

AAS, K. 2004. "Modeling the Dependence Structure of Financial Assets: A Survey of Four Copulas," Preprint, Norwegian Computing Center, Oslo
<http://ww.nr.no/files/samba/bffsamba2204.pdf>

ACTUARIAL ADVISORY COMMITTEE TO THE NAIC P/C RISK-BASED CAPITAL WORKING GROUP. 1993. "Report on Covariance Method for Property-Casualty RBC," *Casualty Actuarial Society Forum*, Summer 1993:173-202.

AEBI, M., P. EMBRECHTS, AND T. MIKOSCH. 1992. "A Large Claim Index," *Mitteilungen SVVM*, 143-156.

ALBERS, W. 1999. "Stop-Loss Premiums Under Dependence," *Insurance: Mathematics and Economics*, 24:173-185.

ALTMAN, EDWARD I., AND IRWIN T. VANDERHOOF, EDS., 1995. *The Financial Dynamics of the Insurance Industry*, Irwin Professional Publishing, New York.

AMERICAN ACADEMY OF ACTUARIES. 2002. "Comparison of the NAIC Life, P&C, and Health RBC Formulas. Summary of Differences," Prepared by the Academy Joint Risk-Based Capital Task Force. http://www.actuary.org/pdf/finreport/jrbc_12feb02.pdf

ANDERSON, C. W. 1970. "Extreme Value Theory for a Class of Discrete Distributions with Applications to Some Stochastic Processes," *Journal of Applied Probability*, 7:99-113.

ARTZNER, P., F DELBAEN, J. M. EBER, AND D. HEATH. 1999. "Coherent Measures of Risk," *Mathematical Finance* 9:203-228.

ASMUSSEN, S., L. FLØE HENRIKSEN, AND C. KLÜPPELBERG. 1994. "Large Claims Approximations for Risk Processes in a Markovian Environment," *Stochastic Processes and their Applications*, 54:29-43.

ASMUSSEN, S., AND C. KLÜPPELBERG. 1996. "Large Deviation Results for Subexponential Tails With Applications to Insurance Risk," *Stochastic Processes and their Applications*, 64:103-125.

BALKEMA, A. A. AND L. DE HAAN. 1974. "Residual Lifetime at Great Age," *Annals of Probability* 2:792-804.

BALKEMA, A. A., AND L. DE HAAN. 1990. "A Convergence Rate in Extreme-Value Theory," *Journal of Applied Probability*, 27:577-585.

BALLING, JOANNE, ET AL. 1994. "Frequently Overlooked Topics in Solvency Testing," *Record of the Society of Actuaries* 20(1):565-588.

BARAKAT, H. M., AND M. A. EL-SHANDIDY. 1990. "On the Limit Distribution of the Extremes of a Random Number of Independent Random Variables," *Journal of Statistical Planning and Inference* 26:353-361.

BARNDORFF-NIELSEN, O. E. 1961. "On the Limit Behaviour of Extreme Order Statistics," *Annals of Mathematical Statistics* 34:992-1002.

BARNETT, V., AND T. LEWIS. 1978. *Outliers in Statistics*. Wiley, New York.

BARRY, GERY, ET AL. 1994. "1986-1989 Credit Risk Event Loss Experience: Commercial Mortgage Loans and Private Placement Bonds," *Transactions of the Society of Actuaries 1993-94 Reports*:171-318.

BASEL COMMITTEE ON BANKING SUPERVISION. 1988. *International Convergence of Capital Measurement Standards*.

BASEL COMMITTEE ON BANKING SUPERVISION. 1996. *Amendment to the Capital Accord to Incorporate Market Risks*.

BASEL COMMITTEE ON BANKING SUPERVISION. 1998. *Operational Risk Management*.

BASEL COMMITTEE ON BANKING SUPERVISION. 1998. *Instruments Eligible for Inclusion in Tier 1 Capital*.

BASEL COMMITTEE ON BANKING SUPERVISION. 2001. *The New Basel Accord: An Explanatory Note*.

BASEL COMMITTEE ON BANKING SUPERVISION. 2001. *Operational Risk Data –QIS*.

BASEL COMMITTEE ON BANKING SUPERVISION. 2003. *Consultative Document. The New Basel Capital Accord*.

BASEL COMMITTEE ON BANKING SUPERVISION. 2003. *Trends in Risk Integration and Aggregation*.

BASEL COMMITTEE ON BANKING SUPERVISION. 2004. *International Convergence of Capital Measurement and Capital Standards: A Revised Framework*.

