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THE COURTROOM COMES TO THE CLASSROOM:
ESTIMATING ECONOMIC DAMAGES
AS AN INSTRUCTIONAL DEVICE

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ABSTRACT

A mock trial setting provides a superb opportunity for students to apply their economic knowledge. This format utilizes a team approach in which parties representing the plaintiff and defense provide calculations of economic damages, which are presented before a jury. Because this exercise replicates actual activities by economists in trial settings, it serves as a credible exercise for motivating economic students in general and pre-law students in particular. This article includes the background information needed to carry out such a classroom trial exercise.

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Key words: economic loss, law and economics, value of life

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Students raised on a diet of *L.A. Law*, John Grisham movies, and the O.J. Simpson trial are quite attuned to the role of lawyers in the courtroom. What students may not realize is the critical role played by economists in determining the value of damage awards assessed by the jury. Indeed, in many instances, such as the Exxon Valdez oil spill case, the guilt of the defendant is clear-cut. Economists played a far more important role than lawyers in determining the ultimate financial settlement, which has vital societal implications.

In this article we describe a mock trial format that we used to teach a variety of economic concepts. The case reported here involves calculation of damages in a wrongful death case. The courses in which we held mock trials were Labor Economics and Law and Economics. However, this teaching framework can be a useful component in other field courses as well, particularly Industrial Organization/Antitrust as well as Environmental Economics. Economists in each of these applied areas often evaluate damages using economic principles.

Engaging students in the mock trial is an effort to embody the more general maxim articulated by Siegfried et al. (1991, p. 209), which is that "effective learning requires active participation by students." In the mock trial setting, students have the freedom to structure their arguments and to provide the appropriate economic foundation. There is consequently considerable responsibility for defining the problem and developing imaginative ways to make the pertinent economic case. In order to be persuasive to a lay jury as well as to be able to respond quickly to critiques from the opposing side, students need a deep degree of comprehension.

This format also uses a team approach within an educational setting, as described by

Bartlett (1995). There has recently been considerable interest in the role of cooperative learning in economics as well as in other disciplines. Team coordination is a natural component of the exercise described here, as students work together as a team for either the defense or the plaintiff. They have a common incentive to make as strong and cogent an argument as possible because each student's grade depends on their own contribution as well as the performance of their group. This gives students the motivation to assist each other.

This mock trial proved to be very popular with the students. Many economics undergraduate students are either pre-law or other pre-professionals, so the mock trial gave them a chance to assume a professional role while utilizing their economic skills. Because the case used in the mock trials is an actual legal case, they were involved in a situation in which they were convinced that economics was truly important. The societal role of economists became concrete and not an abstraction.

TEACHING CONTEXT

At Duke University in Spring 1996, one of the authors taught a Labor Economics seminar to a class of 10 students. The other author taught a Law and Economics class of about 50 students. Both classes were comprised primarily of upper division economics majors, and met twice a week for 75 minutes. In addition, one of the authors adopted a variation of this mock trial approach in Fall 1996 in a class in Law and Economics at Harvard Law School.¹

At the beginning of the Spring 1996 semester, we each announced to our classes that at the end of the semester we would hold a mock trial between the two classes to decide damages

for an actual wrongful death case. The students were told that they would be given information regarding the case only two weeks before the trial; thus it was worthwhile for them to begin organizing and retaining information that may be relevant to calculating damages for any situation. The mock trial in Fall 1996 for law school students was held four weeks into the semester. Each trial used two class periods.

The grading policies varied among these classes. The grade in the Labor seminar was based on eight class presentations, and the mock trial received the same weight as the other seven presentations. The Fall 1996 class used a similar policy, in that one-third of the course grade was based on class participation, and the trial counted as a component of class participation. In the Spring 1996 Law and Economics class, the participants in the trial were volunteers who received extra credit. Each student's grade was based on their own presentation and on the overall presentation of their team.

The courses likewise differed in their content. Each course covered the same topics as would have been covered without the planned trial. The main benefit of the anticipated trial was to motivate students to apply class information in a concrete way. In particular, a major theme of the Law and Economics course is development of the economic principles for setting damages. This course addressed issues including whether the purpose of a damages award in a personal injury case is to compensate survivors for their economic loss, to make the victim "whole," or to provide appropriate deterrence values for the injurer.²

Even after recognizing that the present value of financial losses serves as a measure of the economic loss to survivors, a number of interesting economic issues remain. The class discussed

how losses should be assessed for a child or a single person with no dependents, as well as the effect on the loss assessment of the age of surviving children.

