FROM THE LIBRARY SHELF

Edited by Phyllis Schiller Myers
Virginia Commonwealth University

Bargaining Theory

Framing Effects and the Distributive Aspect of Integrative Bargaining, by William P. Bottom and Amy Studi (Washington University)

The earliest studies of negotiator framing effects demonstrated the benefits of positive framing of issues. However, several recent empirical studies and game theoretic models of bargaining contradict these findings. This paper seeks to develop a comprehensive explanation of the role of framing that will reconcile the various results. Because of the conflict between integrative and distributive aspects of bargaining, negotiators must confront a dilemma. Risk attitude and framing affect the approach negotiators take in dealing with the dilemma. Contrary to the view taken in the early framing studies, negatively framed bargainers should generally do better than their positively framed counterparts in most situations. However, a pair of positively framed bargainers should reach more integrative settlements than a pair of negatively framed bargainers. Two experiments are reported that test these propositions. In each case the predictions were strongly supported. The implications of these results for theorists and negotiators are discussed. *Organizational Behavior and Human Decision Process,* December 1993, 56(3): 459–474. (Reprinted with permission of Academic Press, Inc.)

Risk Perception and Economic Behavior

Bonus-Malus System or Partial Coverage to Oppose Moral Hazard Problems?, by Martina Vandebroek (Katholieke Universiteit Leuven, Louvain, Belgium)

The efficiency of bonus-malus systems and partial coverages in preventing moral hazard problems is analyzed by solving a stochastic dynamic programming model. By examining the resulting payoffs of both parties involved it is possible to compare insurance contracts in terms of the level of care they

induce. It is shown that the principal reason for taking preventive actions is the partial coverage, the bonus and/or malus involved being far less decisive. *Insurance: Mathematics and Economics,* September 1993, 13(1): 1-5. (Reprinted with permission of North-Holland Publishing Company.)

Safety Investment and the Value of Life and Injury, by Barbara A. Soby, David J. Ball, and Dawn P. Ives (University of East Anglia)

The requirement to reduce risk is moderated under British law by the notion of practicability or reasonable practicability. This implies that a balance should be struck, *inter alia,* between the costs of a risk-reducing measure and its benefits in terms of life-saving and injury avoidance. Clearly, were lives and injuries valued in monetary terms, balances and imbalances would be all the more easily identified. This paper reports on progress on the application of the Relative Utility Loss Approach to the valuation of injuries in the consumer and transportation spheres in the United Kingdom. Although the tools are as yet imperfect, striking accord is noticed between valuations of a range of serious and slight injuries obtained using three health state utility indices of disparate origin. *Risk Analysis,* June 1993, 13(3): 365–370. (Reprinted with permission of *Risk Analysis.*)

Some Criteria for Evaluating Risk Messages, by Neil D. Weinstein and Peter M. Sandman (Rutgers University)

Seven criteria are presented for use in evaluating communications designed to explain the magnitude of a risk. The criteria are: (1) *comprehension* (Does the audience understand the content of the communication?); (2) *agreement* (Does the audience agree with the recommendation or interpretation contained in the message?); (3) *dose-response consistency* (Do people facing a higher dose of a hazard perceive the risk as greater and/or show a greater readiness to take action than people exposed to a lower dose of this hazard?); (4) *hazard-response consistency* (Do people facing a hazard that is higher in risk perceive the risk as greater and/or show a greater readiness to take action than people exposed to hazard that is lower in risk?); (5) *uniformity* (Do audience members exposed to the same level of risk tend to have the same responses to this risk?); (6) *audience evaluation* (Does the audience judge the message to have been helpful, accurate, clear, etc.?); and (7) *types of communication failures* (When different types of failures are possible, are the failures that occur generally of the more acceptable variety?). Each of these criteria is illustrated with data collected in a test of message formats designed to explain the risk presented by radon gas in a home. *Risk Analysis,* February 1993, 13(1): 103–114. (Reprinted with permission of *Risk Analysis.*)

Perceived Risk, Dread, and Benefits, by Robin Gregory (Decision Research, Eugene, Oregon) and Robert Mendelsohn (Yale University)

This paper uses regression techniques to take a second look at a classic risk-perception data set originally collected by Paul Slovic, Sarah Lichtenstein, and