BEHAN, DONALD F., ET AL. 1990. "Current Topics in Financial Reporting," *Record of the Society of Actuaries* 16(4A)2465-2486.

BEHAN, DONALD F., ET AL. 1995. "Dynamic Financial Models of Property-Casualty Insurers," *Casualty Actuarial Society Forum*, Fall 1995:93-127.

BEHAN, DONALD F., ET AL. 1995. "Surplus Management Strategies," *Record of the Society of Actuaries* 21(1):237-248.

- BEHAN, DONALD F. 1996. "Techniques for Optimizing Investment Yield in Relation to Risk-Based Capital," Presented to the Insurance Accounting and Systems Association, June 4, 1996.
- BEIRLANT, J., AND J. L. TEUGELS. 1992. "Limit Distributions for Compounded Sums of Extreme Order Statistics," *Journal of Applied Probability*, 29:557-574.
- BEIRLANT, J., AND J. L. TEUGELS. 1992. "Modeling Large Claims in Non-Life Insurance," *Insurance: Mathematics and Economics*, 11:17-29.
- BEIRLANT, J., J. L. TEUGELS, AND P VYNCKIER. 1996. *Practical Analysis of Extreme Values*, Leuven University Press, Leuven.
- BEIRLANT, J., Y. GOEGEBEUR, J. SEGERS, AND J. L. TEUGELS. 2004. *Statistics of Extremes: Theory and Applications*. Wiley, Chichester.
- BINSWANGER, K. 1997. *Rare Events in Insurance*. Ph.D. Thesis, ETH Zürich.
- BOOS, D. D. 1984. "Using Extreme Value Theory to Estimate Large Percentiles," *Technometrics*, 26:33-39.
- BOX, G. E. P, AND G. M. JENKINS. 1970. *Time Series Analysis: Forecasting and Control*, Holden-Day, San Francisco.
- BOYER, B. H., M. S. GIBSON, AND M. LORETAN. 1999. "Pitfalls in Tests for Changes in Correlations," *International Finance Papers No. 597*, Board of Governors of the Federal Reserve System.
- BREHM, PAUL J. 2002. "Correlation and the Aggregation of Unpaid Loss Distributions," *Casualty Actuarial Society Forum*, Fall 2002:1-24.
- BRENDER, ALLAN, ET AL. 1993. "A Synopsis and Analysis of Research on Surplus Requirements for Property and Casualty Insurance Companies," *Casualty Actuarial Society Forum*, Summer 1993:1-104.
- BUCKLEW, J. A. 1991. *Large Deviation Techniques in Decision, Simulation, and Estimation*, Wiley, New York.
- BUISHAND, T. A. 1989. "Statistics of Extremes in Climatology," *Statistica Neerlandica*, 43:1-30.
- CAPÉRAA, P., A.-L., AND C. GENEST. 1993. "Spearman's rho is Larger Than Kendall's tau for Positively Dependent Random Variables," *Journal of Nonparametric Statistics* 2:183-194.

- CAPÉRAÀ, P., A.-L. FOUGÈRES AND C. GENEST. 1997. "A Nonparametric Estimation Procedure for Bivariate Extreme Value Copulas," *Biometrika* 84:567-577.
- CARROLL, CHARLES, ET AL. 1995. "What Can We Learn from Company Failures?" *Record of the Society of Actuaries* 21(4A):393-407.
- CASTILLO, E. 1988. *Extreme Value Theory in Engineering*. Academic Press, San Diego.
- CEBRIA, A., M. DENUIT, AND P. LAMBERT. 2004. "Generalized Pareto Fit to the Society of Actuaries' Large Claim Database," *North American Actuarial Journal* 7(3):18-36.
- CHAVEZ-DEMOULIN, V. AND P. EMBRECHTS. 2004. "Smooth Extremal Models in Finance and Insurance," *The Journal of Risk and Insurance* 71(2):183-199.
- CHAVEZ-DEMOULIN, V. AND P. EMBRECHTS. 2004. "Advanced Extremal Models for Operational Risk," Preprint, Department of Mathematics, ETH-Zentrum.
- CHAVEZ-DEMOULIN, V., P. EMBRECHTS, AND J. NESLEHOVA. 2006. "Quantitative Models for Operational risk: Extremes, Dependence and Aggregation," *Journal of Banking and Finance*, forthcoming.
- CHERUBINI, U., E. LUCIANO, AND W. VECCHIATO. 2004. *Copula Methods in Finance*. Wiley, Chichester.
- CLEMENTE, A., AND C ROMANO. 2003. "A Copula-Extreme Value Theory Approach for Modelling Operational Risk," Preprint, University of Rome "La Sapienza."
- CHEUNG, Y.-W. 1993. "Long Memory in Foreign Exchange Rates," *Journal of Business Economics and Statistics*, 11:93-101.
- CLONINGER III, KRISS, ET AL. 1994. "Risk-Based Capital Strategies," *Record of the Society of Actuaries* 20(4A)21-36.
- COHEN, J. 1989. "On the Compound Poisson Limit for High Level Exceedences," *Journal of Applied Probability*, 26:458-465.
- COHEN, J. P. 1982. "Convergence Rates for the Ultimate and Penultimate Approximations in Extreme-Value Theory," *Advances in Applied Probability*, 14:324-339.
- COLES, S. 2001. *An Introduction to Statistical Modeling of Extreme Values*. Springer, London.
- CONT, R., AND P. TANKOV. 2004. *Financial Modelling with Jump Processes*. Chapman & Hall/CRC, London.

