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A Law & Economics Perspective on a "Traditional" Torts Case: Insights For Classroom and Courtroom

*Robert H. Lande**

An analysis of *O'Brien v. Cunard Steamship Co.*¹ readily demonstrates how economic concepts can help enlighten legal thought, enable judges and lawmakers to select optimal legal rules, and assist law students and others to understand the implications of alternative legal decisions.² Because *O'Brien* has several aspects that can be explained quite well through the economic approach, the case also could be used to teach a number of important economic insights that often provide useful aids to legal analysis.³ *O'Brien* also contains issues for which economic analysis is less important.⁴ Because a complete study of *O'Brien* would involve both economic and non-economic issues, a focus upon this case would illustrate how economic analysis often has an important role in legal decisionmaking, but that this role may be limited. This Article's analysis will show how Law & Economics should be considered a supplement to, but not a replacement for, other forms of legal analysis.

The Law & Economics approach should be able to demonstrate some of its power and utility through the analysis that will follow. It also will tend to show that the *O'Brien* court probably made important errors; it should have held Cunard liable for any negligence by the ship's physician, and should have allowed a jury to decide the consent/battery issue. Before *O'Brien* could be

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1. 28 N.E. 266 (Mass. 1891), reprinted at 57 MO. L. REV. 347.

2. Some of the necessary analysis is complex, however, and certain key issues depend upon a number of empirical questions that cannot be answered by the case's record. For these reasons a teacher might first present a simpler case to illustrate the basic economic approach to legal analysis, and subsequently discuss *O'Brien*.

3. For example, the existence of the vaccination requirement can be well explained by economic principles. See *infra* section II(A).

4. For example, economic principles are much less useful in helping the court ascertain whether *O'Brien* was coerced or whether she consented to the vaccination. See *infra* section II(C). Economic analysis might help even with this issue, however, by supplying a motive explaining why Cunard's profits might have increased if it forced *O'Brien* to be vaccinated. See *infra* section II(C)(3).

properly analyzed by a class, however, it would be appropriate for the instructor to present some background on the economic approach to legal analysis. This overview material should consist of a brief introduction to the subject that would attempt to start preparing the students to ask the right types of questions.

I. OVERVIEW OF THE ECONOMIC APPROACH TO LEGAL ANALYSIS

It is difficult to define what the economic approach to legal analysis entails, for any definition broad enough to be correct is so inclusive that it conveys little information. Judge Posner, for example, defines economic analysis of legal issues as "the science of rational choice in a world—our world—in which resources are limited in relation to human wants."⁵ This is likely to leave many students puzzled.⁶ Rather than spend a substantial amount of time attempting to craft a better definition, the instructor might more profitably demystify the subject and give examples of the types of questions that are most commonly suggested by economic analysis. Like the old joke about the person who spoke prose without knowing it, students routinely perform economic analyses of legal issues during their law school experience, as do lawyers, legislators, government officials, and judges throughout their careers.⁷

A. *The Basic Approach*

A more pragmatic definition would divide economic analysis of legal issues into four components: jargon, math and related technical material, logic, and evidence. Jargon is simply a type of shorthand that is easy to memorize. This Article will analyze *O'Brien* using such concepts as

5. RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 3 (3d ed. 1986) (footnote omitted).

6. The proposition that people usually act in a rational way that maximizes their utility is probably of limited utility to most law students. We all engage in "rational choice" insofar as we act to increase our happiness, but this often does not adequately predict behavior, especially since people often have interdependent utility functions. One gives money to charity, casts a vote for president (even though one knows that their chances of deciding the election are infinitesimal), or commits a violent act of torture or rape. How do these actions benefit the person performing them? Each is rational insofar as it maximizes the utility of the person who carries it out, but only if "rational" is defined broadly.

7. Economic analysis of law is in one respect like pornography. It is hard to define but you know it when you see it. Moreover, students have been using economics in their roles as consumers and suppliers of inputs (such as labor) throughout their lives.

"externalities," "free rider problems," and "opportunistic behavior;" meaningless babble to the uninitiated, but after these terms are defined it will be apparent that each is shorthand for simple but important commonsense ideas.

The mathematical and technical portion of economic analysis, including equations and diagrams, intimidates many law students (and lawyers, law professors, and judges) and prevents them from delving into the area. This is unfortunate because almost every important insight that economics provides for legal analysis can be understood by anyone able to perform four function arithmetic and read a simple diagram.⁸ As this Article's analysis of *O'Brien* will illustrate, a lack of mathematical aptitude will not hinder anyone from absorbing the insights that economics has to offer about the case.⁹ While lawyers must be able to communicate with economists,¹⁰ the technical aspects are not within the lawyers' province. There is little point in going to economics graduate school if one wants to practice law.

Because its jargon and mathematical aspects are not crucial, the instructor should emphasize that the economic analysis should be viewed as nothing more than a system of logical inquiry. It starts with a series of assumptions and then asks particular types of questions. It usually starts with the premise that an important—some believe the primary or only—purpose of law is to alter behavior in order to give individuals and corporations the incentive to behave optimally. The economic approach asks how different legal rules will affect incentives and behavior. It proceeds under the assumption that people usually act in a rational manner that maximizes their utility and that their actions often can often be predicted if we ask, "what's in it for them." Economic analysis is at its strongest when it points out the logical consequences of legal rules for society and for different parties.

A final component of economic analysis might be described as evidence, or the real-world manifestations or implications of its logic. Sometimes no evidence needs to be collected and we can come to powerful conclusions just

8. I have spent more than a decade practicing antitrust, probably the field of law that uses the most economics. I have worked for the government, in private practice, and as a consultant. Even when I worked closely with economic experts I never found it necessary to be able to understand complex mathematics or technical material. Only when I have engaged in academic research has technical knowledge been important, and on those occasions where the necessary technical economics has been complex it has proven more efficient to recruit economists as co-authors rather than attempt the analysis myself.

9. I teach a Law & Economics course using POSNER, *supra*, note 5, in part because it contains many logical insights but relatively little technical economics.

10. Lawyers also must be able to communicate effectively with judges who believe that economic insights are important. See *Law & Economics: A New Order on the Court*, BUS. WK., Nov. 16, 1987, at 93.

on the basis of logic.¹¹ Other times, however, logic gives rise to reasonable but potentially offsetting effects, and we are intensely interested in the net result.¹² In these cases we might have to collect extensive data to resolve the ultimate issues.¹³

All of this analysis must be carried out with some goal or goals in mind. Only by clearly stating our evaluative criteria can we best use economics to assist our legal analysis and decisionmaking.

When economic analysts desire legal rules that induce "optimal" behavior, they usually want to design rules that maximize total wealth (that is, total economic efficiency). An important goal of any legal system is to improve the efficiency of the economy, and law is an important device that gives individuals and corporations the incentive to behave in a way that maximizes the overall wealth of society. While everyone performing economic analysis of legal issues believes this is an important consideration, some go further. Many believe that particular fields of law should be governed solely by efficiency considerations,¹⁴ and that case decisions in common law subjects, like torts, usually yield efficient results and are evolving and should evolve towards the goal of maximizing efficiency.¹⁵

Others believe that equity issues (these are sometimes termed "distributive," "wealth transfer," "compensation," or "property rights" issues) are also important components of legal decisionmaking. Since most of us care about who wins and who loses from various legal rules,¹⁶ many believe that a properly performed economic analysis should also concern itself with these issues. The efficiency and efficiency/equity approaches to economic reasoning often arrive at different conclusions as to what optimal rules should be.¹⁷

11. For example, *see infra* section II(B)(1) which concludes that it would be more efficient if Cunard were responsible for the physician's negligence.

12. For example, *see infra* section II(B)(2) which shows the ambiguous equity effects that would arise from a rule that made Cunard liable for the physician's negligence.

13. For example, one factor could cause the price of transportation services for immigrants to rise, while another could cause fares to decrease. The theoretical analysis sometimes cannot resolve the tradeoff, in which case data may have to be collected and analyzed to determine the net effect.

14. For an articulation of the belief that antitrust should solely be concerned with efficiency, see ROBERT H. BORK, *THE ANTITRUST PARADOX* 91 (1978). For an opposing view, see Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged*, 34 HASTINGS L.J. 65 (1982).

15. *See* POSNER, *supra* note 5, at 19-26, 147-97, 229-33.

16. *See generally* George J. Stigler, *The Economists and the Problem of Monopoly*, 72 AM. ECON. REV. 1 (1982).

17. A simple tort example will illustrate the differences between the efficiency

When one employs economic analysis with only one ultimate goal (*i.e.*, wealth maximization) the analysis is often difficult. But if one believes that both efficiency and equity should factor into the analysis, a difficult efficiency/equity tradeoff must sometimes be made especially since the equity goals should be achieved in the most efficient manner possible.¹⁸ This Article's analysis of *O'Brien* will help to differentiate the efficiency and equity aspects

and efficiency/equity approaches. This example is taken from a much more detailed discussion of the relationship between deterrence and compensation in Earnest J. Weinrib, *Understanding Tort Law*, 23 VAL. U. L. REV. 485, 504-10 (1989).

Assume that a \$100 expenditure would have prevented a \$1000 injury that otherwise would have had a 25% chance of occurring, and that the injury did occur. Tort law based solely on the criterion of maximizing economic efficiency would ask whether this was an accident that should have been prevented, and how high a penalty would be needed to induce the defendant to spend the resources necessary to prevent the accident. Because the cost of prevention (\$100) is less than the expected cost of the accident (25% of \$1000 = \$250) this is indeed an accident that should be prevented. How high a penalty should we impose on the careless defendant to give her the incentive to behave correctly in the future (*i.e.*, how high a penalty would have induced her to behave correctly *ex ante*)?

The answer is any figure over \$400 since a 25% probability of having to pay more than \$400 will induce the defendant to spend \$100 to prevent future accidents. An excessively high penalty may cause overdeterrence. (The overdeterrence effects of excessively high penalties can be illustrated by an extreme example. Suppose that we believe that 55 m.p.h. is the optimal maximum speed limit. Why not impose the death penalty for anyone who drives a car faster than 55 m.p.h. other than because it would be immoral, and judges and juries would refuse to convict people of speeding? Due to the high risk of error by drivers or the legal system, people might drive no faster than 30 mph to be absolutely certain that they would not be convicted of going faster than 55 m.p.h. But we, as a society, don't want a 30 m.p.h. maximum speed limit since this would be very inefficient.) The optimal damages award from a wealth maximization/efficiency/deterrence perspective therefore would be \$401 (omitting a number of factors, such as risk aversion).

An equity (compensation) view would give more respect to the plaintiff's property interests. Since the loss did occur and the defendant was negligent (by failing to spend \$100), plaintiff should recover \$1000 to compensate for her loss.

18. For example, compare O.E. Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs*, 58 AM. ECON. REV. 18 (1968) (evaluating horizontal mergers solely in terms of competing efficiency effects) with Alan A. Fisher et al., *Price Effects of Horizontal Mergers*, 77 CAL. L. REV. 777 (1989) (evaluating horizontal mergers by considering both efficiency and equity or wealth transfer effects). In the case of the evaluation of horizontal mergers, the data requirements are roughly identical under either the efficiency standard or a standard that considers both efficiency and equity. The latter standard might even be somewhat simpler to implement. *Id.* at 809-10.

of economic analysis, and will illustrate the difficulties in resolving conflicts between these two goals.

The economic approach to legal analysis attempts to ascertain the efficiency and equity effects of alternative legal rules by asking questions that reveal their effects on incentives, motives, and behavior, and thus ultimately on efficiency and on who wins and who loses. Some questions focus on supply parameters (for example, different legal rules governing the duty that Cunard owed its passengers will affect the price, quantity, quality, and variety of transportation, as well as vaccination and other services offered by Cunard and its competitors). Each possible legal rule, and the effect every rule will have on each supply parameter, will also have effects on the demand for the various types of services offered. These effects may differ for various parties; a transportation contract that would be desired by an impoverished O'Brien might be very different from one desired by an aristocrat.¹⁹ The analysis will also have to consider effects on third parties, and must take place within the wider context of society and societal institutions.²⁰

B. The Role of Economic Factors, Non-Economic Factors and Ideology

If the economic approach to legal analysis were defined as broadly as the earlier proposal by Posner it would be all-encompassing. A narrower definition of economic analysis could, however, fail to analyze many legal issues since it might omit such factors as morality, justice, fairness, equality, and freedom.²¹ To the extent these other factors are distinct from economic analysis and relevant, economic analysis is less useful to the resolution of legal questions.²²

19. See *infra* section II(D).

20. For example, we will see that one important question concerns whether immigrants could readily have purchased medical insurance. If insurance was not readily available it would be unhelpful to suggest that O'Brien should have purchased insurance against negligent vaccinations.