The Labor Economics class did not teach material specifically related to evaluating damages, but instead undertook a fuller exploration of the human capital and wage determination literature, which provides the basis for lost earnings analyses. For instance, in discussing differences in labor force participation by race and gender, students were reminded that differences in participation rates could lead to large differences in the estimated value of lifetime earnings as assessed in a trial. Issues of employment discrimination as well as pertinent anti-discrimination laws received more attention in the Labor Economics course.

An important decision for the instructor is whether the mock trial should focus on only economic loss, or whether students may draw on value-of-life estimates, or so-called “hedonic damages” to extrapolate estimates of pain and suffering. Including this topic in the mock trial pushes students to explore how economics can be used in imaginative ways to value noneconomic losses. If, however, the instructor wants a more focused mock trial, it may be desirable to reserve such broader discussions for other class sessions.

TRIAL FORMAT

The courtroom analysis consisted of two teams, one for the plaintiff and one for the defense. In the Spring 1996 trial, the 10 students from the Labor Economics seminar comprised one large team, while the team from the Law and Economics course consisted of seven volunteers. In the Fall 1996 trial, the teams consisted of 5-6 students, where all participants were

from the same class. From this experience, we believe it is particularly exciting to the students to have different classes involved if possible.

After composing the teams, the instructor flips a coin, with the winner choosing the side to represent. The task for students is to undertake as sound an analysis as they can given the factual background in the case, so neither side should be disadvantaged by the party they have chosen to represent. The plaintiffs, for example, will not be remiss if they do not find an earnings loss comparable to what would be experienced with the wrongful death of Bill Gates.³

In the mock trial between the Labor Economics class and the Law and Economics class, we recruited as jurors two staff members and a student not in either class. The jury was intended to reflect a plausible jury composition of a real trial, in which the jurors varied in their education, marital status, presence of children, age, and employment history. The students in the Law and Economics class who did not participate in the exercise served as informal jurors and critics of the presentations. The task of each party was to explain the economic concepts in a manner that the jury could comprehend and find persuasive. The Fall 1996 trial did not have a jury. Based on student comments we believe a jury is an important motivator.

The two different trials had slightly different formats. The Spring 1996 trial consisted of what we term the trial-only format. In the trial-only format, the plaintiff's team presents their damages estimate, and the defense team then quizzes them. The defense team then presents its analysis, after which the plaintiff team asks questions. The trial is then adjourned until the next class period, at which time the defense team summarizes their position, the plaintiff team gives its summary, and the jury reaches its verdict.

The Fall 1996 trial varied this procedure by adding a deposition round. This is an initial stage during which each party presents a written version of their calculations, but does not make a presentation. Rather, it is the task of the opposing party to elicit from them the nature of their analysis. Thus, this format begins with questioning of the plaintiff's experts followed by questioning of the defense experts. The remainder of the trial proceeds exactly as in the trial-only format, except that there are no additional cross examinations if time is a factor. If the exercise includes a deposition round, the entire trial is compressed into the second class period, and students must rely on the initial fact finding exploration in the first class period to plan their strategy. The deposition/trial format is more realistic and has more appeal to law students, whereas the trial-only format is a more efficient use of time.

The team members divide responsibilities for the analysis as well as for the presentation. For example, one team member could be responsible for both the presentation of the value of home services and a critique of the other side's analysis. The students were responsible for selecting their own division of labor, with the only constraint being that everybody have the opportunity to actively participate in some manner, whether through the presentation or by asking questions on a particular topic.

EVALUATING THE EXERCISE

Ideally, it would be desirable to document the educational value of the approach based on results of a controlled experiment. Unfortunately, the character of the course and the students in it varied significantly over time so that we have no controlled experimental data to demonstrate

the efficacy of the mock trial approach. We do, however, have student comments that indicate an enthusiastic short run response to the exercise.

The course evaluations by the students were overwhelmingly positive. All students involved in the Spring 1996 trial reported that this was their favorite part of the course. The students were quite enthusiastic about the topic and independently pursued various lines of inquiry in order to make their case more persuasive. The labor economics students provided the following comments:

*The trial was with no doubt my favorite and in my opinion, most useful exercise in this class. The earlier introduction to various population statistics and articles on discrimination and wrongful death were very effective in giving us a basic understanding of how to examine a specific case. In most classes you don't get past the first step. I believe we had the unique opportunity to see how all the theory (valuing a life, wage discrimination...) plays out in the "real" world.

*I think more cases such as the final one should be done more often. This class has been the most true to life class I have taken and thus one I have appreciated most. Working together with a group on a real case and going against another class, not knowing what to expect, was an excellent learning experience.