- COOK, R. D. 1977. "Detection of Influential Observations in Linear Regression," *Technometrics*, 19:15-18.
- CORCORAN, THOMAS R. 1994 "Academy Task Force Proposes New Risk-Based Capital Factors for Health Coverages," *The Financial Reporter*, Aug. 1994:1-4.
- COWELL, MICHAEL J., ET AL. 1996. "Investments Under the Risk-Based Capital and Rating Agencies Requirements," *Record of the Society of Actuaries* 22(1):16 pp.
- CUMMINS, J. DAVID, S. HARRINGTON, AND R. KLEIN. 1995. "Insolvency Experience, Risk-Based Capital, and Prompt Corrective Action in Property-Liability Insurance," *Journal of Banking and Finance* 19:511-528.
- CUMMINS, J. DAVID, ET AL. 1997. "Regulatory Solvency Prediction in Property-Liability Insurance: Risk-Based Capital, Audit Ratios, and Cash Flow Simulation," Working Paper, June 14, 1997.
- DAVIS, R. A. AND S. I. RESNICK. 1986. "More Limit Theory for the Sample Correlation Function of Moving Averages," *Stochastic Processes and their Applications*, 30:41-68.
- DAVIS, R. A. AND S. I. RESNICK. 1986. "Limit Theory for the Sample Covariance and Correlation Functions for Moving Averages," *Annals of Statistics*, 14:533-558.
- DAVISON, A., AND R. SMITH. 1990. "Models for Exceedances Over High Thresholds (with discussion)," *Journal of the Royal Statistical Society, B* 52:393-442.
- DAWSON, JOHN DUANE, ET AL. 1993. "Product Development in the Age of Risk-Based Capital," *Record of the Society of Actuaries* 19(4A):2291-2312.
- DAWSON, JOHN D. 1994. "Risk-Based Capital, Target Surplus, and Product Development," *NewsDirect*, Spring 1994:1-8.
- DEAKINS, PETER B., ET AL. 1992. "Rating Agencies/Risk-Based Capital," *Proceedings of the Valuation Actuary Symposium*, Session 2:35-62, Society of Actuaries.
- DHAENE, J., AND M. J. GOOVAERTS. 1996. "Dependency of Risks and Stop-Loss Order," *ASTIN Bulletin*, 26(2):201-212.
- DIEBOLD, F., T. SCHUERMAN, AND J. STRONGHAIR. 2002. "Pitfalls and Opportunities in the Use of Extreme Value Theory in Risk Management," *Journal of Risk Finance* 1:30-36.
- DRAPER, NORMAN R., AND HARRY SMITH. 1998. *Applied Regression Analysis*, Third Edition, John Wiley & Sons, New York.