Baruch Fischhoff. As discussed in earlier studies, the attributes *expected mortality, effects on future generations, immediacy,* and *catastrophic potential* all significantly affect risk ratings. However, we find that perceived risk and dread show different regression patterns; most importantly, only perceived risk ratings correlate with expected mortality. In addition, average risk ratings are found to be significantly affected by perceived individual benefits, which suggests that perceptions of risk are net rather than gross indicators of harm. *Risk Analysis,* June 1993, 13(3): 259–264. (Reprinted with permission of *Risk Analysis.*)

The Effects of Skewed Probability on Decision Making under Ambiguity, by Lindsley G. Boiney (George Mason University)

Studies have shown that many decision makers knowingly contradict the Savage Postulates when event probabilities are ambiguous, typically displaying ambiguity aversion. For the purposes of this paper, ambiguity is defined operationally as a subjective second-order distribution on probabilities, $f(p)$. Most studies to date on ambiguity have focused on symmetric second-order distributions, demonstrating preference effects of the mean and range or variance of $f(p)$. This research asserts that choice behavior is also significantly and systematically impacted by the skewness of $f(p)$. An experiment using 130 MBA students revealed that subjects are often ambiguity averse when $f(p)$ is negatively skewed but ambiguity seeking when the skewness is positive, even though the mean and variance of $f(p)$ remain constant. These skewness effects are incorporated into a model of choice under ambiguity. *Organizational Behavior and Human Decision Processes,* October 1993, 56(1): 134–148. (Reprinted with permission of *Organizational Behavior and Human Decision Processes.*)

Probability Theory

A Semi-Parametric Estimator of a Risk Distribution, by Jacques Carriere (University of Manitoba)

The heterogeneity in a portfolio of insurance policies may be modeled with a risk distribution function $F(\lambda)$ that mixes the mean frequency λ. Using the observed claim frequencies of this portfolio, we present a continuous semiparametric estimator of $F(\lambda)$ that reproduces some of the empirical moments and converges uniformly. The estimator that we investigate is a mixture of lognormal distributions whose parameters are calculated by considering the determinants of certain moment matrices. Unlike the usual parametric estimators, this estimator is asymptotically consistent and unbiased. A strength of this estimator is its ability to estimate multimodal risk distributions. *Insurance: Mathematics and Economics,* September 1993, 13(1): 75–81. (Reprinted with permission of North-Holland Publishing Company.)

12 Risk Theory

Remarks on the Swiss Premium Principle on Positive Risks, by Dirk Beyer and Manfred Riedel (Universität Leipzig, Germany)

In this note it is proved that the Swiss premium principle is completely characterized by its premiums for *positive* Bernoulli risks. This yields another interpretation of the Swiss premium principle. *Insurance: Mathematics and Economics,* September 1993, 13(1): 39-44. (Reprinted with permission of North-Holland Publishing Company.)

13 Mathematical and Statistical Models

On the Application of Thiele's Differential Equation in Life Insurance, by Per Linnemann (Pen-Sam, Farum, Denmark)

Thiele's differential equation in the Markov chain model of life contingencies is used to derive formulas concerning the expected actual development of the mathematical reserve and accumulation of surplus for a (closed) insurance portfolio. Moreover, formulas are developed for the insurance technical analysis of changes in the mathematical reserves for a single policy and for a (closed) insurance portfolio caused by alterations in the technical basis. The results are fundamental for investigating security aspects concerning the policy and insurance portfolio level. Finally, the connection between our results and a counting process approach is discussed. *Insurance: Mathematics and Economics,* September 1993, 13(1): 63-74. (Reprinted with permission of North-Holland Publishing Company.)

Translating Prior Information Across Specifications to Improve Predictive Accuracy, by R. K. Pace and O. W. Gilley

Unrestricted nonlinear models typically outperform their simple linear counterparts in the hedonic pricing and mass assessment fields. Economic theory, however, suggests prior information that most naturally applies to the simple linear model. This article examines the consequences of translating this prior information across specifications. The results show that the addition of the prior information improved the ex-sample prediction accuracy over all sample sizes examined. The prior information effectively augments the sample size, thus extending the domain of these models. *Journal of Business and Economic Statistics,* July 1993, 11(3): 301–309. (Reprinted with permission of the *Journal of Economic Literature.*)

Ruin Theory

Asymptotic Estimates for the Probability of Ruin in a Poisson Model with Diffusion, by Noël Veraverbeke (Limburgs Universitair Centrum, Diepenbeek, Belgium)

We consider the probability of ruin in the extended risk model of Gerber (1970) and Dufresne and Gerber (1991). Their asymptotic estimate is complemented by considering also cases where the conditions for the exponential estimate are not satisfied. It is shown that the probability of ruin then behaves asymptotically like the (integrated) tail of the claim size distribution. *Insurance: Mathematics and Economics,* September 1993, 13(1): 57-62. (Reprinted with permission of North-Holland Publishing Company.)