The law and economics students' observations included the following comments:

*The simulation was excellent. I particularly like the ability to research outside of given materials and the opportunity to provide and depose expert witnesses. The details of the case were good - there was enough to define parameters, but not enough to stifle creative analysis. I like the reality of the simulation - this was an actual case with actual people and damages. I think the opportunity to cross-examine opponents' experts was a great demonstration of the reality of damages assessment and expert testimony.

*I liked the fact that we were forced to sit down and calculate an actual dollar value for the deceased's life. You tend to learn more when forced to use an equation or formula. It was also good to force us to do some public speaking. Personally, it was the first time I had to speak to a group in years.

In addition to the unanimous and enthusiastic response in the course review testimonials, two undergraduates who applied to law school the following year mentioned the mock trial exercise in their applications as being pivotal in their decision to attend law school.

The success of the mock trial format will depend in large part on how it is used by the instructor. If the course material and classroom presentations explore the economic issues likely to arise in the mock trial, then the prospects for a successful exercise will be greater than if students are not putting their economic knowledge to a real world test but are simply engaged in a noneconomic debate. The least productive aspects of the trial usually occurred when students strayed from their economic training to more open-ended issues, such as calls for punitive

damages. Defining the terms of debate can limit these problems. Establishing firm time constraints is also essential. Otherwise, the trial can assume a life of its own, much like the O. J. Simpson criminal trial. We welcome comments from other instructors who adopt the mock trial format, which we will compile and distribute upon request.

SAMPLE CASE: THE MURIEL JOHNSON TRIAL

In this section we outline the case characteristics and information we gave to the students. The appendix summarizes the sheet of demographic facts and background information the students received. Only the name of the deceased has been changed.

The case involved Muriel Johnson, who had sought assistance at a hospital emergency room. The hospital did not treat her because she was not covered by insurance, and she died less than two hours after leaving the hospital. The medical condition that caused her death would not have limited the amount or kind of work she could do had she received treatment and lived. For the purpose of the economic analysis, we asked the students to assume that the lawyer for Muriel's family had shown that the defendant (the hospital) was negligent, and the only economic task was to calculate the economic loss. Negligence means that the hospital did not provide the appropriate degree of care given the potential benefits of care to her and their legal obligations. Therefore the hospital could be sued for the damages suffered by her survivors.

Muriel Johnson was a young black unwed mother, who was on welfare at the time of her death. She lived with her mother and her two young children. The principal parties who suffered an economic loss were her children and possibly her mother. Ms. Johnson had a high school

diploma. Indeed, she was an excellent student and completed high school in 3.5 years. According to her mother, she had worked in a series of minimum wage jobs at fast food restaurants, such as Hardee's, and had also worked as a nurse's aide. Unfortunately, there were no available W2 forms or employment records to document the extent of her work.

Muriel Johnson had recently applied to the nursing program at her local public university in order to be trained to become a registered nurse. She would have entered in the following fall. This was a state school with low tuition as well as additional financial aid for minority candidates; it would have been financially feasible for her to enroll in that school should she have chosen to do so. Her mother was willing to assist in the care of the children while she attended school.

ECONOMIC ISSUES RAISED IN THIS CASE

The economic principles at stake involve the calculation of present value, analysis of wage determination and human capital, the role of gender and racial differences in earnings, and the value of nonmarket services. The Muriel Johnson case is particularly interesting because there is a great degree of uncertainty regarding her future earnings. Her situation also raises issues of both gender and race discrimination. The students were free to depart from mainstream views so long as they could document their arguments.

Because the Law and Economics course devoted more time than did the Labor Economics course to the principles for setting damages, and the Labor Economics course spent more time on the determination of earnings and working life, we provided guidelines and tables

of pertinent information to put the teams from both classes on an equal footing. In particular, we simplified the calculations, by asking the students to treat the economic loss in terms of the present value of Muriel Johnson's lifetime earnings and fringe benefits, less the share of this amount that would have been devoted to her consumption activities, plus the value of the lost services the children would have received until age 18.

The key employment concern that drives the analysis is the likely future employment of Muriel Johnson. Because she was at an early stage of her work life and did not have a well established career trajectory, students needed to make a number of assumptions as well as justify their plausibility to a jury. The range of her potential future employment prospects—both with respect to length of working life and probable job (e.g., registered nurse versus minimum wage worker)—added greatly to the students' task; they needed to be able to defend their own earnings scenario as well as criticize quickly that of the opposing side, using sound economic theory and data.

The analysis also required knowledge of fringe benefits, with particular attention to those which are government-mandated, versus those that are typically part of the earnings package for higher earnings jobs.