- ECKMAN, MICHAEL. 2000. "Statutory Reserving Update—Life Products," *Record of the Society of Actuaries* 26(3):17 pp.
- EMBRECHTS, P., C. KLÜPPELBERG, AND T. MIKOSCH. 1997. *Modelling Extremal Events for Insurance and Finance*, Springer, Berlin.
- EMBRECHTS, P., A. MCNEIL, AND D. STRAUMANN. 1998. "Correlation and Dependency in Risk Management: Properties and Pitfalls," *ETHZ Zurich*. 37 pages.
- EMBRECHTS, P., A. HOEING, AND A. JURI. 2001. "Using Copulae to Bound the Value-at-Risk for Functions of Dependent Risks," ETH Preprint.
- EMBRECHTS, P. 2000. "The Bell Curve is Wrong: So What?," in *Extremes and Integrated Risk Management*, edited by P. Embrechts, pp. xxv-xxviii, Risk Waters Group.
- EMBRECHTS, P., R. LINDSKOG, AND A. MCNEIL. 2001. "Modelling Dependence with Copulas and Applications to Risk Management." in *Handbook of heavy tailed distributions in finance*, S. Rachev (editor) pp. 329-384 Elsevier.
- FALK, M. 1995. "On Testing the Extreme Value Index Via the POT Method," *Annals of Statistics*, 23:2013-2035.
- FALK, M., J. HÜSLER, AND R. D. REISS. 2004. *Laws of Small Numbers: Extremes and Rare Events*, 2nd ed. Birkhäuser, Basel.
- FAMA, E. F. 1965. "The Behavior of Stock Market Prices," *Journal of Business of the University of Chicago*, 38:34-105.
- FEDERAL RESERVE BOARD. 2003. *Differences in Capital and Accounting Standards Among the Federal Banking and Thrift Agencies*, Report to Congress
- FEIGIN, P. AND S. I. RESNICK. 1996. *Pitfalls of Fitting Autoregressive Models for Heavy-Tailed Time Series*. Preprint, School of Operations Research and Industrial Engineering, Cornell University.
- FELDBLUM, SHOLOM. 1996. "NAIC Property/Casualty Insurance Company Risk-Based Capital Requirements," *Proceedings of the Casualty Actuarial Society* 83:297-435.
- FELLER, W. 1946. "A Limit Theorem for Random Variables with Infinite Moments," *American Journal of Mathematics*, 68:257-262.
- FORBES, CINDY L., ET AL. 1997. "Using Equities for Long-Term Liabilities," *Record of the Society of Actuaries* 21(2):447-460.
- FORBES, HAROLD E., ET AL. 1997. "Life Modeling," *Proceedings of the Valuation Actuary Symposium*, Session 15:321-350, Society of Actuaries.

- FRACHOT, A., T. RONCALLY, AND E. SALOMON. 2004. "The Correlation Problem in Operational Risk," preprint, Credit Lyonnais, France, <http://gro.Creditlyonnais.fr/content/wp/lda-correlations.pdf>.
- FRÉCHET, M. 1957. "Les Tableaux de Corrélation dont les marges sont données," *Annales de l'Université de Lyon, Sciences Mathématiques et Astronomie, Serie A*, 4:13-31.
- FREES, E. W. AND E. VALDEZ. 1998. "Understanding Relationships Using Copulas," *North American Actuarial Journal* 2(1):1-25.
- GALAMBOS, J. 1987. *The Asymptotic Theory of Extreme Order Statistics*. Kreiger Publishing Co., Melbourne, FL.
- GARMAN, M. B., AND M. J. KLASS. 1980. "On the Estimation of Security Price Volatilities from Historical Data," *Journal of Business of the University of Chicago* 53:67-78.
- GENEST, C., AND J. MACKAY. 1986. "The Joy of Copulas: Bivariate Distributions with Uniform Marginals," *The American Statistician* 40:280-283.
- GENEST, C., AND J. MACKAY. 1986. "Copules Archimédiennes et Familles de Lois Bidimensionnelles dont les Marges Sont Données," *The Canadian Journal of Statistics* 14:145-159.
- GENEST, C., K. CHOUDI, AND L.-P. RIVEST. 1995. "A Semiparametric Estimation Procedure of Dependence Parameters in Multivariate Families of Distributions," *Biometrika* 82(3):543-552.
- GENEST, C., AND L.-P. RIVEST. 1993. "Statistical Inference Procedures for Bivariate Archimedean Copulas," *Journal of the American Statistical Association* 88(423):1034-1043.
- GERONTIDIS, I., AND R. L. SMITH. 1982. Monte Carlo Generation of Order Statistics from General Distributions," *Applied Statistics*, 31:238-243.
- GIESECKE, KAY. 2003. "A Simple Exponential Model for Dependent Defaults," *Journal of Fixed Income* 13(3):74-83.
- GOLDIE, C. M., AND R. A. MALLER. 1996. "A Point Process Approach to Almost Sure Behavior of Record Values and Order Statistics," *Advances in Applied Probability* 28:426-462.