Health Care and Insurance

Design and Implementation of an Expert System for Controlling Health Care Costs, by Jack L. Martin and Terry P. Harrison (Pennsylvania State University)

Many firms with self-funded insurance administered by outside parties fail to review the administrators' performance effectively. Often the firms do not know the extent of overpayments because they lack the expert knowledge to evaluate the paid claims. We examine the use of a simple expert system in conjunction with optimization methods for identifying claims payment errors. The knowledge base is constructed using expertise from the area of claims processing, auditing, medical diagnosis, and procedure coding practices. Once potential errors are identified, a mathematical program is used to select claims for audit based on maximizing expected benefits subject to various firm-specific processing limitations. We use an efficient Lagrangian relaxation to solve instances of this pure binary programming problem with as many as 150,000 variables. We report on our experience in the use of this system on behalf of a Fortune 100 firm's claims data base. *Operations Research,* September–October 1993, 41(5): 819–834. (Reprinted with permission from *Operations Research.*)

Is Dumping Socially Inefficient? An Analysis of the Effect of Medicare's Prospective Payment System on the Utilization of Veterans Affairs Inpatient Services, by Pius Eze (Clark University, Worcester, Massachusetts) and Barbara Wolfe (University of Wisconsin–Madison)

This paper investigates an efficiency implication of Medicare's prospective payment system (PPS) on the utilization of United States Veterans Affairs (VA) hospital inpatient services by elderly veterans. There is empirical evidence to suggest that non-VA hospitals are reacting to PPS by increasingly shifting veterans they expect may be high-cost to VA hospitals. We define as efficient, allocations that would occur if hospitals acted as perfect agents of the patient,

then we show that some shifting would still occur if allocations were efficient. This is because VA and non-VA hospitals operate under different budget regimes, and within each diagnosis related group, veterans with different levels of illness severity (and different non-VA insurance packages) will self-select into VA and non-VA hospitals. We derive conditions of severity under which different hospital types become attractive to particular patients. *Journal of Public Economics,* October 1993, 52(3): 329–344. (Reprinted with permission of North-Holland Publishing Company.)

The Medicare Hospice Benefit: The Effectiveness of Price Incentives in Health Care Policy, by Vivian Hamilton (McGill University)

This article examines the implications of fixed-price reimbursement of providers for access to hospice care by Medicare beneficiaries. Hospices that are offered higher reimbursement rates by Medicare are found to be more likely to become certified to provide care under the Medicare Hospice Benefit program. Each $1.00 increase in the daily routine home care rate raises the probability of certification by 1.7%. In turn, the Hospice Benefit increases access to hospice care by enabling Medicare-certified facilities to serve more patients than they would if they were noncertified. However, care must be taken to set reimbursement rates appropriately. Failure to correctly adjust reimbursement rates for the real costs of certification across different parts of the country leads to disparities in hospice certification and differential access to hospice care for Medicare beneficiaries. *RAND Journal of Economics,* Winter 1993, 24(4): 605–624. (Reprinted with permission of the *RAND Journal of Economics.*)

Equity in the Finance of Health Care: Some International Comparisons, by A. Wagstaff and E. van Doorslaer

This paper presents the results of a ten-country comparative study of health-care-financing systems and their progressivity characteristics. It distinguishes between the tax-financed systems of Denmark, Portugal, and the United Kingdom; the social-insurance systems of France, the Netherlands, and Spain; and the predominantly private systems of Switzerland and the United States. It concludes that tax-financed systems tend to be proportional or mildly progressive, that social-insurance systems are regressive, and that private systems are even more regressive. Out-of-pocket payments are an especially regressive means of raising health care revenues in most countries. *Journal of Health Economics,* December 1992, 11(4): 361–387. (Reprinted with permission of the *Journal of Economic Literature.*)

Supply-Side and Demand-Side Cost Sharing in Health Care, by Randall P. Ellis and Thomas G. McGuire (Boston University)

The central institutional feature in health markets is that the price paid by insured consumers when health care services are demanded can be set

separately from the price paid to providers when services are supplied. This fact suggests two alternate strategies for controlling the costs of health care: demand-side cost sharing, where patients must pay more in co-payments or deductibles, and supply-side cost sharing, which seeks to alter the incentives of health care workers to provide certain services.