21. For example, some legal scholars believe that many legal rules are best analyzed using Rawlsian principles. See KIM LANE SCHEPPELE, *LEGAL SECRETS* (1988).

22. To illustrate the extremes, consider the antitrust issues that arise when two large companies in a concentrated \$10 million industry want to merge. Today virtually everyone in the antitrust community would analyze this merger completely or largely in terms of economic effects. For the range of views, see Robert H. Lande, *The Rise and (Coming) Fall of Efficiency As The Ruler of Antitrust*, 33 *ANTITRUST BULL.* 429 (1988). By contrast, the framers of the legal system also have to decide whether to impose capital punishment, a policy question with many moral implications. Even in this situation, however, economic analysis should play a role since it can help

The "what else counts" question helps to illustrate the crucial role of ideology in economic analysis. As noted above, a threshold question is whether to analyze a legal issue solely in terms of efficiency, or whether to also include equity effects and non-economic factors. At the risk of making an oversimplified generalization, relatively conservative Law & Economics analysts tend to focus solely upon efficiency considerations, while more centrist and liberal scholars are more likely to include equity and non-economic considerations.²³

Aside from the question of goals, economists of different ideologies carry out their analysis as differently as the assumptions they make about how the world actually works. One way to illustrate the differences between "conservative" and "liberal" economic analysis is in terms of market failure. If a market (for example, a market for ocean transportation or vaccination services) is functioning well, it will produce the optimal results in terms of both efficiency and equity for everyone in the market.²⁴ Because suboptimal effects arise from market imperfections, a key question is when a particular market is functioning relatively well. Liberals are more likely to find that a market is not functioning well enough, due to one or more of a large number of factors, including imperfect or false information, transaction costs, monopolies, cartels or cartel-like behavior, externalities, a lack of informed consent or free will, barriers to entry, and free rider problems.

These market failures can be divided into two categories.²⁵ One type occurs external to consumers and stems from market imperfections that restrict or distort the options available to consumers. These problems include cartels and monopolies and are sometimes the province of antitrust.²⁶ The other type of market failure occurs internally to consumers and affects their ability to choose freely and rationally among the options the market presents. These problems often are the impetus behind various consumer protection statutes.²⁷

determine the extent to which capital punishment deters various types of crime. See POSNER, *supra* note 5, at 24-25, 210-11.

23. See Morton J. Horwitz, *Law and Economics: Science or Politics?* 8 HOFSTRA L. REV. 905 (1980). For an example of the debate in one field of law, see Lande, *supra* note 22, at 455-63.

24. See generally EDWIN MANSFIELD, MICROECONOMICS 277-92 (4th ed. 1982). This assumes, *ceteris paribus*, that the initial distribution of property rights is just.

25. See Lande, *supra* note 14, at 125.

26. Interestingly, during this period a cartel involving the transportation of passengers immigrating to the United States might have existed. This was alleged in *United States v. Hambrugh-American Steamship Line*, 239 U.S. 466 (1916), but the charges were never resolved since wartime mooted the issue. *Id.* at 469-70.

27. See Lande, *supra* note 14, at 121-26.

Conservatives agree in principle that these problems can prevent market forces from maximizing consumer welfare, but in practice they are less likely to conclude that any are of enough significance to matter. Moreover, liberals are more inclined to believe that some form of government intervention (either legislative, executive or judicial) often is necessary to correct the market's failures, while conservatives are more likely to conclude that even if the market is not working very well, government intervention will probably make things worse.

It is apparent that there is no simple way to describe a correct or typical economic approach to the analysis of legal issues. Its analysts use a similar approach but differ in the questions they stress, the assumptions they make, and how they view the evidence. It should therefore come as no surprise that they sometimes arrive at different answers. The Law & Economics movement is incredibly diverse and one should hesitate before categorically saying what it does or does not do.²⁸ But its value often is immense. In many respects economics is to law what physics is to engineering.²⁹ Perhaps the approach and its value will become apparent only through example.

II. ECONOMIC ANALYSIS OF *O'Brien*

The opinion principally decided two legal issues: (1) Was Cunard liable for any negligence of its physician towards *O'Brien*;³⁰ and (2) Did *O'Brien* consent to the vaccination (*i.e.*, was her consent so well-informed that she "assumed the risk," or should the vaccination be considered negligence or a battery)?³¹ Both issues can certainly benefit from the application of economic analysis, as can (at least) two other relevant issues. We also might ask, as

28. For example, the Law & Economics movement is sometimes severely criticized for ignoring compensation (distributive) issues. See Weinrib, *supra* note 17, at 506-10. It would be more correct to criticize many—perhaps most—members of the movement for doing so, but then to acknowledge that others do incorporate equity issues into their analysis. See, *e.g.*, Lande, *supra* note 22 at 455-63.

29. I am grateful to Dr. Kenneth Kelly for this analogy. Engineers study physics and physicists gain insights from engineering failures and successes. This symbiotic relationship also exists between law and economics. The primary difference is that if engineers ignore physics, their bridges will fall down, and they will almost certainly attempt to correct their problems in their next undertaking by incorporating physics' insights. By contrast, when economics explain the equivalent of a bridge falling down to the legal world (for example, economics might convincingly explain how a particular law intended to help consumers actually harms them) its insights often are ignored.

30. *O'Brien*, 28 N.E. at 266-67, 57 MO. L. REV. 347-48. Subsumed within this are the questions of whether Cunard had a duty towards *O'Brien*.

31. *Id.*

a preliminary matter, why the vaccination requirement exists. And, to better illustrate some of the principles involved, this Article will attempt to ascertain how the analysis would be different if O'Brien had instead been an English aristocrat. This latter analysis suggests a conclusion that some may not have anticipated; a court should be more likely to find for O'Brien than for an English aristocrat who somehow became involved in a similar situation.

A. *Why the Vaccination Requirement?*

The students' understanding of this case should be enhanced by an explanation of one of its underlying linchpins—the existence of the vaccination requirement. Why does it exist? For whose benefit is it imposed? Should we be sympathetic to Cunard for helping to enforce the requirement, or should our sympathies lie more with those who would evade it?

The case suggests that the vaccination was directed against smallpox,³² a potentially deadly³³ and relatively contagious disease for which an effective vaccination existed in 1889.³⁴ Let us also assume that the typical worst cases of side effects from the vaccination were like those experienced by O'Brien:

32. See *id.* at 266, 57 MO. L. REV. 347. If the disease had been mild and rare, and if the vaccination was not very effective at immunization while often producing serious side effects, the vaccination requirement would have been a bad idea. This was not, of course, true for smallpox.

33. Some strains of smallpox killed 60% of those infected. WILLIAM H. WOGLOM, *DISCOVERERS FOR MEDICINE* 64 (1949). "[O]f four thousand cases, the unvaccinated died at the rate of sixty per cent., while among those who had been protected by vaccination the death rate was only ten per cent." JOSEPH F. EDWARDS, *VACCINATION: ARGUMENTS PRO & CON* 28-29 (1882).

34. The voyage occurred in 1889. Plaintiff's Exceptions at 1. The smallpox vaccination was discovered in 1798. Other vaccinations existed at the time of *O'Brien*, including anthrax (1881) and chicken cholera (1880). J. SCOTT, *MEDICINE THROUGH TIME-A STUDY IN DEVELOPMENT* 138 (1987).

The smallpox vaccinations that existed during this period were very effective. *Id.* This was recognized by contemporary physicians:

That in the large majority of cases, when successfully performed with proper virus, it [inoculation] does afford protection from smallpox. That in those few cases, comparatively speaking, in which it does not afford absolute immunity, it so modifies the intensity of the disease that it rarely proves fatal That the proportion of cases in which this operation proves a benefit is so greatly in excess of those in which it is injurious, that it becomes, not only justifiable, but greatly to be desired.

EDWARDS, *supra* note 33, at 49. Edwards showed how smallpox vaccinations in other countries had reduced the incidence of the disease by more than 90%. *Id.* at 28-29.

an eruption with ulcerations and blisters over most of her body.³⁵ Why did the United States impose a vaccination requirement for a disease like smallpox? Because these diseases were so serious, one might conclude that every individual would voluntarily immunize himself or herself. The vaccination requirement might be explained by one or more of three economic principles: 1) negative externalities; 2) free rider problems; and 3) imperfect information. Each of these terms is shorthand for a simple insight.

1. Externalities

We usually presume that if two people freely and knowingly enter into a contract, each party and society will gain.³⁶ A major exception³⁷ exists when the contract might give rise to "negative externalities,"³⁸ which consist

35. Plaintiff's Exceptions at 6, 57 MO. L. REV. 474. Smallpox vaccinations often caused a slight headache, muscular pains, loss of appetite, and a mild fever. These usually vanished within a few days. But sometimes the side effects were much worse, as a contemporary description reveals:

It must be remembered that a successful vaccination will sometimes produce very marked constitutional symptoms, and will often times make a person so sick as to compel him to go to bed. It will also produce a very painful local sore, with much inflammation, that will require absolute rest of the part and the application of soothing lotions. Some parts of the body can, of course, be more readily placed at rest than others, hence they should be chosen, since a disregard of this precept may give rise, in some cases, to very troublesome and painful complications.

EDWARDS, *supra* note 33, at 47-48.

Interestingly, England and Wales had a mandatory smallpox vaccination that was strictly enforced from 1872 to 1887, but after 1887 parents were allowed to refuse vaccinations for their children, presumably because of the bad side effects. SCOTT, *supra* note 34, at 138.

36. For example, suppose I have a watch that I value at \$10.00. Assume that I have no money and you have \$20.00. The total value of everything in this simplified system, in the eyes of the respective owners, is \$10.00 plus \$20.00 = \$30.00. Suppose I then sell you the watch for \$15.00. I am clearly better off (assuming I only valued it at \$10.00) and so are you (assuming it is worth \$20.00 to you). Society is also better off (in economic jargon, total "economic efficiency" has increased) because the total value of everything in this system, in the eyes of their owners, is now \$15.00 (my money) plus \$20.00 (your watch) plus \$5.00 (your money) = \$40.00.

37. Other exceptions also exist. For example, we usually assume that the initial distribution of property rights is just. If Cunard earlier had stolen money from O'Brien, however, a very different analysis would be necessary.

38. Externalities can also be positive, but they do not cause the same types of problems. For example, if I fix up my house this might positively affect the property values of my neighbors. They are much less likely to be angry than if I engaged in

of the negative effects on those not a party to the contract.³⁹ Thus, if Cunard and an unvaccinated O'Brien freely make a contract under which she pays for transportation from Ireland to Boston, with no vaccination occurring on the boat, one reason why we should not presume that both parties *and* society are better off is that this transaction might give rise to significant negative externalities.⁴⁰

Negative externalities are certainly possible in this context. O'Brien might catch the disease from another passenger. She herself could become ill, or perhaps become a carrier who would show no symptoms but could, like "Typhoid Mary," pass the disease to others on the boat or in the United States. The exchange of money for transportation could have dire effects on the population of the United States if she enters and infects a large number of people who would have no practical way to protect themselves.⁴¹ A strong

pig farming, which can produce a number of well-known negative externalities likely to lower neighborhood property values.

39. For example, if I sell an unsafe hot rod that might disintegrate at high speeds to a wild driver with a history of drunken, high speed crashes, both this driver and I might be happy with the transaction. (Assuming that he is not drunk at the time of purchase and realizes exactly what he is purchasing, he might be delighted to purchase the car even though there is a high chance it will disintegrate at high speed. I might also be delighted to sell it to him if the price is right.) But those who are not parties to the contract might object to this transaction. The transaction will lead to a significant probability of a drunk, driving a car at high speeds with, for example, brakes that might easily fail. The parties to the contract may not absorb all of its potential negative effects, especially if the driver is not wealthy and does not have insurance. The solution for citizens concerned about being hit by a car with failed brakes might be to pass a law requiring that every car sold pass a safety inspection and to allow only relatively safe drivers to drive.