- GOODMAN, L., AND W. KRUSKAL. 1963. "Measures of Association for Cross-Classifications. iii: Approximate Sample Theory," *Journal of the American Statistical Association*, 58:310-364.
- GORSKI, LARRY M., ET AL. 1999. "The Risk-Based Capital C-3 (Interest Rate) Project," *Record of the Society of Actuaries* 25(3):18 pp.
- GORSKI, LARRY M., ET AL. 2001. "Follow-up to Risk-Based Capital C-3 Component Methodology Change," *Record of the Society of Actuaries* 27(2):24 pp.
- GRIFFITHS, R., R. K. MILNE, AND R. WOOD. 1979. "Aspects of Correlation in Bivariate Poisson Distributions and Processes," *Australian Journal of Statistics*, 21(3):238-255.
- HAMILTON, J. D. 1990. "Analysis of Time Series Subject to Changes in Regime," *Journal of Econometrics*, 45:39-70.
- HARTMAN, DAVID G. ET AL. 1992. "Property-Casualty Risk-Based Capital Requirement: A Conceptual Framework," *Casualty Actuarial Society Forum*, Spring 1992:211-280.
- HEMPHILL, GRANT. 1993. "Marginal Risk-Based Capital," *Small Talk*, June 1993:4-5.
- HEMPHILL, GRANT. 1994. "Product Development in the Age of Risk-Based Capital," *NewsDirect*, Winter 1993-94:1-5.
- HEYDE, C. C. 1967. "On Large Deviation Problems for Sums of Random Variables Not Attracted to the Normal Law," *Annals of Mathematical Statistics* 38:1575-1578.
- HILL, B. M. 1975. "A Simple General Approach to Inference About the Tail of a Distribution," *Annals of Statistics* 3:1163-1174.
- HILL, NORMAN E., ET AL. 1995. "Managing the Balance Sheet," *Record of the Society of Actuaries* 21(2):399-418.
- HILL, NORMAN E. 1996. "Risk-Based Capital Ratios," *Record of the Society of Actuaries* 22(2):11 pp.
- HINES, K. 2002. "Risks Considerations for the Allfinanz Organization," *Casualty Actuarial Society Forum*, Spring 2002:1-28.
- HODES, DOUGLAS M., AND SHOLOM FELDBLUM. 1996. "Interest Rate Risk and Capital Requirements for Property/Casualty Insurance Companies," *Proceedings of the Casualty Actuarial Society*, 83:490-562.
- HOEFFDING, W. 1940. "Massstabinvariante Korrelationstheorie," *Schriften des Mathematischen Seminars und des Instituts für Angewandte Mathematik de Universität Berlin* 5:181-233.

- HOMER, D. L., AND D. R. CLARK. 2003. "Insurance Applications of Bivariate Distributions," *Proceedings of the Casualty Actuarial Society*, 90:274-307.
- HONG, Y. 2003. "Detecting Extreme Risk Spillover Between Financial Markets," <http://www.vanderbilt.edu/econ/sempapers/Hong1.pdf> 32 pages.
- HOOGHIEMSTRA, G., AND L. E. MEESTER. 1996. "Computing the Extremal Index of Special Markov Chains and Queues," *Stochastic Processes and their Applications* 65:171-185.
- HÖPFNER, R. 1996. "On Tail Parameter Estimation in Certain Point Process Models," *Journal of Statistical Planning and Inference* 60:169-187.
- HOSKING, J. R. M., J. R. WALLIS, AND E. F. WOOD. 1985. "Estimation of the Generalized Extreme-Value Distribution by the Method of Probability-Weighted Moments," *Technometrics* 27:251-261.
- HSING, T. 1988. "On the Extreme Order Statistics for a Stationary Sequence," *Stochastic Processes and their Applications* 29:155-169.
- HSING, T., J. HÜSLER, AND M. R. LEADBETTER. 1988. "On the Exceedance Point Process for a Stationary Sequence," *Probability Theory and Related Fields* 78:97-112.
- HSING, T. 1991. "Estimating the Parameters of Rare Events," *Stochastic Processes and their Applications* 37:117-139.
- HSING, T. 1991. "On Tail Index Estimation Using Dependent Data," *Annals of Statistics* 19:1547-1569.
- HSING, T. 1993. "On Some Estimates Based on Sample Behavior Near High Level Excursions," *Probability Theory and Related Fields* 95:331-356.
- HSING, T. 1995. "Limit Theorems for Stable Processes with Applications to Spectral Density Estimation," *Stochastic Processes and their Applications* 57:39-71.
- HSING, T. 1995. "A Note on the Asymptotic Independence of the Sum and Maximum of Strongly Mixing Stationary Random Variables," *Annals of Probability* 23:938-947.
- HULT, H., AND F. LINDSKOG. 2001. "Multivariate Extremes, Aggregation and Dependence in Elliptical Distributions," ETH Preprint.
- HUTCHINGS, PETER L., ET AL. 1995. "Using Equities for Long-Term Liabilities," *Record of the Society of Actuaries*, 21(1):549-566.

