

A Compensated Demand Approach to Wrongful Termination and Personal Injury Cases

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Abstract

The usual approach in wrongful termination and personal injury cases is to calculate the difference between the before termination/injury salary and the post termination/injury salary. This difference is the basis for loss. Typically, no adjustment is made for the fact that new jobs may involve not only less hourly pay, but also less work. Without such adjustment, it can be shown that wrongfully terminated and injured employees who find new employment at lower wages are usually overcompensated.

The purpose of this note is to show how to properly value loss using a simple compensated demand framework. It is consistent with microeconomic theory (while the usual approach of comparing two salaries is not) and can be explained to a jury by appealing to the intuitive notion that most people will accept lower pay if it means less work. It is not difficult to devise a simple survey to estimate the needed compensated demand parameters, and I provide an example of such a survey in this paper.

Wrongful termination (WT) cases do not always involve outright termination.

Some employees find themselves working in the same workplace but with both less responsibility and pay. An example might be a school principal remaining in the system as a teacher after being relieved of administrative duties. Personal injury (PI) cases typically result in workers taking employment at reduced pay and reduced working hours, perhaps because the injury means that the worker cannot remain standing or sitting for long hours.

The usual approach in these cases is to calculate the difference between the before loss salary and the post loss salary. In the teacher/principal example, the difference between the two salaries is used as the measure of annual loss. Typically, no adjustment is made for the fact that post loss employment involves not only less pay, but also less work. Without such adjustment it can be shown that wrongfully terminated and injured employees are incorrectly compensated.

The purpose of this note is to show how to properly value loss using a simple compensated demand framework. It is consistent with microeconomic theory (while the usual approach of comparing two salaries is not) and can be explained to a jury by appealing to the intuitive notion that most people will accept lower pay if it means less work. Despite the abstract nature of the compensated demand model, it is not difficult to devise a simple survey to estimate the needed compensated demand parameters. I provide an example of such a survey below.

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Consider Figure 1, where the standard income/leisure model is depicted.¹ Two budget constraints are shown, one for a lower “teacher” wage and another for the higher “principal” wage. The former represents the post termination budget constraint while the latter represents the before termination budget constraint. P represents the higher salary/more work position, while T represents the lower salary/less work position. Employees can maximize utility by freely choosing hours both before and after termination or injury. The case depicted involves a relatively large substitution effect.

If the indifference curves look as they do in Figure 1, the amount of income needed to return the wrongly dismissed principal to the original indifference curve is known as the compensating variation (CV).² It is found by sliding the teacher budget line to the northeast until it is tangent to the original (principal) indifference curve at P'. P' reveals the level of income that allows the teacher the same level of satisfaction as was earned as a principal. Note that the amount of income needed to compensate (the CV) is less than the difference between Yp and Yt, the usual measure of loss. In Figure 1, this is shown as the difference between Yt and the income associated with P', or Yt'. With a large substitution effect (and small income effect), the wrongly terminated employee wants to work less and is overcompensated.

The loss of income $Y_p - Y_t'$ is associated with increased leisure, and isolates the substitution effect in microeconomic theory. The individual has chosen a life with more time off, so that the value of $Y_p - Y_t'$ is exactly equal to the value of the increased leisure time, or the amount of overcompensation for wrongful termination.

The discussion raises another issue about earnings capacity. In Figure 1, P* and T* (where the budget lines intersect the vertical axis) represent the maximum amount of earnings possible for each employee, the case where the principal and teacher choose no leisure. It can be seen as a human capital measure of earnings capacity. The difference between P* and T* is also the estimate of loss often asked of economists in these cases. It is not the appropriate loss measure if leisure is a good in the worker's utility function, but it again illustrates how loss is conceived by courts outside the income/leisure model of microeconomic theory.³

The presentation to this point is a just a simple application of microeconomic theory. But the situation becomes more interesting when wrongful termination or personal injury cases involve time constraints. Most jobs are defined by the hours they keep and workers cannot maximize utility by choosing the optimal number of days or hours. Teachers in Ohio work 184 days and principals work 225 days. If you are terminated as a principal and returned to teaching, you are not free to choose labor supply. So the standard CV

analysis of Figure 1 must be extended when workers cannot maximize utility.

In Figure 2, P and T are not points of tangency on the respective budget constraints. Facing a lower wage along with a labor constraint (Lt for teachers and Lp for principals), the CV cannot be determined in the conventional way. Either AT or BP is the compensation needed to make whole the employee depicted here.⁴

The model raises other intriguing possibilities. If the *same* indifference curve passes through both P and T, the conclusion is that no compensation is merited for the wrongful termination. It is not even clear in that case what the phrase “wrongful termination” means. The loss in utility associated with the fall in salary is exactly made up by the gain in utility associated with a reduction in hours of work.