After establishing an earnings base, students needed to discount this earnings stream by the difference between the rate of interest and the rate of growth in earnings. There are a variety of plausible interest rates and time periods that can be used. Students must then delve into the factors that drive the rate of interest and the growth rate of earnings.

We apprised students that awards were not taxed in this jurisdiction. To fully compensate

survivors for their net economic damages, then, the after-tax earnings loss is pertinent. To simplify the analysis, students can use the tax rates for the state in which the school is located. Alternatively, the instructor can let the students decide how they should treat taxes given that the court award is not being taxed.⁴

The task of the analysis required calculating the loss to survivors net of the consumption of the deceased. We asked the students to use a consumption share value of 22 percent of income being devoted to consumption of the household head in the situation of a 2 adult-2 child household.⁵ Why is it that the consumption share is less than a pro rata share of all household income? A discussion of this difference was a useful way of highlighting the presence of economies of scale in running a household as well as the value of local public goods, such as heating, lighting, and television that can be shared by family members without increasing costs proportionally.

An important part of the calculation was determining the value of services. The value of nonmarket services depends on both the time allocated to home production and on whether these services are valued at opportunity cost (such as the individual's wage rate) or at replacement cost. The issues raised in valuing nonmarket services are quite controversial and have broad societal significance. For instance, valuing home services performed by women at their lower wage rate compounds any effect of labor market discrimination.

INFORMATION PROVIDED TO STUDENTS

We provided students with tables of pertinent information to conduct their analyses. We

gave them information on life expectancy by race and by gender (U. S. Department of Commerce 1995, p. 88). This life expectancy table is useful in ascertaining the total period of time over which Muriel's children could have potentially suffered some loss of services and employment.

An additional three tables came from the 1996 Economic Report of the President to acquaint students with price trends (page 343), interest rate trends (page 360), and earnings trends (page 330). We also gave them general Census information on earnings for the entire labor force, and we informed them that this publication as well as other more recent Census publications provide more detailed information on the earnings in different occupations at different age levels (U. S. Department of Commerce 1984, p. 1).

To assist in the estimation of the fringe benefits we gave them a fringe benefit table indicating the employee benefits as a percentage of payroll for the economy as a whole as well as for various sectors of it (U. S. Chamber of Commerce 1995, p. 15). For minimum wage jobs, these fringe benefits include primarily the legally required payments such as the employer's share of social security contributions. However, for other higher paying jobs in the economy, there may be other fringe benefits such as pension benefits, life insurance, medical insurance, and miscellaneous other benefits.

Individuals will only experience a potential earnings loss for the period in which they worked. Students received copies of work life expectancy tables for both men and women by educational group that they could use in calculating this period of work (U. S. Department of Labor 1986, pp. 14, 20). We also informed the students that these estimates were not current and were also retrospective in nature. As a result, the data did not account for recent changes in the

status of various labor market groups, such as women. Students in the Labor Economics class learned how to approximate expected working life for different gender, race, and education groups from information on labor force participation rates and unemployment rates.

Finally, to assist in the calculation of the loss associated with nonmarket work, we gave them a table from the University of Michigan survey on time allocation (Juster and Stafford 1985, p. 148).

Instructors may differ with respect to the amount of economic materials that they provide to the students. If the course has a strong research orientation or if the trial is a major component of the course, the instructor can use the case to have students locate the appropriate materials using a wide variety of government publications. Our exercise gave students some background tables, but considerable discretion for initiative remained. We did not give students any earnings information, for example. In addition, on their own initiative student teams undertook additional independent research by, for example, calling local cleaning services to ascertain the market value of housework and by contacting a nursing school to learn the starting salaries of its graduates.

TRIAL OUTCOME

In the Spring 1996 trial, the plaintiff argued for a lifetime value of lost earnings and fringe benefits of \$686,744, and lost services of \$430,055. The defense argued for much lower values of \$210,646 and \$183,211 respectively. The jury award for the trial in effect split the difference between the estimates provided by the plaintiff and defense for the lost wages and

fringe benefits and awarded \$457,949 in lost earnings to the survivors. However, the plaintiff's analysis for the value of services and other components was more persuasive, and the jury elected to award the entire \$430,055 requested by the plaintiff. The votes of the remaining 45 students in the Law and Economics class resulted in an average lost earnings value of \$408,039 and an average value of lost services of \$274,404.

The jury verdict, in effect, indicated that the arguments presented regarding economic damages were equally persuasive. The student grades for the exercise depended on the substance of the economic arguments presented and not the jury decision. To encourage group cooperation in such tasks, all team members shared in the credit for their team's presentation and not simply for the portion of the argument they presented.