40. Moreover, people have a strong incentive to enter into contracts with negative externalities precisely because of these externalities. Suppose that X wants to buy Y's widgets and Y is able to construct a widget factory under two possible conditions. If Y installs effective antipollution devices she can produce the widgets for \$5.00 each. But if Y can instead build the factory without antipollution devices she may be able to make additional profit per widget and to enter into another contract with a different buyer at \$4.75 each. The negative externality of the pollution on nearby air might vastly exceed 25 cents per widget produced, but that is not Y's problem. Y has every incentive to pollute because she will not pay the costs of pollution, and will instead profit from it. Y will have to breathe the polluted air, but most of the negative effects on air quality will be absorbed by others.

41. People cannot protect themselves against smallpox through contract, and while infected people might in theory have a tort cause of action against O'Brien, causation would be difficult to prove and she would have insufficient assets to compensate the victims. Moreover, some harms from smallpox are impossible to fully ameliorate through monetary damages since the disease can be deadly.

case therefore could be made that society should impose a vaccination requirement to prevent unvaccinated people from infecting others. In other words, the negative externalities should be prevented.⁴²

2. Free Rider Problems

An immigrant might reason that because it is rational and prudent to be vaccinated against smallpox, virtually everyone would have this done. If almost everyone is vaccinated against smallpox, an individual's chances of catching smallpox decrease dramatically, almost down to zero. Because being vaccinated would entail risk and cost, everyone would have an incentive to "free ride" on the vaccinations undertaken by others;⁴³ individuals have an incentive to let everyone else get vaccinated so they won't have to do so. The problem, of course, is that everyone would have the same incentive. This type of reasoning could yield a suboptimal percentage of vaccinated citizens.⁴⁴ Neither O'Brien nor Cunard might have sufficient incentive to include a vaccination requirement in their transportation agreement,⁴⁵ so one might be the best solution to the free rider problem.

3. Imperfect Information

We have thus far been assuming relatively perfect information on the part of O'Brien and everyone else concerned. This is a common assumption in the Law & Economics field, and often is close enough to being true that it provides valuable insights into human behavior. Many immigrants in 1889, however, did not know a lot about the risk of smallpox, the existence of the vaccine, its efficacy, or the fact that its benefits usually exceeded its risks and other costs of use. Many also did not have the knowledge to collect and properly evaluate this information. It accordingly is reasonable for public

42. A related issue, whether individuals already within the United States should be vaccinated, is beyond the scope of this Article.

43. This also could involve related "public goods" issues. See ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 46-48 (1988). There are respects in which a vaccination is like a public good since its cost for every individual is low and it benefits everyone.

44. The optimal vaccination level probably is lower than 100% if the vaccination risks and costs are significant. For example, if one person were not vaccinated, the population as a whole would be just as safe, and some expenses and that individual's risks would have been avoided. As a political matter, of course, it would be unfair to let some people escape the vaccination requirement, so the simplest and fairest solution would be to vaccinate every immigrant.

45. Cunard might have some incentive to want its passengers vaccinated because an outbreak of smallpox on one of its ships could subject it to bad publicity.

health authorities to assume that many immigrants were ignorant of the facts⁴⁶ or unable to properly assess the costs and benefits of becoming vaccinated; they would not voluntarily submit to being vaccinated even though so doing was in their self interest.⁴⁷

Economic analysis thus is extremely helpful in explaining why the vaccination requirement was reasonable. This requirement could have been in every individual's benefit insofar as it will cause her to act in her own self interest despite her lack of information. Moreover, in light of the externality/free rider problems, it is also in the interests of the other immigrants and society as a whole. Unless there was something special about O'Brien,⁴⁸ it would be harmful to society to let her decline to be vaccinated.

Even though the existence of the vaccination requirement is reasonable, we still have to determine who should pay for any negligence by the physician. The next section will discuss whether Cunard should be liable.

46. In *O'Brien*, the plaintiff was apparently aware of the existence of the disease and the vaccination since she appears to have been vaccinated as a child. *O'Brien*, 28 N.E. at 267, 57 MO. L. REV. 347. It seems unlikely, however, that O'Brien or her parents had engaged in the kind of externality/free ride analysis presented earlier.

47. One solution to the problem of imperfect information would be to supply the needed information about the disease and the cost, risks, and possible side effects of the vaccination and let each immigrant make his or her own decision. This solution would have the advantage of being non-coercive and maximizing individual liberty. But it might be unduly expensive and impractical, and after they had been out to sea for a time many of the immigrants could not think very clearly. *See infra* notes 57, 113, 119. Moreover, these expenses probably would be passed to the immigrants, who are relatively unable to afford them. (The "who would pay" issue will be discussed *infra* section II(B)(2)).

48. For example, if O'Brien could demonstrate that she was unusually allergic to the vaccination, or was from an area where smallpox was unknown, perhaps she should be excused from the requirement.

B. Cunard's Liability For The Physician's Negligence

O'Brien contended that the ship's physician negligently performed the vaccination⁴⁹ and that Cunard should be responsible for any negligence of its "servant." The court did not find it necessary to reach the physician negligence issue and does not present sufficient information from which we can form a judgment as to whether negligence actually occurred.⁵⁰ We can, however, presume negligence for the purpose of illustrating a number of economic insights.⁵¹

49. *O'Brien*, 28 N.E. at 266, 57 MO. L. REV. 347. Plaintiff's Exceptions at 7-9, 12, 57 MO. L. REV. 474-78, alleges negligent sanitation, negligent performance of the vaccination, and a spoiled batch of the vaccine. There also are other ways in which the physician could have been negligent. For example, her arm should have been sterilized prior to the vaccination. Perhaps the physician did not do so, thus causing an infection which led to the blisters. Alternatively, the physician might have become fatigued from performing hundreds of vaccinations and made a simple error. A contemporary account noted that "various diseases can be transmitted from unhealthy persons, through the medium of vaccination, to those previously healthy . . . [this] . . . tend[s] to prove that the fault lies not with vaccination itself, but with the vaccinator." EDWARDS, *supra* note 33, at 51.

Perhaps 1 person in 2,000 had a bad reaction to the vaccine for no explainable reason; the injury might have occurred even in the absence of negligence. In light of this possibility, a complete economic analysis performed today should also examine whether the imposition of strict liability would be appropriate. Of course, when *O'Brien* was decided strict liability existed only in very limited circumstances. For a history of development of modern strict liability analysis see the articles cited in ROBERT L. RABIN, *PERSPECTIVES ON TORT LAW* 166-281 (3d ed. 1990). Since strict liability was not an option for *O'Brien* in 1891 this Article will not consider it.

50. Other possible sources of negligence, including negligent selection of the physician by Cunard or negligent production of the vaccine, appear to have been ruled out by the court. While one certainly can imagine ways in which the physician might have been negligent, vaccinations are routine procedures and that particular physician performed hundreds of vaccinations that day. Moreover, if the physician had been making a systematic mistake, or if the entire batch of vaccine had been spoiled or negligently manufactured, a large number of passengers would probably have been affected.

There is no indication this happened. Of course, an inferior vaccine could increase the supplier's profits:

The desire for money and to make it easily, to derive unnaturally large profits from all business operations, is so inherent in human nature, that adulteration in order that expense may be lessened and profit increased, has even entered into the business of supplying vaccine virus.

EDWARDS, *supra* note 33, at 54.

51. The physician would, of course, be liable for his own negligence, but let us

The court employed conventional tort analysis and stated: "The only ground on which it is argued that the defendant is liable for his negligence is that he is a servant engaged in the defendant's business, and subject to its control."⁵² The court saw no reason why Cunard should be held liable for its physician's actions,⁵³ in effect holding that the physician should be treated like an independent contractor rather than Cunard's employee.

Economic analysis can help elucidate the public policy reasons that should be relevant to a court's determination of Cunard's responsibility for the physician's negligence. We will first examine whether it would be efficient to impose such a duty on Cunard. We will then analyze whether implementing the most efficient solution will lead to any undesirable equity effects. If there is an efficiency/equity tradeoff we will have to determine who is helped and who is hurt by the possible decision rules, and thus whether the court should implement a less efficient solution for equity reasons. The analysis that will follow suggests that the most efficient solution would make Cunard liable for the physician's negligence, but that so doing will have uncertain equity effects.

presume that O'Brien chose not to sue him because he had no assets, was difficult to serve, or had fled to Paraguay. Plaintiff's Exceptions at 6, indicated that he continued to work for Cunard after O'Brien's voyage. Like the court in *O'Brien*, we will confine our analysis to the two parties, but unlike the court we will use economic principles to help us decide whether Cunard should be liable for this negligence. Another possible party would be the U.S. government since it is responsible for the vaccination requirement whose main beneficiaries are other U.S. citizens. One way for the U.S. government to fund such potential liabilities would be to impose a tax on all immigrants. However, this solution would not have the long run behavior modification advantages discussed *infra* section II(B)(1)(b).

52. *O'Brien*, 28 N.E. at 267, 57 MO. L. REV. 349. The court noted that a ship's owner is liable for the negligence of its pilot when that pilot is engaged in the ship's business "on grounds of public policy" even when the pilot was appointed by a public agency. *Id.* The court also noted that Cunard was required by statute to employ a physician to which the passengers might have access if they so desired. *Id.*

53. Conventional analysis would ask whether Cunard had a duty towards O'Brien, and whether the physician was a servant or an independent contractor with respect to the action in question. Conventional analysis would examine in detail the precise wording of the contract between Cunard and O'Brien (which we do not have before us), the degree of control Cunard had over his activity, and whether the duty was non-delegable. If we were to analyze the case in this more traditional manner, we should also ask virtually the same questions when we attempt to determine whether Cunard had a non-delegable duty to provide non-negligent medical treatment.

1. The Lowest Cost Arrangement: Impose Liability on Cunard

The transportation contract between Cunard and O'Brien could have explicitly addressed whether Cunard would be responsible for the physician's negligence. Because the court did not address this issue we will assume that the contract is silent on this issue.⁵⁴ Conventional economic analysis generally would begin by asking what contract the parties would have freely agreed to in advance if they had thought about the issue.⁵⁵

As a first approximation, analysts of the Law & Economics perspective would assume that the parties would have agreed upon the lowest cost arrangement for the services at issue. This is often a realistic assumption because any increased costs will usually be born by the parties to the contract.⁵⁶ We can also assume that cost is of paramount importance because most of the immigrants were extremely poor.⁵⁷ We will then re-

54. If the contract had expressly stated that Cunard would not be liable for the negligence of any physician that it hired, we would have to determine whether the contractual terms were unconscionable and whether the duty to provide non-negligent medical services was non-delegable. Resolution of these issues would involve many of the same considerations that will be involved in the analysis that will be presented in this Article. Additional considerations, such as the damage to the predictability of the contracting system and the subsequent undermining of parties ability to rely upon their contracts—that do not arise when we merely interpret a somewhat ambiguous contractual provision—also would arise. *See generally* Meyerson, *infra* note 106.

55. *See* POSNER, *supra* note 5, at 82.

56. To illustrate the point using an admittedly-extreme example, we could ask whether O'Brien and the other immigrants each would have wanted to hire a personal physician to be on the ship just to vaccinate and care for them, or whether Cunard would have provided a doctor to vaccinate and take care of everyone on board. The price of the transportation alone might have been \$30.00, but if O'Brien was given the duty to provide her own physician she might have had to pay another \$100.00 to hire a physician solely for her benefit. By contrast, Cunard might have been able to hire a physician to vaccinate and take care of 1000 passengers and could have sold O'Brien a package consisting of transportation plus health services for \$30.00 plus 10 cents. Clearly, the \$30.10 solution is preferable to the \$130.00 solution. If we impose the most efficient solution (*i.e.*, the \$30.10 solution) on Cunard it will raise the ticket price by 10 cents (or perhaps by a bit more to cover Cunard's transaction costs, cost of capital, risk, profit, etc.). But O'Brien would have gladly paid \$30.10—or even \$30.20—rather than hire her own physician. Therefore, it is safe to assume that both parties would have wanted Cunard, not O'Brien, to hire the physician, and therefore we should impose this duty on Cunard, not O'Brien.

