

ematics & Economics, December 1994, 15(2/3): 127-132. (Reprinted with permission of North-Holland Publishing Company.)

Predictive Stop-Loss Premiums and Student's t-Distribution, by Werner Hürlimann (Allgemeine Mathematik, Winterthur-Leben, Winterthur, Switzerland)

A Bayesian stop-loss prediction model is constructed from a mixture of a normal with a gamma conjugate prior. Its predictive density is a location-scale transformation of Student's t-distribution. When no data are available for statistical prediction, the marginal distribution coincides with Bowers' distribution, introduced in Hürlimann (1993b), which generates the best stop-loss upper bounds by given mean, variance and range $(-\infty, \infty)$ of a distribution. The present prediction model is justified using a conditional measure of safeness. Furthermore, it is shown how estimates of the approximation error made when replacing the predictive exact stop-loss premiums by a simple normal approximation can be obtained using computer simulations. *Insurance: Mathematics and Economics*, May 1995, 16(2): 151-159. (Reprinted with permission of North-Holland Publishing Company.)

Actuarial Equivalence, by Henk Wolthuis (University of Amsterdam)

In life insurance mathematics the actuarial equivalence principle is the basic concept to define premiums and premium reserves. The underlying valuation method of this principle is used here on the one hand to generalize equivalence relations of financial mathematics for the continuous-time Markov model for life contingencies and on the other to derive other actuarial equivalence relations for this model. For instance future or past payments due in states of the Markov process are replaced by equivalent insurance benefits payable at the moment of transition from one state to another state. *Insurance: Mathematics & Economics*, December 1994, 15(2/3): 163-179. (Reprinted with permission of North-Holland Publishing Company.)

Utility Theory

Efficiency and Equality in a Simple Model of Efficient Unemployment Insurance, by Andrew Atkeson (University of Pennsylvania) and Robert E. Lucas, Jr. (University of Chicago)

This paper describes the efficient allocation of consumption and work effort in an economy in which workers face idiosyncratic employment risk and considerations of moral hazard prevent full insurance. We impose a lower bound on the expected discounted utility that can be assigned to any agent from any date onward and show, with this feature added, that the efficient unemployment insurance scheme induces an invariant cross-sectional distribution of individual entitlements to utility. The paper thus provides a simple prototype model suited to the study of the *normative* question: what is the trade-off between equality and efficiency in resource allocation? *Journal of Economic*

Theory, June 1995, 66(1): 64-88. (Reprinted with permission of the *Journal of Economic Theory*.)

Risk Perception and Economic Behavior

Insurance, Adverse Selection, and Cream-Skimming, by Tracy R. Lewis and David E. M. Sappington (University of Florida)

We examine optimal insurance policies in a setting where some individuals are perfectly informed about the benefits they would receive under any proposed plan, and others share the insurance provider's imperfect knowledge about likely benefits. The optimal insurance policy is shown to take on a particularly simple linear form, providing full insurance for the smallest and the largest wealth realizations, and no insurance for a range of intermediate wealth realizations. This basic form of the optimal insurance policy persists in dynamic settings and those with endogenous information acquisition. *Journal of Economic Theory*, April 1995, 65(2): 327-358. (Reprinted with permission of the *Journal of Economic Theory*.)

Agricultural Insurance and Soil Depletion in a Simple Dynamic Model, by R. Innes and S. Ardila

The authors study the effects of agricultural insurance on farm production choices, soil depletion, and environment when there are two related risks, one in short-to-medium run production revenues and the other in land value. The analysis considers "pure" and "truncating" insurance programs that stabilize linear combinations of short-run revenue risk and land-price risk. Production-revenue-stabilizing insurance is often found to elicit increased farmer output, thus exacerbating environmental externalities and causing further soil depletion. Land-value-stabilizing insurance typically elicits lower output, thus mitigating environmental externalities and pushing farmers closer to their complete-insurance output levels. *American Journal of Agricultural Economics*, August 1994, 76(3): 371-384. (Reprinted with permission of the *Journal of Economic Literature*.)

Health Care

Conceptualizing, Estimating, and Reforming Fraud, Waste, and Abuse in Health Care Spending, by Jerry L. Mashaw and Theodore R. Marmor

The elimination of waste, fraud, and abuse from U.S. medicine is not a quick or easy solution to the challenge of rising medical care costs. Many of the policy options available for reducing excesses face significant political hurdles or involve value judgments about non-quantifiable issues involving quality of care. Other alternatives seem as likely to bar necessary medical care as to eliminate abuses. In some instances, particularly those involving consumer fraud, a crackdown may merely shift costs without saving any money. Additionally, a number of suggestions for trimming waste and abuse involve ethical

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