In broad terms, any health care financing system has three goals: protect consumers against the financial risk of health expenditures; promote efficient levels and types of health care services; and to be fair to consumers and providers (however fairness is defined). We review the rationale, limits, and comparative advantage of demand- and supply-side cost sharing in health care while primarily focusing on the short-run pursuit of the first two goals. We then turn briefly to the long-run issue of technology adoption, as well as how supply- and demand-side cost sharing may affect the fairness of the health system.

When this paper was completed in July 1993, specific details of the proposed Clinton health care reforms had not yet been released. General features that have been leaked suggest that the reform proposal will include a mandated minimum benefit package; elimination of insurance exclusions based on preexisting conditions; a reliance upon competition between health plans ("managed competition") to contain costs; mandatory employer participation in the health insurance system; and guaranteed access to health insurance pools for the unemployed and other individuals that are generally not able to get group insurance rates otherwise. Also rumored to be under consideration are the possibilities of eliminating the full tax exemption for employer and employee contributions to the premiums; shifting some of the health premium burden from employers onto consumers; and restricting fees paid to providers, either through price controls, or "global budgeting." With the exception of the last proposed reform, all of these features directly affect only the demand side of the market, changing the prices that consumers pay for health services or health insurance. None of these reforms directly relies upon changing supply-side cost sharing, the form of payment to providers. We argue below that supply-side cost sharing is a neglected component of national health care reform that may have an important role in cost containment and efficiency enhancement.

We intend our discussion to be at a very general level, and apply to demand- and supply-side payments to all types of providers. Because they represent the most ready application of the ideas we develop here, most of our examples focus on payment to hospitals. *Journal of Economic Perspectives,* Fall 1993, 7(4): 135–151. (Reprinted with permission of the *Journal of Economic Perspectives.*)

16 Social Insurance

The Perceived Budget Constraint under Social Security: Evidence from Reentry Behavior, by C. Reimers and M. Honig

If, as is usually assumed, older individuals face a continuous choice of work hours without fixed costs or take account of the actuarial adjustment of Social

Security benefits postponed as a result of the earnings test, the earnings limit should not affect their labor supply before age sixty-five. The authors test, and reject, these assumptions by estimating the hazard function for labor-market reentry after retirement using white men in the Retirement History Survey. They find that the earnings limit does affect reentry and that older men behave myopically, responding to current benefits rather than to Social Security wealth. Several policy implications follow. *Journal of Labor Economics,* January 1993, 11(1): 184–204. (Reprinted with permission of the *Journal of Economic Literature.*)

Unemployment Insurance Taxes and the Cyclical and Seasonal Properties of Unemployment, by David Card (Princeton University) and Phillip B. Levine (Wellesley College)

We combine Current Population Survey micro data for 1979–1987 with a newly assembled database of tax rates for the U.S. unemployment insurance system to measure the effects of imperfect experience-rating on the incidence of unemployment. We find a strong negative association between the degree of experience-rating and the rate of temporary layoff unemployment, with the largest effect in recessionary years and the smallest effect in expansionary years. Increases in the degree of experience-rating are also associated with dampened seasonal fluctuations in temporary layoffs, particularly in construction and durable manufacturing. *Journal of Public Economics,* January 1994, 53(1): 1–29. (Reprinted with permission of North-Holland Publishing Company.)