57. Because O'Brien traveled on steerage we presume that she was poor. The terrible conditions on the boats extended to many factors other than the vaccination requirements, as the following accounts from immigrants of the period demonstrate:

examine the consequences of assuming that the parties would have written the most efficient contract from a distributive perspective. This should reveal whether it might be inappropriate to impose the most efficient solution for equity reasons.

There are two aspects of our inquiry into whether it would be more efficient for Cunard to be liable for the physician's negligence. The first involves the relatively short term issue of which party could best provide O'Brien's vaccination. The second concerns the issue of long run behavior modification entailed by the alternative decision rules. If the analysis reveals that there is a short term/long term conflict we would have to determine which effect dominated. The forthcoming analysis of *O'Brien*, however, will show that it would have been more efficient in both the short and long term for the transportation contract between Cunard and O'Brien to have given Cunard the duty to non-negligently vaccinate O'Brien.

We were huddled together in the steerage literally like cattle—my mother, my sister and I sleeping in the middle tier, people being above us and below us. . . .

On board the ship we became utterly dejected. . . . Seasickness broke out among us. Hundreds of people had vomiting fits, throwing up even their mother's milk. . . . As all were crossing the ocean for the first time, they thought their end had come. The confusion of cries became unbearable. . . . I wanted to escape from that inferno but no sooner had I thrust my head forward from the lower bunk than someone above me vomited straight upon my head. I wiped the vomit away, dragged myself onto the deck, leaned against the railing and vomited my share into the sea, and lay down half-dead upon the deck. . . .

Crowds everywhere, ill smelling bunks, uninviting washrooms—this is steerage. The odors of scattered orange peelings, tobacco, garlic and disinfectants meeting but not blending. No lounge or chairs for comfort, and a continual babel of tongues—this is steerage.

The food, which is miserable, is dealt out of huge kettles into the dinner pails provided by the steamship company. When it is distributed, the stronger push and crowd. . . .

On many ships, even drinking water is grudgingly given, and on the steamship *Staatendam* . . . we had literally to steal water for the steerage from the second cabin, and that of course at night. On many journeys, particularly on the *First Bismarck* . . . the bread was absolutely uneatable, and was thrown into the water by the irate emigrants.

IRVING HOWE, *WORLD OF OUR FATHERS* 40-41 (1976).

a. Short Run: Lowest Cost Vaccination Is By Cunard

O'Brien must be vaccinated before she will be allowed to enter the United States.⁵⁸ To determine the least expensive way to do this we must consider information costs, economies of scale/mass production economies, and risk.

Cunard is in a much better position than O'Brien to ascertain the existence of the vaccination requirement. Although O'Brien was literate,⁵⁹ she might have had to hire a lawyer in Ireland to find out the latest United States regulations governing which vaccinations were required and which types of proof of vaccination would satisfy United States immigration officials. By contrast, Cunard transported thousands of immigrants each year. It could easily check the applicable regulations with a reliable immigration lawyer or the U.S. immigration service and add a proportionate share of the costs of ascertaining this information to each of the fares. Adding this relatively small increment to the cost of each ticket would benefit the immigrants because it would relieve them of the prohibitive cost of ascertaining the information individually.

Second, Cunard could administer the vaccination less expensively than O'Brien could arrange for it herself. Cunard was a large, sophisticated purchaser of medical services.⁶⁰ It could locate a qualified doctor much more cheaply than could O'Brien because it could allocate the search costs over a large number of passengers. Cunard could also administer the vaccination less expensively. It would, of course, have been possible for O'Brien to locate and utilize a doctor in Ireland⁶¹ or Boston. Cunard, however, was able to set up a mass production vaccination system on its boat, with all of the advantages that arise from specialization and large scale. Moreover, Cunard was required by law to have a physician on board,⁶² so the incremental cost of instructing that doctor to perform vaccinations was slight, especially since his salary should be allocated to every passenger he vaccinated. Further, the opportunity cost of the passengers' time was

58. This analysis assumes that each immigrant must pay for his or her own vaccination. See Plaintiff's Exceptions at 10. The United States government could have provided the vaccinations on the theory that they were primarily for the benefit of other U.S. citizens. But it chose not to, perhaps out of a belief that immigration was a privilege desired by many, and therefore immigrants should incur the cost of vaccination.

59. Plaintiff's Exceptions at 4.

60. Cunard had to hire at least one physician for each of its ships. *O'Brien*, 28 N.E. at 267, 57 MO. L. REV. 348.

61. She appears to have done this. *Id.* at 266, 57 MO. L. REV. 347.

62. *Id.* at 267, 57 MO. L. REV. 349.

especially low; in Ireland or the United States they might have had to miss work and lose income to become vaccinated and to recover from any side effects that arose, while on the boat they have considerable extra time.

Admittedly, Cunard's assembly-line vaccination procedure robbed the passengers of some of their dignity.⁶³ But it was highly efficient and almost certainly less costly than a vaccination in Ireland or the United States.⁶⁴ Although we do not know O'Brien's precise economic status, a very large percentage of the immigrants traveling in steerage were desperately poor, and even a small increase in cost might mean the difference between emigrating to the United States and remaining in Europe in an attempt to save the difference. In light of their poverty, many immigrants probably would have preferred a lower cost vaccination (even at the risk of undignified treatment by the physician) over being forced to pay extra money they could not easily obtain.⁶⁵ We do poor people no favors when we mandate expensive procedures they cannot afford.

Risk of acceptance is a third factor indicating that both parties should have preferred that Cunard be responsible for the vaccination. It is essential that the United States government's doctor in Boston be satisfied that O'Brien has been properly vaccinated. This doctor might not trust a certificate from an Irish doctor, especially if the American doctor is bigoted against the Irish or (correctly or incorrectly) does not have a high regard for the quality of Irish medicine. Cunard is more easily able to hire doctors that will not be distrusted or discriminated against by the immigration doctors. Thus, there is far less risk of non-acceptance to O'Brien if she allows Cunard's doctor to vaccinate her.

So, focusing on the short term efficiency aspects of the vaccination requirement, if O'Brien and Cunard had thought about the matter in advance each would have wanted Cunard to have the duty to vaccinate O'Brien. It is less expensive and less risky than if O'Brien were given the duty.

63. Many other aspects of the voyage also had this effect. Considering all the drawbacks of traveling steerage, this might not have been at the top of passengers' lists of grievances. See *supra* notes 57, 113, 119.

64. We do not, however, know whether the vaccination aboard the ship was riskier than one typically given in Ireland or the United States.

65. Whether the passenger actually would have preferred the inexpensive undignified vaccination would depend upon a number of factors. Would a more dignified vaccination have increased the price of the ticket by .00001% or by 10%? The important point for students is that there often is a tradeoff between money and quality of treatment. Extremely poor people might not be able to afford better treatment. For the economic consequences of increased medical risks see *infra* section II(B)(2).

b. Long Run: Behavior Modification Issues

Society certainly wants less negligent behavior by doctors. Although the doctor is liable for his own negligence, he is not a party to the suit and perhaps is unavailable for service. We must therefore determine whether also putting the responsibility for any negligent vaccination on Cunard would be likely to lead to better future behavior by similarly situated physicians.⁶⁶ The analysis will show that it is highly probable that there would be safer medicine in the long run if Cunard were made responsible for any negligence by its doctors. This is because Cunard is in a much better position than O'Brien to select a good doctor and to modify the behavior of those doctors it does select.⁶⁷

O'Brien is hardly a sophisticated purchaser of medical services because she has little or no experience selecting doctors, either in general or to perform a vaccination. Further, she is a one time customer to the doctor and an insignificant part of his total business, so he has little incentive to attempt to please her. While immigrants like O'Brien would have an obvious incentive to sue a negligent doctor, the ship's doctor would surely realize that people in O'Brien's position in 1889 rarely had the resources to attempt to sue for malpractice, especially if she and the doctor might soon become physically separated by thousand of miles.

Cunard, by contrast, is a sophisticated purchaser of medical services, especially because it is required by law to hire one physician for each of its passenger ships.⁶⁸ Cunard can learn by experience which doctors are competent and can easily obtain this information from others in the field. Moreover, the ship's doctors have a strong incentive to please Cunard because the firm is a large, repeat purchaser of medical services.⁶⁹ While doctors may not have been afraid of lawsuits by people like O'Brien, they would

66. Although negligent vaccinations are undesirable, it might not be appropriate for the vaccinator to establish an error-free system. Even if it were technologically possible for Cunard to implement an error-free vaccination system, doing so would surely be very expensive. Significantly higher costs would be passed to the immigrants, who might not be able to afford them. We only want as much safety as we can afford.

67. It is also far easier for O'Brien to locate and sue Cunard than the physician, and he could be judgment proof. From a behavior modification perspective there is little to be gained from only permitting O'Brien to sue a party she is likely to have trouble locating.

68. *O'Brien*, 28 N.E. at 267, 57 MO. L. REV. 348.

69. Plaintiff's Exceptions at 6, 57 MO. L. REV. 473, reveals that he continued to work for Cunard after O'Brien's voyage.

realize that their negligent behavior could cause Cunard not to rehire them.⁷⁰ Should an international organization like Cunard decide it wanted to sue the physician for sullyng the corporation's reputation,⁷¹ it would have the resources to do so regardless of where that doctor resided. Further, if Cunard were liable for the physician's negligence, he would have an incentive to please such a powerful boss by vaccinating prudently. Because Cunard is in a better position than O'Brien to induce non-negligent and more efficient behavior by the vaccinating physician, this factor also suggests that it should be given the duty to do so.⁷²

One of the ultimate questions we are trying to answer is whether, if the parties had considered it, O'Brien and Cunard's transportation contract would have included a provision requiring Cunard to provide non-negligent vaccination services. Recall that our tentative answer was to presume that the parties would have written the most efficient contract unless doing so might give rise to inequitable results. The analysis thus far demonstrates that the most efficient solution would make Cunard responsible for providing a non-negligent vaccination for O'Brien. Thus, efficiency considerations in both the short run and long run suggest that Cunard should be given the duty to provide the vaccination. We now address the equity effects of implying such a contractual provision.

2. Equity Considerations: Ambiguous Results

Who wins and who loses from the most efficient solution? Many would end the analysis after discovering the most efficient solution.⁷³ Because

70. Cunard could not as a practical matter, however, fire the doctor in mid-voyage unless there was another aboard.

71. It is possible that grossly negligent medical care, especially if it were indicative of poor overall conditions on the ship, could harm a liner's reputation and cost it business. Information among prospective immigrants may have been poor, however, so such effects may have been weak and subject to a time lag. If the reputation effects were strong, the carriers may have had an incentive to provide safe passages. Imperfect information among prospective immigrants could, however, lead to a suboptimal level of safety; no firm would have an incentive to be more careful than average if few prospective immigrants would find out, while every carrier would have an incentive to save money by lowering safety standards.

72. Cunard could attempt to evade this duty by requiring that all immigrants be vaccinated by their own physician before boarding. Since the previous analysis suggests this would be a relatively inefficient response, market forces should not force Cunard to react this way. See also the discussion of the Coase Theorem, *infra* note 75.

73. See, e.g., POSNER, *supra* note 5, at 19-26, 229-33.

others care very much about who wins and who loses, we should attempt to use economic analysis to illuminate distributive issues.

This Article already discussed one equity consequence of imposing the vaccination requirement on Cunard instead of O'Brien. O'Brien would pay for the vaccination charge one way or the other—either directly, when she arranges for the vaccination, or indirectly, through a more expensive ticket price if Cunard were given the duty.⁷⁴ The vaccination stage thus gives rise to no efficiency/equity tradeoff. Hence, there is no reason not to prefer the most efficient solution (and therefore to put the duty on Cunard).⁷⁵ Cunard will be indifferent because it will pass the costs on to O'Brien, and she will benefit because it will give her a lower total cost.

The analysis of who ultimately will pay for any negligence by the doctor is more difficult. Although we have already established that the most efficient solution would impose responsibility for the doctor's negligence on Cunard, many would want to examine the equity effects of so doing.