NONECONOMIC DAMAGES

For the "noneconomic" damages component, juries seldom rely on economic expert testimony but instead make more independent judgments based on the facts of the case. Nevertheless, economics can sometimes be useful in nonmonetary loss situations. One case where economic analysis came into play was the Exxon Valdez oil spill. By law the compensation concept required that Exxon pay a fine sufficient to restore the U. S. citizenry to its pre-spill level of welfare. Assessments of the amounts needed to make people "whole" for the environmental damage utilized contingent valuation survey approaches. This methodology was the subject of a separate section of the Law and Economics course, but was not addressed in the Labor economics course.

ETHICAL ISSUES

The team format puts different student groups in an advocacy position for either the plaintiff or defendant. Should this role be to “win” for their side based on the dollar value of the award, or to provide unbiased expert testimony? If their task is to give their best professional judgment, why should the teams’ estimates differ and why should the defense’s analysis invariably yield a lower number? The instructor informs each group that aggressive analyses on behalf of their client will not be credible with the jury so that there is an incentive to be reasonable. However, there may not be a unique set of “reasonable” assumptions.

A higher value for the plaintiffs’ assessments will always be observed because of the sequential play nature of the game. The plaintiff team presents its analysis first. The defense team will only challenge assumptions that can potentially lead to a lower damages amount and will accept assumptions by the plaintiff team that they consider reasonable or that understate the defense estimates of the true economic loss amount. A useful topic for class discussion is whether the defense expert has an ethical obligation to correct a plaintiff expert’s oversight even though doing so is to the defense’s disadvantage. Defense lawyers would clearly never come to the assistance of the plaintiff lawyers. We believe the economic expert should not be in a similar advocacy role but should be an objective assessor of the damages in the case. Whether a lawyer would ever permit the expert to testify in such an unbiased manner is a different issue.

CONCLUDING REMARKS

We found that staging a mock trial to assess damages in a wrongful death case was an outstanding method of motivating students to apply economic concepts and to "think like an economist." The advantages are obvious: students have an opportunity to use economic analysis in a creative way in a real world situation. The realistic nature of the mock trial also helps students to appreciate the contributions of economists to courtroom decisions. The team aspect of the exercise and the use of oral presentations proved popular with students, many of whom were enthusiastic about the chance to get to know their classmates better in a working situation.

The advocacy nature of the trial setting also enabled students to better understand potential differences in economic perspectives. Which economic arguments best supported their case, and how could they be justified in a context in which these arguments would be challenged by a litigation team with an opposing view? The trial format provided an immediate market test of the creativity and cogency of their economic arguments.

NOTES

¹ An earlier version of this exercise undertaken in Fall 1995 pitted a student defense team against the instructor, who presented an intentionally flawed analysis that the students had to critique. This approach was undertaken with Harvard Law School students who may be less reluctant than undergraduates to do battle with the instructor.

² The differences between the lost earnings approach used in the classroom and the value of life estimates used in assessing risk regulation policies were also discussed, drawing upon the material in Viscusi (1991). That book also illustrates the potential applicability of value of life estimates to assess liability using the Ford Pinto case data. The economics textbook by Viscusi, Vernon, and Harrington (1995) also addresses value-of-life issues as well as a wider range of regulatory and liability contexts.

³ The comparison of the decedent with Bill Gates also can promote a class discussion of private versus social loss. If Bill Gates' earnings derive from monopoly power of Microsoft in the software market, then the social loss will be below the private loss.

⁴ A complete treatment of the role of taxes in damage assessment raises numerous other questions that were addressed in the Law and Economics class but not in the Labor class. For instance, topics include how the income taxes Muriel Johnson would have paid affect the economic loss to survivors, how income taxes differ from social security taxes, and whether the employer's contribution and the worker's contribution to social security should both be included.

⁵ See the estimates in Cheit (1961, 78). The current household included Muriel Johnson's mother so that it was a two adult household.

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APPENDIX

Muriel Johnson

Background facts from interrogations and deposition of Muriel Johnson's mother.

- Born: 7/30/71
- Died: Age 21
- Children born: 6/3/89; 5/1/92
- Past employment: Lee's Chicken, Vee's Confectionery, and Hardee's
- Muriel was a certified nursing assistant.
- Intended to enroll in nursing program at her local university to begin summer, 1993 and apply for aid.
- 12th grade education, finished in 3.5 years.
- Age of Muriel Johnson's mother: born 5/1/52
- Housing arrangements: Muriel Johnson and her two children lived with her mother.