Unemployment Insurance in the United States: Layoff Incentives and Cross Subsidies, by P. M. Anderson and B. D. Meyer

The authors survey unemployment insurance in the United States and provide new evidence on the unemployment insurance payroll tax. Most unemployment insurance receipt is due to firms that pay part of the unemployment insurance costs of their layoffs, but weak experience rating leads most firms to pay considerably less than the full costs. Industries consistently receiving subsidies from the unemployment insurance system are construction, manufacturing, and mining. Finally, a large fraction of layoffs resulting in payment of unemployment insurance are made by firms that are not charged for the costs of the claim because they have employed the individual for less than two quarters. *Journal of Labor Economics,* January 1993, 11(1): S70–S95. (Reprinted with permission of the *Journal of Economic Literature.*)

Government Insurance Programs

The Decline of Private Deposit Insurance in the United States, by W. B. English

Since the early 1980s, the number of private deposit insurance corporations operating in the United States has declined sharply and many private insurers

have failed. The failures were caused both by poor design and by inadequate regulation of member institutions. The poor regulation was not primarily the result of inadequate examinations of members but was instead the result of inaction on the part of the insurers and state regulators. The recent private deposit insurance failures are similar in many respects to those of two earlier groups of private deposit insurers. *Carnegie–Rochester Conference Series on Public Policy,* June 1993, 38: 57–128. (Reprinted with permission of the *Journal of Economic Literature.*)

Employee Benefit Issues

Earnings Management Under Pension Accounting Standards: SFAS 87 Versus APB 8, by Ashiq Ali (New York University) and Krishna R. Kumar (George Washington University)

This study presents evidence indicating a greater influence of accounting incentives on reported pension cost under the current pension accounting standard, Statement of Financial Accounting Standards Number 87 (SFAS 87), relative to the preceding standard, Accounting Principles Board Opinion Number 8 (APB 8). Accounting incentives refer to managerial incentives arising from income smoothing and contractual arrangements that use accounting numbers. This study uses the difference between the income reported under SFAS 87 and APB 8 in the adoption year as a measure that incorporates the difference between the discretionary components of pension cost under the two regimes and shows that this difference is associated with proxies for managers' accounting incentives.

This finding has important implications for accounting regulatory agencies. Even though SFAS 87 appears to have been successful in moving pension accounting away from cash basis and toward accrual basis, the increased influence of accounting incentives may have hampered the comparability across firms of the observed pension numbers and hence their usefulness. *Journal of Accounting, Auditing & Finance,* Fall 1993, 8(4): 427-446. (Reprinted with permission of the *Journal of Accounting, Auditing & Finance.*)

An Empirical Investigation of Stock Market Valuation of Corporate Projected Pension Liabilities, by V. Gopalakrishnan and Timothy F. Sugrue (George Mason University)

This study extends the work of Landsman (1986) by making use of the newly available projected benefit pension obligations (PBO) information. Our analysis documents that investors perceive pension assets and pension liabilities, respectively, as corporate assets and liabilities. We also developed and tested a decomposition model of pension obligations by examining the market valuation of the three components of PBO: vested, non-vested and future salary progression. Our results indicate that future salary progression is indeed considered by market participants as a liability of the firm. The results

of the study have important implications for accounting policy making. *Journal of Business Finance & Accounting,* September 1993, 20(5): 711–724. (Reprinted with permission of the *Journal of Business Finance & Accounting.*)

The Effect of SFAS 87 on Corporate Funding of Defined Benefit Pension Plans, by Robert M. Harper, Jr. (California State University, Fresno) and Jerry R. Strawser (University of Houston)

Statement of Financial Accounting Standards No. 87 (SFAS 87) modifies the method of accounting for pensions by requiring companies sponsoring defined benefit pension plans to (1) recognize a balance sheet liability for unfunded pension benefits and (2) disclose their obligation for pension benefits based on expected future compensation levels (the projected benefit obligation). These requirements may affect users' perceptions of a company's financial position, especially if these plans are underfunded. This research examines whether the requirements of *SFAS 87* result in increased funding of corporate pension plans to counteract possible adverse perceptions of users about these plans. The results indicate that early adopters (companies adopting *SFAS 87* in 1985 and 1986) increased the funding of their defined benefit pensions plans in response to *SFAS 87*; however, later adopters did not do so. These findings provide evidence that companies may alter economic policies when faced with significant changes in financial disclosure requirements. Further analysis suggests that the effect of *SFAS 87* on the pension expense recognized by the sample companies provided impetus for early adoption of this pronouncement. *Journal of Business Finance & Accounting,* November 1993, 20(6): 815–833. (Reprinted with permission of the *Journal of Business Finance & Accounting.*)

The Market Valuation of Accounting Information: The Case of Postretirement Benefits other than Pensions, by Eli Amir (Columbia University)

The majority of empirical regulatory accounting studies on financial reporting have focused on the *ex post* evaluation of accounting choices (see Lev [1979] and Barth [1991] among others) after an accounting method is adopted. There has not been much research involving the evaluation of accounting methods *ex ante* because, it is argued, newly mandated accounting information is usually available only some time after the Financial Accounting Standards Board (FASB) has required its release.