If Cunard were not held liable, O'Brien would be forced to suffer the ill effects of any physician's negligence without compensation.⁷⁶ Because most newly arrived immigrants were extremely poor, this could cause a tragedy for people in O'Brien's position. If Cunard were not held liable we would in effect force the immigrants to play a form of "Russian roulette" in that we would allow them to purchase relatively low cost transportation, but also force them to take perhaps a one in 2,000 chance of becoming seriously ill.⁷⁷

If Cunard were made liable for the physician's negligence it almost certainly would raise average fares to compensate for its expected future⁷⁸

74. See *supra* section II(B)(1).

75. If we mistakenly placed the duty on O'Brien, she conceivably could contract with Cunard to do it instead. The Coase Theorem holds that the most efficient outcome will occur unless intervening transaction costs are too large. Ronald Coase, *The Problem of Social Cost*, 3 J. LAW & ECON. 1 (1960).

76. This assumes that O'Brien is unable to locate, serve, or collect from the physician.

77. Dr. Henry G. Clark testified that he only remembered a dozen cases, out of 20,000 or 30,000, with as bad a reaction to a normal vaccination. Plaintiff's Exceptions at 7, reprinted at 57 MO. L. REV. 474.

78. Cunard, if found liable, would have to pay the costs arising from O'Brien's negligence case out of its own profits regardless whether its fares had been adjusted to account for some probability of a payout; it probably would not be able to pass them on. If the market for transporting immigrants is competitive, future fares will be set by anticipated costs and demand. No company would be able to pass on the cost of past negligence. Even if the market for transporting immigrants is monopolistic this result would occur. A monopolistic transporter would set future prices solely to reflect its anticipated costs and demand (the price would of course be above the competitive level due to the monopoly power).

negligence payouts.⁷⁹ The increase in fares would mean that the passengers would implicitly be purchasing insurance policies in addition to the transportation services. This purchase gives rise to an extremely difficult question. Would immigrants like O'Brien rather pay a relatively lower price of perhaps \$30.00⁸⁰ and take perhaps a 1 in 2,000 risk of getting seriously injured by a negligently-given vaccination, or would they "prefer"⁸¹ to be forced to pay more (*i.e.*, \$35.00)⁸² and thereby be insured against the risk of a negligently performed vaccination?

To answer this we would have to know many things. How much would fares rise? How poor were the immigrants? How many would be able to afford the extra premium and how many would be forced to delay their emigration or remain permanently in Europe? What would have happened to those who could not afford to emigrate; would they risk death in a potato famine,⁸³ from smallpox in their home country, or from revolution? Would

79. If the market for transporting immigrants were perfectly competitive Cunard would pass all of the expected future negligence payout costs to future passengers. This is because each firm in the market would be similarly affected and find its costs raised proportionately. If Cunard were part of a cartel (*see supra* note 26) its profit maximizing strategy would be to pass on part of the expected future payouts and to absorb part. For a detailed explanation, see MANSFIELD, *supra* note 24, at 289-90 and accompanying text.

80. This figure is used for simplicity only. While I have not been able to find the fare from Ireland to Boston in 1891, in 1903 the fare from Antwerp to New York was \$34.00. *See* HOWE, *supra* note 57, at 39.

81. The term "prefer" must be used advisedly. In some sense no one would truly "prefer" to take a 1 in 2,000 chance of having to pay personally for the consequences of a bad reaction to a disease. But what practical alternative does an extremely poor immigrant have? They might well prefer to take the risk rather than be forced to remain in Ireland.

82. Plaintiff's expert testified that adverse reactions like those suffered by O'Brien arose approximately one time out of every 2,000 vaccinations. Plaintiff's Exceptions at 7. Plaintiff claimed damages of \$10,000. *Id.* at 13. If one out of every 2000 passengers became ill and if every passenger that became ill due to the vaccination recovered \$10,000—an extremely unlikely possibility—Cunard would have to raise fares by \$5.00 per passenger, plus an allowance for attorney's fees, to compensate for these payouts. In reality it seems unlikely that the court that decided *O'Brien*, given its clear sympathy for Cunard, would have awarded O'Brien or immigrants in a similar position fair compensation for the suffering.

83. Famine was a real concern for Irish emigrants of the period:

Towards the end of the 1870's the appalling realization broke in Ireland that there was once again a danger of famine on something like the scale of the terrible disaster of 1845-49. That disaster, apart from bringing death to perhaps as many as a million of the Irish people had started a flow of emigration from Ireland, principally to America, which had continued for

the increase in fares have meant that 1% of immigrants to the United States in 1889 would be forced to remain behind, and if so, what would their fates have been?⁸⁴ More generally, we could think of many ways that the sanitation, health facilities, food, and comfort level on the ship could be improved.⁸⁵ But O'Brien purchased a Spartan steerage class ticket⁸⁶ rather than a first class ticket, presumably because it was all she could readily afford. No matter how pure our motive, we have to be careful not to hurt poor immigrants unintentionally by requiring them to purchase that which they cannot afford.⁸⁷

In reality, it seems unlikely that holding Cunard liable for the negligence of its physicians would add very much to the average ticket price; a century ago relatively few immigrants would have been able to successfully sue Cunard lines no matter how clearly the physician was negligent and Cunard was held liable for this negligence. A judge in 1891 might be able to impose

many years.

ROBERT KEE, *IRELAND: A HISTORY* 119 (1982).

84. The following hypothetical numbers help illustrate the dismal situation. Suppose that providing a more careful vaccination procedure and imposing liability for negligence on Cunard would cause fares to rise so much that 1% of 1,000,000 immigrants (*i.e.*, 10,000) were forced to remain in Europe. Suppose also that 10% of those forced to remain (*i.e.*, 1000) suffered disease, starvation or death. Would this situation be better than one where all 1,000,000 immigrants were inexpensively and somewhat negligently vaccinated and those who got bad side effects suffered without compensation?

85. *See supra* note 57.

86. Plaintiff's Exceptions at 6, 57 MO. L. REV. 473.

87. Tort law commonly faces this type of tradeoff today, but usually in a less dramatic fashion because Americans typically are not as poor as most immigrants in 1889. Suppose, for example, that today we are attempting to decide whether to require that new cars install airbags. The increase in the price of the car due to an airbag requirement would probably mean that fewer people would purchase certain new cars, but the fate of those no longer able to purchase is unlikely to be as tragic as that of someone forced to risk a potato famine. The realistic alternative for today's prospective car buyers would probably be a less expensive new car, a used car, or public transportation. We therefore might be more amenable to sometimes imposing "forced insurance policies" today than a century ago in order to get optimal solutions. *See generally Status of Automatic Crash Protection: Hearing Before the Subcomm. on Telecommunications, Consumer Protection, and Finance of the Committee on Energy and Commerce House of Representatives 98th Cong., 2d Sess.* (1984).

The economic issues involved in any decision to require the installation of airbags are extremely complex and are beyond the scope of this Article. For example, certain safety requirements might enhance demand for motor vehicles. *See Patrick S., McCarthy, Consumer Demand For Vehicle Safety: An Empirical Study*, 28 *ECON. INQUIRY* 530 (1990).

liability on Cunard with little expectation that future average fares would rise substantially because relatively few similar suits from poor immigrants would be likely to arise despite the precedent—setting effect of the ruling.⁸⁸ But any judge so deciding should recognize that there was a risk that this decision might mean that future fares might rise so much that some prospective immigrants would be unable to realize their dreams of inexpensive passage to the United States.

3. Free Will, Equity, and Efficiency

An ideal solution would let O'Brien make an informed choice. She might, for example, be allowed to purchase simple transportation services for \$30.00, or spend extra and thereby be able to hold Cunard liable for the physician's negligence.⁸⁹ Under the latter option she would implicitly be buying an insurance policy. In an ideal world she would have the option of purchasing transportation and insurance services separately. The desire to give consumers the ability to make decisions as to how to spend their money leads many to advocate that the government not impose requirements, either through legislation or court decisions, on businesses that will significantly restrict or distort consumer choice.⁹⁰

88. As noted *supra* note 79, if Cunard were a monopolist or cartel member, it would have to absorb part of the expected costs of future negligence cases. Accordingly, imposing liability on Cunard would probably have a smaller effect on prospective immigrants if Cunard were a monopolist or cartel member.

89. The increase in fares from making the vaccination procedure more dignified might be small. It might also be desirable to give the passengers better food, better sleeping quarters, etc., but these changes together would add significantly to the cost of passage. The important point is that poor immigrants often can only afford low level conditions. Should we, as a society, decide that we will not permit conditions on the ship to fall below some threshold of "common decency" even if this might condemn some prospective immigrants to death in a potato famine? Or should we merely require that the immigrants be fully informed as to what the conditions will be like and then let them take their chances?

90. Consider again the example in *supra* note 87 of airbags for new automobiles. Many would contend that consumers should have the option of, for example, purchasing either a new car without an airbag for \$15,000 or one with an airbag for \$15,800. Others would counter that consumers' knowledge of the cost effectiveness of airbags is so imperfect that the government should make the decision for them. It also could be contended that many of those who would be saved by a passenger-side airbags are unrelated to the car's purchaser and cannot always obtain compensation from them for injuries. Therefore, car purchasers might have a suboptimal incentive to purchase these airbags. (Historically, of course, airbags were not an option for consumers since manufacturers did not offer them.)

In 1889 O'Brien probably did not have the realistic option, however, of purchasing medical insurance, either in general or for her voyage.⁹¹ This was especially true because she would have had to purchase the insurance in Ireland and collect in the United States. The only realistic option for people like O'Brien would be governed by the way the *O'Brien* case and cases like it were resolved. No matter which way the case was decided, future passengers probably would have no choice; if O'Brien won, their only option would be to pay extra and receive some protection. If she lost, their only option would be to pay less but receive no protection.⁹² We are not depriving O'Brien of any options by in effect requiring her to purchase an insurance policy;⁹³ we are instead changing her only available option.⁹⁴

To summarize this Section, the most efficient transportation contract would have made Cunard responsible for providing O'Brien with a non-negligent vaccination. There are several reasons why doing so would save passengers money and lower their risks (including a lower cost of vaccination, more certainty of acceptance in Boston, better selection of the physician, and better incentives on the physician to behave prudently). There is, however, one reason why fares might rise (anticipated negligence payouts would be added to fares). The net effect on fares, from imposing the vaccination responsibility on Cunard, is therefore uncertain.

Conservative members of the Law & Economics community typically choose the most efficient legal rule,⁹⁵ and the most efficient rule would

91. Today, however, all types of insurance are more readily available than they were a century ago.

92. In theory a court could require Cunard to make both options available to passengers. This might give rise to many practical problems. For example, suppose Cunard offered an option with negligence protection for an unwarrantedly high price. The court could not review the reasonableness of future price levels without in effect becoming a regulatory agency, and so would be unlikely to order such relief.

93. If liability were imposed on Cunard (and, by implication, on the other carriers) their best response from an efficiency perspective would be to pass the expected costs of future accidents on to future passengers. Cunard might, however, attempt to evade liability by inserting an exculpatory clause in future transportation contracts. While in 1891 courts would have been likely to enforce such provisions, courts today might hold this type of clause to be an unconscionable contract, especially in light of the fact that many immigrants are illiterate. For an excellent discussion of the economics underlying potentially unconscionable consumer form contracts, see Meyerson, *infra* note 106.

94. This is different from the example involving a government regulation requiring that all new cars be equipped with airbags because without it, two options would exist, and some customers might prefer to purchase a less expensive, less safe car.

95. See *supra* section I(A).

make Cunard liable for any negligence by its physician. By contrast, liberal members of the Law & Economics community are more willing to accept a less efficient solution for equity reasons.⁹⁶ In this case, however, the equity effects are uncertain—we cannot tell whether fares will rise or fall if Cunard is held liable, let alone the magnitude of any such change. For this reason the judge should probably impose the most efficient solution, thereby making Cunard liable for the physician's negligence, and hope that this will not detrimentally affect poor prospective immigrants.

C. Informed Consent or Battery?

Did O'Brien give informed consent? Did she willingly and knowingly let the physician vaccinate her?⁹⁷ If his actions were against her will we should find him liable for battery; if not, she probably assumed the risk.

The informed consent/free will/battery/assumption of risk issues are largely not economic in nature. We are attempting to discern her actual state of mind at a particular time and the physician's reasonable assessment of, and reliance upon, outward manifestations of her state of mind. This involves a fact-intensive examination of relatively difficult-to-interpret evidence for which economic reasoning can only be supplementary. Under the right set of facts, even very conservative members of the Law & Economics community will admit that free will does not exist.⁹⁸

96. *Id.*

97. It is unclear why she appears to have objected to the vaccination. Perhaps she was horrified by the physician's unsanitary procedures, or was afraid of needles or side effects.