Despite the seemingly abstract nature of this discussion, points P and T in Figure 2 may be directly observable. How could points A and B be found? A simple survey could be given to a representative group of workers with questions like the following:

Scenario #1

You are a school administrator making \$72,000 per year, working 225 days per year. If you could work as an administrator, but only 184 days per year, at what salary would you be indifferent between the two choices? (To simplify the question fill in the salary blank in the table below.)

I am indifferent between:

\$72,000 salary	And	And	\$ _____ salary
working 225 days			working 184 days

Scenario #2

You are a teacher making \$45,000 per year, working 184 days per year. If you were to work as a teacher 225 days per year, at what salary would you be indifferent between the two choices? (To simplify the question fill in the salary in the table below.)

I am indifferent between:

\$45,000 salary	And	And	\$ _____ salary
working 184 days			working 225 days

The first question locates A in Figure 2 and the second locates point B.

How flat are indifference curves in the real world? A complete answer to that question is not possible in this short paper. The answer varies with each individual. But this paper has shown that the conventional method assumes that

¹ I continue here with the example of a wrongfully terminated employee, though the principle applies as well (or even better) in personal injury cases. I am grateful to an anonymous referee for pointing out the general nature of the compensated demand framework in both applications.

² An excellent discussion is found in Varian, Hal R., *Intermediate Microeconomics*, New York: W. W. Norton and Company, 1997, 251-253.

³ I am again indebted to an anonymous referee for providing this insight.

⁴ Whether to use BP or AT as the appropriate measure of loss depends on whether we use the Hicks or the Slutsky method to isolate substitution effects (which amounts to isolating income effects). There is no consensus on this issue. Again, Varian (Ch. 8) has the best discussion of this issue.

indifference curves are flat, an assumption surely without merit.

The above survey was administered to 53 public school teachers in Springfield, Ohio. The average response in the first scenario was \$60,317 and \$55,472 for the second. Using the conventional method of determining loss in the above scenario yields a benchmark of \$27,000. But the method devised in this paper yields a smaller number. The distance AT in Figure 2 is \$15,317 and BP is \$16,528. The

implied value of additional leisure time gained is around 40% of the conventionally measured loss. Economists in wrongful termination and personal injury cases routinely calculate loss as the difference between Y_p and Y_t in Figures 1 and 2. Using a compensated demand framework, I have shown that this approach likely overstates loss. Furthermore, it is not difficult to get the information needed to properly measure loss in WT and PI cases.

Figure 1

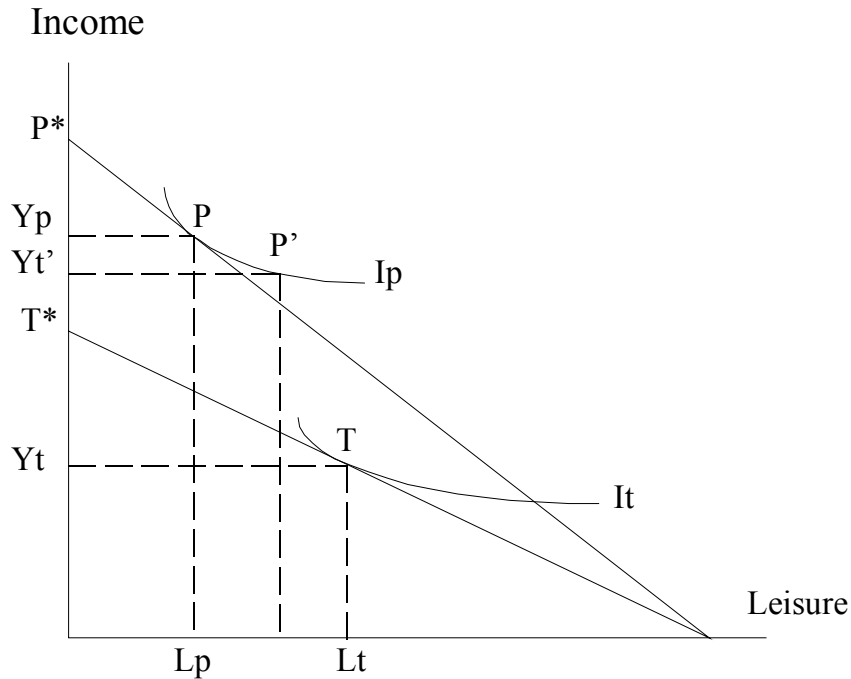


Figure 2