In December 1990, after lengthy and controversial deliberations, the FASB issued SFAS No. 106, *Employers' Accounting for Postretirement Benefits other than Pensions* (PRB) replacing the current "pay as you go" practice with a combination of present-value and accrual method. Few of the information items mandated by SFAS No. 106 has yet been disclosed earlier. Consequently, this research uses the data that were available during the time of the FASB's deliberations as an example of *ex ante* empirical research concerning the standard-setting process.

This study uses the PRB cash payments to retirees as disclosed by firms in their footnotes to the financial statements under SFAS No. 81 (FASB 1984) to investigate whether investors underestimated the full effect of the PRB liability on firms' values. Such underestimation would occur if investors are not aware of the high rate of increase in health care costs or when future benefits' payments to current employees are partially ignored. Additionally, this study investigates whether an *estimate* of the present value of the PRB liability is value-relevant to investors. Finally, an analysis is made of the range and sensitivity of economic parameters (discount rate and health care cost trend rate) used by investors to estimate the PRB obligation.

The results indicate that, during the period 1984—1986, investors, on average, valued each dollar of PRB cash payment in any year as a dollar; i.e., they underestimated the full consequences of firms' promise to continue making such payments in the future. During the period 1987—1990, in contrast, investors translated each dollar of PRB cash payment to an average of $13.75 PRB obligation. Further, estimating the present value of the PRB obligation with publicly available data shows that the present-value measure is value-relevant to investors in addition to the cash payments disclosed by firms. *The Accounting Review,* October 1993, 68(4): 703–704. (Reprinted with permission of *The Accounting Review.*)

Portfolio Management

Stochastic Dedication: Designing Fixed Income Portfolios Using Massively Parallel Benders Decomposition, by Randall S. Hiller (Delta Global Trading LP, Cambridge, Massachusetts) and Jonathan Eckstein (Mathematical Sciences Research Group, Thinking Machines Corporation, Cambridge, Massachusetts)

Drawing on recent developments in discrete time fixed income options theory, we propose a stochastic programming procedure, which we call *stochastic dedication,* for managing asset/liability portfolios with interest rate contingent claims. The model uses scenario generation to combine deterministic dedication techniques with stochastic duration matching methods, and provides the portfolio manager with a risk/return Pareto optimal frontier from which a portfolio may be selected based on individual risk attitudes. We employ a fixed income risk metric that can be interpreted as the fair market value of a collection of interest rate options that eliminates bankruptcy risk from the asset/liability portfolio. We incorporate this metric into a risk/return stochastic optimization model, using a binomial lattice sampling procedure to construct interest rate paths and cash flow streams from an arbitrage-free structure and we have been able to solve it using resource-directed decomposition on a massively parallel computer system, the Connection Machine CM-2. We take a novel approach that uses a standard serial simplex method to solve the master problem, but generates scenarios and Benders cuts in a massively parallel manner. We discuss the performance of this implementation and present the

results for a simple pension fund immunization problem. *Management Science*, November 1993, 39(11): 1422–1438. (Reprinted with permission from *Management Science*.)

Pension Funding

Pension Funding with Time Delays and Autoregressive Rates of Investment Return, by Steven Haberman (City University, London)

We consider pension funding methods which determine contributions at each valuation by spreading the unfunded liability over a fixed number of years. Real rates of return on the assets are assumed to be represented by a first-order autoregressive process. The contribution rate is fixed relative to the fund level but with a time delay. This means that the fund level and contribution rate have the structure of a non-linear time series, where an autoregressive component is multiplied by the autoregressive rate of return. Recursive formulae are obtained for the expectations and the variability of fund and contribution levels for finite t. Under certain conditions, these moments converge in time to limits which, although not explicitly obtainable, can nevertheless be found by a numerical procedure in any given case. *Insurance: Mathematics and Economics*, September 1993, 13(1): 45-56. (Reprinted with permission of North-Holland Publishing Company.)