98. In the analogous situation of name registration at Ellis Island, for example, Justice Scalia observed that immigration officials often bullied immigrants into picking new names. *Kungys v. United States*, 485 U.S. 759, 796 n.5 (1988) (Stevens, J., concurring), recites the following dialogue from oral argument between Justice Scalia and the representative of the Solicitor General's office:

QUESTION [from Justice Scalia]: You know, there are a lot of people that came to this country who were given different names at Ellis Island. The immigration officer couldn't pronounce the name, and they said, well, Sam, is that okay? Yeah, that's my name Sam. Now his name wasn't Sam. Did he give that name to procure the visa, or to procure admission to the United States, falsely to procure?

MR. KLONOFF [Assistant to the Solicitor General]: That's a factual question in each case, we would submit.

QUESTION: He just wants to facilitate the thing. The guy will never learn how to spell Salvator, or whatever the name is, and the officer—it's happened very often.

This does not, however, mean that economic analysis will be of no assistance. By focusing on how different legal rules can affect behavior and how costly her options were, economic analysis can help clarify whether O'Brien truly had free will in "agreeing" to be vaccinated by the ship's physician. It can also help us understand why Cunard might have forced O'Brien to submit to a vaccination. It can thus help determine the credibility of her story and help interpret ambiguous facts.

The analysis that follows will, for all of these reasons, tend to make her story more credible. Although economic principles cannot decide the consent/battery issue, they do suggest that the ambiguous facts could be logically interpreted the way that O'Brien advocates. Contrary to the decision in *O'Brien*, a jury should have been allowed to decide the matter.

1. Cost-Effectiveness and Knowledge of Alternatives

Economic analysis can help focus the inquiry on whether O'Brien could have meaningfully refused the physician's request that she be vaccinated. It can do this by analyzing her alternatives, focusing upon their costs and upon the cost of her obtaining the necessary information. Because the immigration laws required that she be vaccinated before entering the United States, she appeared to have had five options.

First, she could have gotten vaccinated before the ship left Ireland.⁹⁹ As noted earlier, this option probably would have been more costly than vaccination aboard ship.¹⁰⁰ It could also have been risky because bigoted United States immigration officials¹⁰¹ might not accept a vaccination performed by an Irish physician.¹⁰² Her second option would have been

MR KLONOFF: It has to be a question of fact. If the person had adopted a false I.D. many, many years earlier for a totally different purpose-
QUESTION: No, no, there is no evil purpose except to facilitate getting in. I don't want to be here, you know, trying to straighten out what the proper spelling of my name is. He says Sam, what do I care; Sam is fine.

Tr. of Oral Arg. at 39-40.

99. Some immigrants might not have known of the vaccination requirement, so for them this option would not exist.

100. See *supra* section II(B)(1).

101. Many of the immigration officials in Boston at the time were, in fact, Irish, but the fear of bigotry nevertheless is a valid principle to call to the students' attention.

102. O'Brien asserted that she had already been vaccinated. The ship's physician said that he could not find a vaccination mark, however, and would have to vaccinate her. The physician probably acted reasonably because any immigrant could lie to escape undergoing a somewhat risky vaccination. Since the physicians in Boston who worked for the United States immigration department almost certainly would not have accepted her testimonial, the Cunard physician probably believed he was doing

vaccination in Boston. This almost certainly would have been more costly in terms of money, search time, and the opportunity cost of recovery time than the assembly-line procedure aboard ship, and in light of the message on the card that the ship's physician distributed ("Keep this card, to avoid detection at quarantine"¹⁰³), she might not have known that this option existed. Her third and fourth options—the fourteen day quarantine in Boston¹⁰⁴ or return to Ireland—were hardly cost-effective alternatives.¹⁰⁵

Her only other way of avoiding the Cunard physician would have been to travel with another company. But O'Brien would have found it extremely difficult and costly to ascertain in advance which physician would be on which boat, or how careful and dignified each company's vaccination system would be. It would have been inefficient for her to have made the required investigation concerning every minor term in the transportation contract.¹⁰⁶ Moreover, because the passenger lines would realize that most consumers would shop only for major characteristics of a transportation contract (such as price), they would have little incentive to compete over such normally minor matters as how humane their vaccination procedures were.¹⁰⁷ It therefore would be surprising if other carriers' procedures were significantly different.¹⁰⁸

O'Brien therefore knew of no realistic, cost effective alternative to allowing the Cunard physician to vaccinate her. Thus, it was close to inevitable that the passengers were going to allow Cunard to vaccinate them because the economics show that they had no meaningful choice.

Even though it would have probably been rational and cost-effective for O'Brien to consent to vaccination by the Cunard physician, one nevertheless would want to know the cost of allowing her to opt out of the contract. It would have probably cost Cunard little to alter their mass production system to indulge anyone who really wanted not to be vaccinated. But because the

O'Brien a favor.

103. Plaintiff's Exceptions at 2, 57 MO. L. REV. 470.

104. *Id.* at 10, 57 MO. L. REV. 477.

105. The opinion did not specify who would pay the cost of the quarantine. O'Brien certainly would have had to pay in terms of lost time even if Cunard or the government had fed and sheltered her. She probably would have had to pay the cost of the vaccination, 25 cents, *id.*, and would not have been able to sue that physician for negligence because the federal government was immune from negligence suits under traditional principles of sovereign immunity.

106. See Michael Meyerson, *The Efficient Standard Form Contracts: Law and Economics Meets the Real World*, 24 GA. L. REV. 583 (1990). She might even have needed to hire a lawyer to explain the competing company's contracts to her, an unrealistic option for a poor immigrant.

107. *Id.*

108. See also *supra* notes 26, 71.

only alternatives open to O'Brien at that point would have been vaccination in port, a fourteen day quarantine in Boston¹⁰⁹ or a return to Ireland, the Cunard physician should be forgiven to the extent that he merely misinterpreted ambiguous signals of reluctance by O'Brien. This lack of obviously superior options for O'Brien suggests that she should be given a significant burden of clearly informing the physician that she preferred one of them to vaccination by the ship's physician.

2. Behavior Modification Issues

The consent or assumption of risk issue can also be approached from a behavior modification perspective. Because optimal behavior modification is a critical concern of tort law, perhaps the party able to modify his or her behavior most efficiently should be deemed the appropriate one to do so.¹¹⁰ In other words, O'Brien should not be made to "assume the risk" if she will be forced to absorb the impact of the tort and she, and similarly situated future immigrants, could do little to prevent the injury from occurring. And this is indeed the situation. O'Brien probably had no reason to believe that the United States port immigration physician, a physician in Ireland, or a physician aboard another boat would provide a safer vaccination. Quarantine for fourteen days or return to Ireland were obviously not realistic or cost-effective alternatives.¹¹¹ Insofar as a goal of tort law is to induce optimal behavior modification, O'Brien should not be made to absorb the loss by assuming the risk. Cunard should be given liability in the hope that this could give them an incentive to behave more carefully¹¹² and thus induce a higher level of safety.

3. Consent or Battery? The Roles of Imperfect Information and Risk Aversion

Even though it was in O'Brien's interest to consent to be vaccinated, we should not conclude that she did if the facts show the opposite. As noted earlier, this issue is largely non-economic,¹¹³ although an understanding of

109. Plaintiff's Exceptions at 10, 57 MO. L. REV. 477.

110. This is true from an efficiency perspective. One could also ascertain whether the most efficient solution would produce any inequitable equity effects. *See supra* section II(B)(2).

111. *See supra* section II(C)(1).

112. *See supra* section II(B)(1)(b).

113. The immigrants' physical exhaustion made them the easier to coerce: By the time they reached the Atlantic, many immigrants had been reduced to a state of helpless passivity, unable to make out what was happening to

the roles of imperfect information and risk aversion might help us evaluate the facts. O'Brien might claim a lack of information by her and her father as to what was occurring.¹¹⁴ Despite her general lack of information, such a claim appears weak.¹¹⁵

Two economic concepts—imperfect information and risk aversion—might, however, help explain why she gave in to the physician's "request" and how the situation was inherently coercive. For example, O'Brien might not have known that she could instead choose to be vaccinated in Boston.¹¹⁶ O'Brien might not have known whether the physician worked for Cunard or the United States immigration service.¹¹⁷ Even if she were sure, for all she knew the ship's physician and the immigration physician were friends and if she caused any trouble for Cunard's physician, he would tell his friend to send her back to Ireland. Why risk the wrath of a possible bigot when the consequences of his anger might manifest themselves in even a small increase in the probability that she would be returned to Ireland?

them or why. An acute description of this experience has been provided by Oscar Handlin:

'The crossing involved a startling reversal of roles, a radical shift in attitudes. The qualities that were desirable in the good peasant . . . were not those conducive to success in the transition. Neighborliness, obedience, respect, and status were valueless among the masses that struggled for space on the way. They succeeded who put aside the old preconceptions, pushed in, and took care of themselves. . . . Thus uprooted, they found themselves in a prolonged state of crisis. . . .'

As a result they reached their new homes exhausted—worn out physically by lack of rest, by poor food, by the constant strain of close, cramped quarters, worn out emotionally by the succession of new situations that had crowded in upon them. At the end was only the dead weariness of an excess of novel sensations.

HOWE, *supra* note 57, at 39-40.

114. Plaintiff's Exceptions at 4, 57 MO. L. REV. 472.

115. The seventeen-year-old might be able to claim that she had no idea what the physician was about to do to her and had no idea that a vaccination requirement existed. She did, however, see what was happening to the other passengers, must have heard people talking about it, was able to read and easily could have asked about the posted signs.

116. Plaintiff's Exceptions at 2, 57 MO. L. REV. 470, says that she knew of the card that the physician gave to those who were vaccinated which read "[k]eep this card to avoid detection in quarantine. . . ." Plaintiff's Exceptions at 12, 57 MO. L. REV. 470.

117. For examples of her general lack of basic information see Plaintiff's Exceptions at 3, 57 MO. L. REV. 471.

It also appears that O'Brien's mother was dead and that she was immigrating with her father. This could make her more risk averse; returning to Ireland could have been less of an option for her, given the psychological insecurities that could exist within her, than it would have been for someone with two living parents still in Ireland.¹¹⁸ Many immigrants were risk averse and operated on highly imperfect information. It is easy to imagine how they might have been bullied with very little effort by Cunard's physician, especially near the end of an arduous sea voyage.¹¹⁹

My father, Allen C. Lande, who immigrated to the United States from Lithuania on Cunard lines in 1936, can testify to the inherently coercive nature of the immigration process on passengers of both genders. He registered his name as Allen Charles rather than Abraham Ezekiel to avoid risking the displeasure of potential anti-Semites. Because he was Jewish he did not want to risk returning to Europe while Hitler was in power. A name change was a tiny sacrifice by comparison. At the time of his immigration my father possessed a law degree, and so was in many ways more sophisticated than most immigrants. Yet, imperfect information about the mind-set of immigration officials and risk aversion help explain his actions as well as those of O'Brien.¹²⁰ For these reasons, actions by the physician that in other situations should be interpreted as suggestions, might in this context fairly be classified as coercion.

118. One should distinguish risk aversion from a recognition that one's other alternatives should be avoided. Risk aversion is a psychological trait that makes one avoid risk to an extent greater than would be appropriate for a risk neutral person. A risk averse person would be likely to avoid even a small probability of a risky situation. Alternatively, any rational person will prefer a relatively safe option to a relatively risky one. For O'Brien, the option of returning to Ireland might have been a poor prospect even if she were not risk averse. The psychological condition of the immigrants must have been complex—it was risky to emigrate, but risky to remain at home.

119. An influential immigration historian, Henry Pratt Fairchild, describes the confused state of new immigrants:

As to the physical handling of the immigrants, this is [caused] by the need for haste. . . . The conditions of the voyage are not calculated to land the immigrant in an alert and clear-headed state. The bustle, confusion, rush and size of Ellis Island . . . leave the average alien in a state of stupor. . . . He is in no condition to understand a carefully-worded explanation of what he must do, or why he must do it, the one suggestion which is immediately comprehensible to him is a pull or a push; if this is not administered with actual violence, there is no unkindness in it.

HOWE, *supra* note 57, at 45-46. See also *supra* notes 57 & 113.