IMAN, R. AND W. CONOVER. 1982. "A Distribution-Free Approach to Inducing Rank Correlation Among Input Variables," *Communications in Statistics: Computation and Simulation*, 11(3):311-334.

INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS. 2002. *Report on Solvency, Solvency Assessment and Actuarial Issues and Some of Their Practical Applications*. IAIS SubCommittee on Solvency and Actuarial Issues, <http://www.iaisweb.org/08151istansolv.pdf>.

JAFFEE, D. M., AND T. RUSSELL. 1996. "Catastrophe Insurance, Capital Markets, and Uninsurable Risks," in J. D. Cummins (editor) *Proceedings of the Conference on Risk Management in Insurance Firms*, Financial Institutions Center, The Wharton School, Philadelphia.

JAY, BURTON D., ET AL. 2001. "Current Risk-Based Capital Developments for Disability Income, Long-Term Care, and Stop Loss," *Record of the Society of Actuaries* 27(1):23 pp.

JAY, BURTON D., ET AL. 1998. "Health Organization Risk-Based Capital," *Proceedings of the Valuation Actuary Symposium*, Session 13PD:343-368, Society of Actuaries.

JAY, BURTON D., ET AL. 1998. "Risk-Based Capital—An Update," *Record of the Society of Actuaries* 24(3):22 pp.

JAY, BURTON D., ET AL. 1999. "Health Organization Risk-Based Capital," *Proceedings of the Valuation Actuary Symposium*, Session 12:26 pp., Society of Actuaries.

JENKINSON, A. F. 1969. "Statistics of Extremes," in *Estimation of Maximum Flood*, *Technical Note* 98:183-227. World Meteorological Organization, Geneva.

JOAG-DEV, K. 1984. "Measures of Dependence," in *Handbook of Statistics*, edited by P. R. Krishnaiah, 4:79-88, North Holland/Elsevier, New York.

JOE, H. 1987. "Estimation of Quantiles of the Maximum of N Observations," *Biometrika* 74:347-354.

JOE, H. 1997. *Multivariate Models and Dependence Concepts*. Chapman and Hall, London.

KAGAN, Y. Y. 1994. "Observational Evidence for Earthquakes as a Non-Linear Process," *Physica D* 77:160-192.

KAGAN, Y. Y. 1996. *Earthquake Size Distribution and Earthquake Insurance: Technical Report*. Institute of Geophysics and Planetary Physics, UCLA.

KAGAN, Y. Y., AND D. VERE-JONES. 1996. "Problems in the Modelling and Statistical Analysis of Earthquakes," in Heyde, C. C., Yu. V. Prokhorov, R. Pyke, and S. T. Rachev (editors) *Proceedings of the Athens International Conference on Applied Probability and Time Series, vol. 1: Applied Probability* 398-425. Springer, Berlin.

Kallsen, J. and P. Tankov. 2004. "Characterization of Dependence of Multidimensional Lévy Processes Using Lévy Copulas," preprint, Technische Universität München, 24 pages.

KIMELDORF, G., AND A. R. SAMPSON. 1978. "Monotone Dependence," *Annals of Statistics*, 6:895-903.

KIRSCHNER, GERALD S. 2002. "Two Approaches to Calculating Correlated Reserve Indications Across Multiple Lines of Business," *Casualty Actuarial Society Forum*, Fall 2002:211-246.

KIST, FREDERICK O., ET AL. 1994. "Risk-Based Capital: Industry Implications," *Record of the Society of Actuaries* 20(1):15-34.

KLUGMAN, S. A., H. H. PANJER, AND G. E. WILMOT. 1998. *Loss Models, From Data to Decisions*, John Wiley & Sons.

KLUGMAN, S. A. AND R. PARSA. 1999. "Fitting Bivariate Loss Distributions with Copulas," *Insurance: Mathematics and Economics*, 24:139-148.

KLÜPPELBERG, C., AND T. MIKOSCH. 1997. "Large Deviations of Heavy-Tailed Random Sums with Applications to Insurance and Finance," *Journal of Applied Probability* 34:293-308.

