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# Primer on Wage Analyses for Antitrust Attorneys: Part I

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On April 3, 2018, the Department of Justice announced a civil settlement to resolve a lawsuit alleging that two of the world's largest rail equipment suppliers maintained unlawful agreements not to recruit, solicit, or hire each other's employees. The case is likely the first of many that will result from the Antitrust Division's attempts to prosecute no-poach and wage-fixing agreements. In anticipation of related future civil class actions, we have prepared a two-part primer on wage analyses that are frequently used in employment discrimination cases and will become increasingly relevant as labor issues cross over into the antitrust arena. In part one, we provide a high-level comparison of pricing and wage models and identify relevant data sources. In part two, we discuss several issues that often arise in modeling wages for employment discrimination cases and how those issues are further complicated in the context of no-poaching agreements.

## Familiar Territory: Pricing Models

Econometric models are a staple in antitrust cases to analyze questions of impact and damages—specifically whether the actual price paid is greater than the price that would have prevailed but-for the alleged conduct. Regression analysis is critical because it is necessary to isolate the effect on prices that results from the alleged conduct from all other factors that influence prices. These pricing models therefore often control for product characteristics and

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factors that affect supply and demand. They also often include an indicator variable for when and where alleged collusive behavior occurred, which provides an estimate of the alleged overcharge. In simple terms, that indicator variable is intended to capture the difference between the actual price paid by the consumer and the but-for price that would have been paid by the consumer in the absence of the alleged collusive behavior.

# New Territory: Wage Determination Models

In no-poaching cases, the claim is wage suppression instead of overcharge. In the context of an economic model, that means substituting employees' wages for the prices paid by customers. Then, the estimated difference between actual and but-for prices reflects alleged wage suppression instead of an overcharge. There are, however, two subtle but important differences between pricing models and models of wage determination: employees are unique, and people change.

## Everyone Is Unique

In price-fixing cases, identifying the relevant product characteristics can be challenging and contentious. The issue is even more complex in the employment context. There is often substantial variation in the skills and job performance of individuals within the same job title. Productivity ultimately drives compensation, and two employees in the same job (even at the same firm) are generally not equally productive. Some productivity differences may be attributable to observable characteristics such as experience, credentials, or the employee's book of business, among other factors. It is therefore necessary to include such individual characteristics in the wage model.

## People Change

Further complicating matters is the fact that people change throughout their careers. For example, the longer someone works, the better the employee gets at his/her job and the more likely he or she is to be promoted to another position—meaning that wages are expected to grow over time. But it is also true that, at some point, an employee likely "caps out" at his/her highest position and will accumulate human capital at a lower rate. Further, it is possible that an employee's skills will deteriorate over time if they fail to keep up with certifications or changing trends in the industry. Employees may also take leaves of absence or continue working but face non-work constraints such as caring for elderly parents or starting a family. Although wages will often continue to increase in such cases, the rate at which wages increase may be lower. Economists refer to the life-cycle changes in an individual's earnings as the age-earnings profile.

Age-earnings profiles complicate determination of but-for wages. Consider one example: a person is in the same job for four years, the first two are during a no-poaching agreement that was alleged to depress wages and the last two are after the agreement ended. In this scenario, a simple comparison of the wages between the two periods will not distinguish between the impact of the agreements and increases in the employee's productivity over time.

# Data Sources for Wage Determination Models

While variation in the skills and productivity of employees as well as changes in productivity over time present challenges to the modeling of wages, many relevant factors are available from a company's Human Resource Information System (HRIS) as well as other data sources.

### 1. HRIS Data

The primary source of such individual employee information is the employment history data that is typically maintained as part of an employer's HRIS. These data contain detailed information about each employee's experience at the firm, including the date of hire along with the employee's status, job, wage rate, manager, and work location. Changes in that information over time, such as when an employee gets promoted or takes a leave of absence, are recorded as effective-dated records. Sometimes this data is maintained in a single source; other times there are separate sources for changes in status, position, etc. that must be combined for the complete history. A company's HRIS is typically the starting point for wage analyses.

### 2. Applicant Tracking Systems

Information about individuals who apply for jobs are often retained in an Applicant Tracking System (ATS) that tracks applicants from initial application until they are either removed from consideration or offered a position. Information on job applications or accompanying resumes can provide prior work experience such as the type and length of previous experience. That information can also indicate an applicant's previous employers, thus providing information on whether its applicants (and ultimate hires) come from alleged co-conspirators or other companies, universities, or other sources. The flow of applications can indicate whether positions are highly competitive (receive many qualified applicants) or hard to fill. Other valuable information includes whether there has been a history of applicants either declining the position or bargaining for a better offer. The relative bargaining power between applicant and employer may well be impacted by the size and composition of the applicant pool.

### 3. Employee Reviews

Employee reviews can be a helpful way to differentiate between those who are relatively "better" at their jobs than others with the same title. Consider two recent law school graduates – both from top law schools, both with top grades, both with impressive clerkships. They appear very similar on paper, but one may be much better at writing briefs and motions and is therefore more valuable to the firm. Ideally, that comparison will be evident in the employee review, either as a specific skill or overall better rating.

### 4. Payroll

Although the employment history data often contains base pay, payroll data may be important to capture full earnings. For hourly employees, that may mean overtime earnings or shift differentials; salaried employees may receive bonuses, commissions, or stock options. Moreover, employees value nonwage benefits in addition to pay.

Compensation packages may include deferred compensation, fringe benefits, and other forms of compensation. While some of these benefits may be recorded in the HR system, others may be more difficult to measure. Nonwage compensation and benefits increase the effective compensation received by some employees and therefore present challenges in analyzing the alleged impact of anti-poaching agreements. These challenges are analogous to those encountered in antitrust cases when discounts and rebates decrease the effective prices of products paid by some customers.

It may also be helpful to understand how off-cycle pay adjustments are requested, decided, and ultimately awarded. If such adjustments are made in response to outside job offers, the frequency and amount of those adjustments (as well as the rate at which they are denied) can be important.

### 5. Job Descriptions and Requirements

Standardizing products across firms and over time is a challenge that must be addressed in alleged price-fixing cases. The parallel in the employment context is aligning job titles across firms. By comparing job descriptions, job requirements, and other data (e.g., the number of employees that a manager supervises), a labor economist can help determine which job titles in Company A are most similar to a given set of job titles in Company B.

## Where Do We Go from Here?

This brief introduction to models of wage determination and the data sources for such an investigation will assist in crafting discovery that helps to build an empirically robust methodology to answer questions about potential injury and damages in no-poaching cases. Next up: we will build upon this base and discuss issues that often must be addressed when modeling wages. ■

Edgeworth Economics

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