Liability Rules

Shifting Plaintiffs' Fees versus Increasing Damage Awards, by Louis Kaplow (Harvard University and NBER)

Shifting victorious plaintiffs' fees to defendants and increasing damage awards are alternative ways to achieve similar results: increasing plaintiffs' incentives to sue and raising defendants' expected payments. This article shows that relying on higher damage awards is more efficient than shifting plaintiffs' fees. The reason is that fee shifting is more valuable for plaintiffs with higher litigation costs. Thus, it is possible to substitute higher damage awards for fee shifting in a manner that leaves deterrence unaffected while eliminating the suits of plaintiffs with the highest litigation costs. *RAND Journal of Economics*, Winter 1993, 24(4): 625–630. (Reprinted with permission of the *RAND Journal of Economics*.)

Injury Compensation

Economic Effects of Workers' Compensation in the United States: Private Insurance and the Administration of Compensation Claims, by T. Thomason (McGill University) and J. F. Burton, Jr. (Rutgers University)

Using a sample of workers' compensation claims from New York, this article investigates the probability that the claimant and insurer will negotiate

a settlement rather than adjudicate the claim; the size of the settlement, if settlement occurs; the size of the award if the claim is adjudicated; and factors determining the extent of the insurers claim adjustment efforts. The findings show that insurer adjustment activities increase settlement probability and that a 24–25 percent discount rate is required to equate lump sum settlements with the benefit stream paid by an adjudicated award. *Journal of Labor Economics,* January 1993, 11(1): S1–S37. (Reprinted with permission of the *Journal of Economic Literature.*)

♈ Safety and Loss Control

The Value of Risks to Life and Health, by W. Kip Viscusi (Duke University)

Health and safety risks comprise an aspect of our lives that we would all like to eliminate. Even if we set out to provide a risk-free existence, however, our efforts would be constrained by our economic resources. If the entire American GNP were devoted to preventing fatal accidents, we would be able to spend an average of only $55 million per fatality. There are also other demands on these resources, ranging from food to recreation, which will reduce the funds available for risk reduction.

One possible approach is to set the risk reduction priorities based on the magnitude of the hazard. Table 1 lists a series of risks involving market processes and individual decisions that have been the focus of economic analyses to be considered below. The vigilance that individuals and society should devote to reducing these risks is not, however, governed solely by their size. Risks thought to be amenable to technological improvement, such as motor vehicle safety, have attracted the greatest attention. Risks beyond our control have merited comparatively modest risk reduction efforts.

Scientists estimate that we face an annual fatality risk from asteroid impact—the "doomsday rock"—of 1/6,000 (*New York Times,* June 18, 1991, p. B5). Yet, few would argue that we should abandon efforts to reduce smaller risks, such as those posed by jobs and home accidents, and reallocate these funds to fending off asteroids. The key issue is the risk reduction that is achievable for any given expenditure and the value society places on this risk reduction.

The government faces a variety of opportunities to reduce risk. Airplane cabin fire protection costs $200,000 per life saved; automobile side door protection standards save lives at $1.3 million each; Occupational Safety and Health Administration (OSHA) asbestos regulations save lives at $89.3 million each; Environmental Protection Agency asbestos regulations save lives at $104.2 million each; and a proposed OSHA formaldehyde standard costs $72 billion per life saved (Worrall, 1986). Which of these different policies should be pursued, and which provide benefits that are not commensurate with their costs?

In a democratic society, the appropriate starting point for analyzing these tradeoffs is the value individuals bearing the risk place on the improved safety. Over the past two decades, there has developed a substantial literature on the value of these risk-money tradeoffs. The greatest emphasis has been on the tradeoff involving mortality risks and wages. These labor market studies have addressed the implicit values of life of workers in many countries, including the United States, the United Kingdom, Australia, Canada, and Japan. Straightforward extensions of these models have included a measure of nonfatal risks faced by the worker, enabling analysts to impute an implicit value per statistical injury in the workplace. Economists have also analyzed the price-risk tradeoff for a variety of consumer products. In situations in which no market data are available, such as some environmental risks, one can use surveys to derive a market value if a market for the good existed. This paper explores these different approaches to establishing appropriate economic values for risks to life and health. *Journal of Economic Literature,* December 1993, 31(4): 1912–1946. (Reprinted with permission of the *Journal of Economic Literature.*)