KLÜPPELBERG, C., AND J. A. VILLASEÑOR. 1993. "Estimation of the Distribution Tails: A Semiparametric Approach," *Blätter der DGVM* 21:213-235.

KNAPP, DARREL D. 1993. "Solvency Standards for HIPC Concepts," *Health Section News*, Aug. 1993:1-3.

KNAPP, DARREL D., ET AL. 1995. "Risk-Based Capital: Health Organizations," *Record of the Society of Actuaries* 21(4A):203-216.

KOLKMAN, PAUL F., ET AL. 1994. "Risk-Based Capital: An International Perspective," *Record of the Society of Actuaries* 20(1):589-616.

KRUSKAL, W. 1958. "Ordinal Measures of Association," *Journal of the American Statistical Association* 53:814-861.

KÜCHLER, U., K. NEUMANN, M. SØRENSEN, AND A. STRELLER. 1994. *Stock Returns and Hyperbolic Distributions. Discussion Paper 23*. Humboldt Universität, Berlin.

- LEADBETTER, M. R., G. LINDGREN, AND H. ROOTZÉN. 1983. *Extremes and Related Properties of Random Sequences and Processes*. Springer, Berlin.
- LEE, L. 1979. "Multivariate Distributions Having Weibull Properties," *Journal of Multivariate Analysis*, 9:267-277.
- LINDSKOG, F. AND A. MCNEIL. 2003. "Common Poisson Shock Models: Applications to Insurance and Credit Risk Modeling," *ASTIN Bulletin* 33(2):209-238.
- LONGIN, F. 1996. "The Asymptotic Distribution of Extreme Stock Market Returns," *Journal of Business* 63:383-408.
- LONGLEY-COOK, ALASTAIR, ET AL. 2001. "Risk-Based Capital," *Proceedings of the Valuation Actuary Symposium*, Session 20PD:28 pp., Society of Actuaries.
- LORETAN, M., AND C. B. PHILLIPS. 1994. "Testing the Covariance Stationarity of Heavy-Tailed Time Series: An Overview of the Theory with Applications to Several Financial Instruments," *Journal of Empirical Finance* 1:211-248.
- LOYNES, R. M. 1965. "Extreme Values in Uniformly Mixing Stationary Stochastic Processes," *Annals of Mathematical Statistics* 36:993-999.
- LUCKNER, WARREN R., ET AL. 1996. "Use of Derivatives by the Insurance Industry," *Record of the Society of Actuaries* 22(3):29 pp.
- MADSEN, CHRIS K. 2002. "Does the NAIC Risk-Based Capital Suffice? And Are Property & Casualty Insurance Company Asset Allocations Rational?" *Casualty Actuarial Society Forum*, Summer 2002:175-196.
- MAKAROV, G. 1981. "Estimates for the Distribution Function of a Sum of Two Random Variables When the Marginal Distributions are Fixed," *Theory of Probability and Its Applications* 26:803-806.
- MANDELBROT, B. 1963. "The Variation of Certain Speculative Prices," *Journal of Business of the University of Chicago* 36:394-419.
- MANGO, DONALD F. AND JAMES C. SANDOR. 2002. "Dependence Models and the Portfolio Effect," *Casualty Actuarial Society Forum*, Winter 2002:57-72.
- MANN, N. R. 1984. "Statistical Estimation of Parameters of the Weibull and Fréchet Distribution," in Tiago de Olivera, J. (editor) *Statistical Extremes and Applications*, pp. 81-89. Reidel, Dordrecht.