120. See also *supra* note 98.

4. Why Might The Physician Have Forced O'Brien To Be Vaccinated?

The facts are difficult to ascertain, but it is possible that the physician forced O'Brien to be vaccinated. Why would Cunard's physician do this?¹²¹ Can Cunard argue that its sole goal was the noble one of looking out for O'Brien's interests? O'Brien lacked information about United States immigration policy and might not have realized that if she were not vaccinated she would be quarantined or returned to Ireland. Should we be sympathetic to an argument by Cunard that because its sole possible motive was to do her a favor, we should not hold the firm liable for doing so over-zealously?

Economic principles suggest that we should be skeptical of any claims by Cunard that its physician was engaging in altruistic behavior. Firms like Cunard usually act in a way that maximizes their profits. While it certainly is possible that the physician was simply a bully, the economic approach would call for an attempt to figure out whether there might be some pecuniary advantage to Cunard if it vaccinated O'Brien. Absent such a motive, we would be less likely to believe her story, and so would be less likely to characterize otherwise ambiguous facts as coercion or battery.

In fact, it was in Cunard's economic self-interest to vaccinate O'Brien aboard the ship. Her alternatives were vaccination in Boston for twenty-five cents,¹²² quarantine in Boston for fourteen days,¹²³ or return to Ireland at Cunard's expense.¹²⁴ O'Brien's first option might have cost Cunard twenty-five cents if O'Brien were not able to pay, but its greatest fear would have been that O'Brien might have insisted even in port that she already had been vaccinated. In this case Cunard might have to pay for her fourteen day quarantine (if she did not have enough money) or return O'Brien to Ireland at the corporation's expense.

Because either option would have entailed significant costs for Cunard, the firm had an incentive to forcibly vaccinate O'Brien.¹²⁵ Of course, the vaccination probably was also in her interest and motive does not prove guilt. But the incentives facing Cunard make O'Brien's coercion story more believable.

121. This analysis assumes that the physician was acting in accordance with Cunard's instructions.

122. Plaintiff's Exceptions at 10, 57 MO. L. REV. 477.

123. *Id.*

124. "Steamship companies were required to take excluded immigrants back to Europe at [the companies] own expense." HOWE, *supra* note 57, at 37.

125. In addition, their assembly line procedure did not treat people as individuals, and doing so could have entailed additional costs.

5. Opportunistic Behavior by Cunard?

The possibility of opportunistic behavior is an important motivation for people to sign contracts, and also a reason why courts are reluctant to allow contract modifications without consideration. People often anticipate finding themselves in a vulnerable situation and sign contracts for protection during these periods.¹²⁶ Because opportunism is both inefficient and inequitable,¹²⁷ courts are reluctant to allow it. They instead hold parties to the contract they agreed upon when they had free will.

O'Brien could have chosen, in advance of boarding the ship, an option other than allowing herself to be vaccinated by Cunard, even if the other option were more costly and risky. Regardless, once aboard the ship her options narrowed. If O'Brien were unaware that she could be vaccinated in port, she may have believed that her only realistic option was to obey the directives of Cunard's physician. Cunard, moreover, had an incentive to engage in opportunistic behavior towards its passengers because it was in Cunard's self-interest to force her to be vaccinated.¹²⁸ Although the facts

126. For example, suppose a landowner proposes that a builder construct a specified house for \$100,000. Suppose the builder anticipates that the material and labor will each cost her \$40,000 so she agrees, but does not sign a contract. After the builder spends the \$80,000 and house is complete she asks for the \$100,000. An unscrupulous landowner might reason as follows: the builder cannot prove that we have a contract. The labor costs are now irretrievable, and the \$40,000 worth of material that went into the house now only has a scrap value to the builder of perhaps \$10,000. The landowner might offer the builder \$20,000, rather than \$100,000, and point out that \$20,000 exceeds the \$10,000 she would realize if she simply tore down the house and took the scrapped material away.

The builder would have no realistic option but to negotiate and counter that if she destroyed the building the landowner would be deprived of a building that was worth \$100,000 to him, so the landowner would be better off if he paid her \$90,000. The two would hopefully settle for some figure in-between, such as \$50,000, rather than destroy the building, since such a settlement would be to both their benefits. If landowners often behave opportunistically, contractors will become extremely reluctant to agree to construct buildings. This would make it hard for builders to make a living and for honest landowners to have houses constructed.

Because builders know that landowners have an incentive to behave opportunistically they will insist upon a contract before they begin. Because a contract modification following construction that merely lowered price (from, *i.e.*, \$100,000 down to \$50,000) would reflect opportunism by the landowner, courts generally will not allow post-performance contract modifications unless consideration is present. *See* Posner, *supra* note 5, at 79-80.

127. *Id.*

128. If Cunard regularly engaged in opportunistic behavior this could detrimentally affect its reputation. Since this reputation effect might have been small (*see supra*

are far from clear, one certainly could imagine how an O'Brien who might well have become ill from the effects of a long arduous voyage¹²⁹ would "consent" to actions that she would not have agreed to if she were bargaining with true free will.¹³⁰

D. Suppose O'Brien had been an English Aristocrat?

The teaching manual for Henderson and Pearson's tort casebook poses the provocative question: "One wonders what the result in the case might have been had the wife of an English aristocrat been subject to the type of treatment that the plaintiff was subjected to in this case, other than the breaking off of diplomatic relations between England and the United States."¹³¹ It seems highly unlikely that the same treatment would have been accorded an English aristocrat. If it had occurred, however, the economic analysis and the resulting legal decision should probably be different.

1. Duty of Cunard to Provide a Non-Negligent Vaccination

We earlier established that Cunard could vaccinate immigrants relatively inexpensively.¹³² Because cost would have been a major factor for poor immigrants, it is likely that Cunard and O'Brien, if they had considered the matter, would have included a non-negligent, undignified vaccination as part of her transportation contract.¹³³ Cost would not, however, have been a major concern for an aristocrat. An aristocrat would have preferred to spend extra and be vaccinated in a dignified, safe manner by a respected English physician rather than be part of a degrading and possibly unsafe assembly line procedure.¹³⁴ It therefore is unlikely that aristocrat and Cunard, if they had

note 71) Cunard might not have been deterred from behaving this way.

129. *See generally supra* notes 57, 113, 119.

130. It is even possible that O'Brien could engage in opportunistic behavior towards Cunard. If a penniless O'Brien knew that she could be quarantined or returned to Ireland at Cunard's expense if she refused to be vaccinated she could, for example, announce that she would not be vaccinated unless Cunard provided her with better food or accommodations during the voyage.

131. *See* JAMES A. HENDERSON, JR. & RICHARD N. PEARSON, *THE TORTS PROCESS (TEACHER'S MANUAL)* 9 (3d ed. 1988).

132. *See supra* section II(B)(1).

133. *Id.*

134. An aristocrat could relatively easily locate a physician in England whose vaccination and certificate would have been acceptable to U.S. immigration officials.

thought about the matter in advance, would have included a vaccination provision in their transportation contract.¹³⁵

Nor would it have been more efficient, from a long-run behavior modification perspective, to make Cunard responsible for any negligence by the ship's physician. An aristocrat easily could have afforded a fine doctor and is likely to have chosen a better physician than the one employed by Cunard, who may have been performing the vaccinations very carelessly with serum that he negligently allowed to spoil.¹³⁶ An aristocrat would also have the resources to sue a negligent doctor and would have more incentive to do so than Cunard because the aristocrat would be the one directly affected.¹³⁷

Section II(B)(1) established that the most efficient contract between Cunard and O'Brien would have made Cunard responsible for providing her with a non-negligent vaccination. Section II(B)(2) established that equity considerations should probably not lead us to adopt an inefficient solution, so O'Brien should be permitted to recover from Cunard for the physician's negligence. By contrast, the aristocrat's probable preference for an expensive but dignified vaccination should lead us to conclude that a vaccination would not have been part of his or her transportation contract with Cunard, and that the aristocrat could best insure that he or she was treated by a careful physician. The economic analysis suggests that the poor and the rich would have opted for very different transportation contracts, so the court should be more likely to allow a negligence suit against Cunard by O'Brien than by an aristocrat.

2. Battery or Consent?

Economic analysis suggests it is less likely that an aristocrat could or would be coerced. The aristocrat's wealth probably implies she would not have voluntarily consented to an unsafe and degrading vaccination procedure. The aristocrat could have afforded an alternative, such as a careful, dignified vaccination in Boston. Moreover, because English aristocrats would not have had to risk starvation in Ireland, they had less reason to fear the wrath of an

135. An aristocrat could have afforded to hire a lawyer to explain all relevant immigration requirements, while O'Brien would have had to rely upon Cunard for information.

136. The aristocrat would not be choosing an inefficient or irrational solution. She would value a vaccination by a courteous, highly skilled physician who was not rushed and whose serum almost certainly was not spoiled, and she would have the means to purchase it.

137. The doctor would also care greatly about his or her reputation. Since aristocrats socialize with one another, one negligent act could cost the physician a great deal of business.

irrational immigration physician. Nor would they have had to worry about bigoted immigration officials, or have been as exhausted by conditions on the boat. For all these reasons it should have been more difficult for Cunard's physician to coerce an English aristocrat than O'Brien.

Because Cunard may have had to pay for returning O'Brien to Ireland or quarantining her if she had not been vaccinated, we find her coercion story more believable. Cunard would not, however, have gained anything from forcibly vaccinating an aristocrat, so it is much less likely that they would have done so. Moreover, they would have been more afraid of a lawsuit by the aristocrat.

All these factors make it less likely that Cunard could or would have coerced an aristocrat. Otherwise ambiguous facts should be interpreted as suggesting that the aristocrat knew what he or she was doing and consented to whatever transpired. Economic analysis suggests that an English aristocrat should be less likely than O'Brien to recover against Cunard for battery.

III. TEACHING THE LAW & ECONOMICS APPROACH

A. *How Much is Appropriate in a First Year Class?*

If economics is defined broadly as "the science of rational choice,"¹³⁸ it should permeate the first year curriculum. Even if it is defined more narrowly it still deserves a significant role. Only its jargon and technical aspects—the parts that some mistakenly believe constitute a large and key component of economic analysis—should be limited because this can paralyze students. If students are sensitized to ask the right questions, however, the teacher has been largely successful. The actual litigation of many cases involving complex economic analysis should, moreover, call for the services of an economic expert. In these cases the proper role for the lawyer is to communicate with, work with and understand the economist, but not to do her work. Academics should attempt to bring students up to this level, but not to make any attempt to teach them a Ph.D.'s worth of economics.

Some may wonder how much economic analysis of law is appropriate for those first year law students who may be less likely to encounter policy-oriented legal questions than "routine" tort law. But all torts lawyers must understand a large number of economic concepts or they will do a disservice to their clients.¹³⁹ Problem-solving lawyers should regard economic analysis

138. See POSNER, *supra* note 5, at 3.

139. Virtually every torts lawyer, for example, must understand the concept of present value. They have to understand that, if O'Brien is to receive yearly payments for her injuries, \$1.00 today is very different from \$1.00 twenty years from now, and that a tremendous difference to their clients will occur if the tort recovery (which will

as one more arrow in their quiver, to be taken out whenever doing so will benefit their client. Insofar as economic analysis forces the students to think about the logical policy implications of each alternative decision, it is valuable in virtually every situation. Moreover, its value to those students who will eventually become judges, policy oriented government lawyers, legislators or public interest lawyers is particularly great.

No first year instructor often could go into anything close to the depth of analysis this Article has performed on *O'Brien*. The instructor should, however, be able to introduce students to the approach. The instructor's goal should be to expose students to enough of the approach so that those who desire can take an advanced course in the area or learn it on their own. If an instructor presents an oversimplified or overquantified economic analysis, of course, the process may do more harm than good. It should be possible to show students that economic analysis of legal issues can be useful and interesting in a manner that complements their study of other approaches to legal thought.

B. In Conjunction with Other Approaches to Legal Analysis

Some economic analysis is good, some poor, some relatively complete, and some so simplified as to be useless. Many of the themes and patterns of inquiry suggested by the other papers in this Symposium are much of what separates robust, complete, and useful economic analysis from that which is worse-than-useless. If the insights contributed by other approaches in this Symposium are ignored, economic analysis of law risks turning into a caricature of itself, subject to deserved mockery. Sadly, the field is often reluctant to mine these treasure troves.

