

Economists
INCORPORATED

OFFICES:

2121 K Street, NW
Suite 1100
Washington, DC 20037
phone: (202) 223-4700
fax: (202) 296-7138

101 Mission Street
Suite 1000
San Francisco, CA 94105
phone: (415) 975-5510
fax: (415) 281-9151

2308 Killearn Center Blvd.
2nd Floor
Tallahassee, FL 32308
phone: (850) 558-6030

www.ei.com

in association with
The Allen Consulting Group in Australia