For example, critical legal theory strongly cautions us against ignoring *O'Brien's* socio-economic status.¹⁴⁰ Sound economic analysis would

be paid for injuries lasting for 20 years) should be discounted at 4.9% instead of 9.4%. They have to be sensitized both as to the existence of the discount rate issue and its importance so they will not lightly concede it as they negotiate on behalf of their clients. It is less important to teach them how to select the appropriate discount rate or even how to perform the discounting. When they practice law, they will quickly discover that for the former they will have to find an economic expert, and for the latter they can find a table that will suffice. But, if they did not realize the importance of the issue in the first place, they accurately could do their client a severe disservice.

Even brilliant people can overlook this issue. "The Western Union company had offered Edison a hundred thousand dollars for one of his inventions. Such a sum was beyond the inventor's comprehension. 'The money is safer with you,' he replied. 'Give me six thousand dollars a year for seventeen years.'" *THE LITTLE BROWN BOOK OF ANECDOTES* 183 (Clifton Fadiman, gen. ed., 1985).

140. See Jay S. Feinman, *The Ideology of Legal Reasoning in the Classroom*, 57

similarly have to factor this into the decisionmaking. Section II(B)(1) of this Article, for example, stressed how we should design the lowest cost package of vaccination plus transportation services for O'Brien in part because she is poor and would want a low cost option. We are, by contrast, less concerned with cost when attempting to ascertain which contract an aristocrat and Cunard would have agreed to. It would be impossible to adequately analyze the efficiency or equity aspects of imposing a duty on Cunard to provide a non-negligent vaccination without considering the immigrants' socioeconomic status.

Critical race theory stresses how O'Brien's ethnicity should factor into a thoughtful analysis.¹⁴¹ Her ethnicity must also be incorporated into an economic analysis when, for example, we consider how it might cause her to appraise the riskiness of resisting any implied coercion by Cunard. As noted in Section II(C)(3) of this Article, because she knew she was a member of a group that was often discriminated against, she had probably been warned to expect that either Cunard's physician or the United States immigration officials might discriminate against her.¹⁴² Moreover, O'Brien knew of the dismal situation she would be in if forced to return to Ireland. The immigration physician might not accept an Irish doctor's vaccination certificate, so getting vaccinated before she left was less of an option for O'Brien than it would have been for an English aristocrat. All these factors could have made her more risk averse, more easily coerced and, therefore, should affect the economic analysis of her situation.

Feminist legal analysis would emphasize the importance of O'Brien's interpersonal and family relationships,¹⁴³ and these factors should also be incorporated into a sound economic analysis.¹⁴⁴ As noted in Section II(C),

MO. L. REV. 363, 368 (1992).

141. See Taunya Lovell Banks, *Teaching Laws with Flaws: Adopting A Pluralistic Approach to Torts*, 57 MO. L. REV. 443, 445 (1992).

142. See *supra* text accompanying note 120.

143. See Ann Shalleck, *Feminist Legal Theory and the Reading of O'Brien v. Cunard*, 57 MO. L. REV. 371, 372 (1992).

144. Professor Eleanor Fox relates an anecdote that incisively reveals a major difference between feminist legal analysis and a commonly used assumption of the Law & Economics approach:

[This story] was told at a colloquium by a law and economics professor, to prove the power of law and economics and the naivete of those who disregard it. He and his friend went out one summer afternoon for ice cream. They arrived at Steve's, only to find a long line. They went up to the third and fourth persons in the line and said: "What's it worth to you to give up your place in line?" A deal was struck. The economist and his friend began to turn over the agreed price and to take their newly-bought places in line, and the sellers of their spots began to leave. But the people

O'Brien may have been more risk averse, more easily bullied, and less likely to do anything that might slightly increase the probability that she would be refused entry because her mother had died and her father also wanted to emigrate. An economic analysis might incorporate these concerns by labeling them "factors that would affect O'Brien's risk aversion or her cost/benefit analysis of the available options." Feminist legal scholars might use different terms, but regardless of the label employed these concepts should be incorporated into a thoughtful discussion of *O'Brien*.¹⁴⁵

behind them became irate. They made such a commotion that the economist and his friend looked at one another in amazement and called off the deal, lest they be lynched. How peculiar and incredible, said the economist to the colloquium participants. We had made a deal that made everyone better off. There were no externalities. No one was made worse off.

Eleanor M. Fox, *Being a Woman, Being a Lawyer and Being a Human Being—Women and Change*, 57 *FORDHAM L. REV.* 955, 962 (1989). I have retold this anecdote to several economists, each of whom laughed and then conceded that economic analysis usually makes the simplifying but frequently unrealistic assumption of independent utility functions. While each conceded that economic analysis can, and often should, consider interdependent utility functions, each admitted that this was seldom done in practice because it was so difficult to do.

145. Professor Fox's comments on the relationship between feminist legal thought and antitrust are also relevant to the relationship between feminist legal thought and the overall Law & Economics approach:

[M]uch of feminist legal theory is facially irrelevant to antitrust because it starts by rejecting the basic universe of the law: it shows how women are systematically disfavored by the existing body of law, starts with a new, more sympathetic framework, and develops principles from a rich factual context, often stressing helping and cooperative values and rejecting the competitive ethic.

That being said, feminism, humanism, and a body of thought contributed by individuals who are historically members of less favored groups, may bring to law the following beliefs or perspectives: Distrust of power and a belief that power exists, is exercised, and does not quickly dissipate; belief in pluralism, which is understood as the ultimate check on power as well as a description of an environment most likely to hold opportunity and chances for realization of individual potentials; belief in preserving rights of access and the right not to be fenced out by the use of leverage, which is typically used by the powerful and which by definition deprives the less powerful of opportunity; no love for theoretical economic models, which by their nature must generalize, eliminating the 99 percent of reality that the modeler deems not "important"; disbelief in free market theory, in assumptions that markets are robust, markets work, firms are efficient, and disagreement with the claim that allocative efficiency is everything. Disfavored groups know, and experience confirms, that the individuals who run firms do not take every opportunity to profit maximize

Imperfect information is another concept that each of the other approaches would stress; it also should be featured in an economic analysis of *O'Brien*. Regardless of the label they would attach to it, critical legal studies, critical race theories, and feminist legal analysis would take into account the fact that poor immigrants, especially if they come from a depressed country and are female, are less likely to have as much needed information as a male English aristocrat. Thus, immigrants like *O'Brien* could not find out as easily about the existence of vaccination requirements, and could not easily select a competent doctor whose certificate would be accepted by immigration officials. Nor could they easily ascertain different shipping lines' reputations for providing safe, dignified, non-negligent vaccinations. Without consideration of these information imperfections an economic analysis would be deficient.

There certainly is no inherent conflict between economic analysis and the analyses provided by the other schools of thought in this Symposium. Each provides valuable insights that must be taken into account so that an economic analysis can mirror reality. Incorporation of insights from these other approaches makes the economic approach more difficult to perform, but also much more realistic and therefore more useful. The only time there is an actual conflict between economic analysis and the other approaches is when economic analysis puts on blinders and ignores their insights, or vice versa.

C. Limitations on the Economic Approach to Legal Analysis

If we define economic analysis broadly and incorporate within it insights from other schools of legal thought there are few limitations on its utility in analyzing legal issues. If we define the economic analysis of law more narrowly and fail to gain insights from the other approaches, however, we must recognize more limitations.

Economics, moreover, is not a science that always yields one "correct" answer to legal questions. All too often the real world will not (in the eyes of some reasonable observers, at least) fit a particular set of assumptions, so anyone attempting the process is left with uncertainty. Because economic

for their firm, that even within the realm of profit-maximizing there is a range for choice including the power to prefer "one's own," and that power is real and does not quickly succumb to "markets." Moreover feminists, as well as United States jurists of the 1960's and policy makers and enforcers in the European Community now, value fairness and preservation of opportunity for the less well established as much as and sometimes more than allocative efficiency as calculated from static price theory.

Lessons From U.S. Antitrust Law Interview: Professor Eleanor M. Fox, 6 ANTITRUST 8, 11-12 (1991).

analysis highlights the information necessary to reach a conclusion it sometimes informs us that we don't know enough to reach even a relatively certain answer. In this Article, for example, we have discussed such subjects as "imperfect information." To the extent this existed, every economist would agree that it should be factored into the analysis. But, to what extent did each factor exist, either for O'Brien or for the "average" immigrant in 1889? The analysis also raised a number of empirical issues that must be addressed in order to do a proper analysis. If we make Cunard liable for its physician's negligence, for example, we can identify one factor that is, *ceteris paribus*, likely to increase the total cost of immigration for most people situated similarly to O'Brien,¹⁴⁶ and several factors likely to push the total cost lower.¹⁴⁷ We cannot predict the net effect unless we are able to make a number of empirical measurements, often an impossibility in a litigation setting. Because decisionmaking using all the necessary information is a luxury we seldom have, the difficult question is to determine whether we oversimplify.¹⁴⁸ To make undue simplifying assumptions, such as the existence of perfect information when reasonable people might believe otherwise, and then insist that there is but one correct answer that everyone must accept, merely brings the economic approach to legal analysis into disrespect. This does not however, mean that the economic approach is useless. Sometimes we will be able to predict with confidence whether fares will rise or fall, and even in those cases when we cannot, we can at least alert decisionmakers to the alternative consequences so they can make a relatively informed decision.

A major failing of the approach, however, is the reluctance of many of its adherents to analyze anything other than the efficiency aspects of legal

146. See *supra* section II(B)(2). If the court finds for O'Brien, the cost will increase for most immigrants but will decrease considerably for those unfortunate enough to experience an adverse reaction to the vaccination since they may be able to recover against Cunard.

147. *Id.*

148. This can be illustrated through contrasting (and equally trite) analogies. Sometimes we make harmless simplifying assumptions. Galileo taught us that a heavy metal ball and a light one fall at almost exactly the same rate. GALILEO GALILEI, DISCOURSES AND MATHEMATICAL DEMONSTRATIONS CONCERNING TWO NEW SCIENCES PERTAINING TO MECHANICS AND LOCOMOTION (1638). Yet, the precise rates may differ slightly due to air resistance. But for most purposes we can assume their rates to be equal—a harmless simplifying assumption. By contrast, if we use the simple principles underlying checkers to play chess we will be sorely amiss.

Sometimes we can make simplifying assumptions that are clearly wrong but nevertheless are surprisingly useful. For example, if we assume that the earth is flat we will be off by only eight inches per mile. While this type of error is unacceptable for some purposes, for many everyday decisions it will suffice.

rules. The job of the economic analyst also should be to point out who wins and who loses from alternative legal rules. Most citizens and lawmakers care about these issues; so too must Law & Economic analysts who want to influence the debates. One is entitled to assert that equity issues should be irrelevant, but one should not deny those who disagree the knowledge concerning the equity effects of alternative legal rules. Moreover, the job of the judge is to follow the wishes of the legislatures that enacted the laws. This means that the judge should attempt to ascertain the legislature's efficiency and equity goals, and then weigh them appropriately. Society often is willing to sacrifice efficiency for equity concerns, so economic analysis must in these circumstances perform the lesser task of maximizing efficiency subject to legal constraints.¹⁴⁹ The task, moreover, is sometimes no more difficult than assessing the net efficiency effects.¹⁵⁰

Finally, Law & Economics analysts often shy away from discussing non-economic issues, perhaps out of a recognition that we have no expertise when we leave our specialty, and also from a reluctance to admit that our approach cannot accommodate every concern. If economic analysis can only help with part of a problem, however, its adherents have an obligation to clearly and explicitly put their analysis into context so that policymakers, who do not have the luxury of being pure, will be able to balance economic and non-economic factors. Law & Economics scholars who ignore non-economic factors open themselves to the accusation that they are heartless or naive, and their contributions often will be ignored. If they can at least formulate a tradeoff, such as "here is how much efficiency will be lost for the sake of freedom, morality, equality or fairness," they will have enlightened the discussion in a way much more likely to have an impact on public policy.

149. In *O'Brien* it is unclear whether there is such a tradeoff. The most efficient solution would place liability on Cunard for the physician's negligence and suggest that the court should not have concluded that O'Brien consented or assumed the risk. Because it is unclear that the most efficient solution would produce troubling equity effects, the court probably should not have ruled as it did and instead opted for the most efficient solution.

150. See *supra* note 18.