- MARSHALL, A. W. 1996. "Copulas, Marginals and Joint Distributions," in *Distributions with Fixed Marginals and Related Topics*, edited by L. Rüschendorf, B. Schweizer, and M. E. Taylor, pp. 213-222. Institute of Mathematical Statistics, Hayward, CA.
- MASHAL, R., AND A. ZEEVI. 2002. "Beyond Correlation: Extreme Co-movements Between Financial Assets," preprint, Columbia University Business School.
- MASON, D. M. 1982. "Laws of Large Numbers for Sums of Extreme Values," *Annals of Probability* 10:756-764.
- MCNEIL, A. 1997. "Estimating the Tails of Loss Severity Distributions Using Extreme Value Theory," *ASTIN Bulletin* 27:117-137.
- MEYERS, GLENN G. 1999. "A Discussion of Aggregation of Correlated Risk Portfolios: Models and Algorithms, by Shaun Wang," *Proceedings of the Casualty Actuarial Society*, 85:781-805.
- MEYERS, GLENN G. 1999. "Estimating Between Line Correlations Generated by Parameter Uncertainty," *Casualty Actuarial Society Forum*, Summer 1999:197-222.
- MEYERS, GLENN G., FREDERICK L. KLINKER, AND DAVID A. LALONDE. 2003. "The Aggregation and Correlation of Insurance Risk," *Casualty Actuarial Society Forum*, Summer 2003:15-82.
- MEYERS, GLENN G., STEPHEN J. MILDENHALL, DAVID L. HOMER, HANS E. WASZINK, ET AL. 2006. "The Report of the Working Party on Correlations and Dependencies Among All Risk Sources," *Casualty Actuarial Society Forum*, Winter, 2006:101-276.
- MIKOSCH, T. 1998. "Periodogram Estimates from Heavy-Tailed Data," in Adler, R., R. Feldman, and M. S. Taqqu (editors) *A Practical Guide to Heavy Tails: Statistical Techniques and Applications*. pp. 241-258 Birkhäuser, Boston.
- MILDENHALL, S. J. 2002. *SCARE: Simulating Correlated Aggregation and Risk Engine User's Guide*. <http://www.mynl.com/wp>.
- MODUGNO, VICTOR, ET AL. 2000. "Indexed Separate Accounts," *Record of the Society of Actuaries* 26(3):17 pp.
- MODUGNO, VICTOR, ET AL. 2000. "Liquidity Management for Life Insurers with Institutional Business," *Record of the Society of Actuaries* 26(1):24 pp.
- MORGAN STANLEY & CO. 1993. *Risk Based Capital for Life Insurers, Course F-580 Study Note*, Society of Actuaries.
- MUELLER, HUBERT, ET AL. 2000. "Risk-Based Capital C-3 Testing," *Proceedings of the Valuation Actuary Symposium*, Session 120F:1-23, Society of Actuaries.

- MUELLER, MARK, AND STEPHEN REDDY. 1993. "Risk-Based Capital for Life Insurers: Part I. Summary of Provisions," *Risks and Rewards* 16 (Aug. 1993):6-7.
- MUELLER, MARK, AND STEPHEN REDDY. 1993. "Risk-Based Capital for Life Insurers: Part II. Assessing the Impact," *Risks and Rewards* 17 (Nov. 1993):6-7.
- MÜLLER, A. AND N. BÄUERLE. 1998. "Modelling and Comparing Dependencies in Multivariate Risk Portfolios," *ASTIN Bulletin* 28(1):59-76.
- MÜLLER, U. A., ET AL. 1990. "Statistical Study of Foreign Exchange Rates, Empirical Evidence of a Price Change Scaling Law, and Intraday Analysis," *Journal of Banking and Finance* 14:1189-1208.
- NAGAEV, S. V. 1979. "Large Deviations of Sums of Random Variables," *Annals of Probability* 7:745-789.
- NAGARAJA, H. N. 1988. "Record Values and Related Statistics – A Review," *Communications in Statistical Theory and Methods* 17:2223-2238.
- National Association of Insurance Commissioners. 2005. *Risk-Based Capital General Overview. Technical Report*, Capital Adequacy Task Force
- NELSEN, R. B. 1987. "Discrete Bivariate Distributions with Given Marginals and Correlation," *Communications in Statistics – Simulation* 16(1):199-208.
- NELSEN, R. B. 1999. *An Introduction to Copulas*. Springer, New York.
- NEWELL, G. F. 1964. "Asymptotic Extremes for m-Dependent Random Variables," *Annals of Mathematical Statistics* 35:1322-1325.
- NOLAN, J. 2001. *Stable Distributions: Models for Heavy-Tailed Data*. Birkhäuser, Boston.
- NOVAK, DONNA C., ET AL. 1996. "Risk-Based Capital According to the National Association of Insurance Commissioners (NAIC)," *Record of the Society of Actuaries* 22(3):28 pp.
- NOVAK, DONNA C., ET AL. 1997. "Health Risk-Based Capital," *Proceedings of the Valuation Actuary Symposium*, Session 8:209-230, Society of Actuaries.
- NOVAK, DONNA C., ET AL. 1998. "Risk-Based Capital for Health Organizations," *Record of the Society of Actuaries* 24(2):20 pp.
- O'BRIEN, G. L. 1974. "Limit Theorems for the Maximum Term of a Stationary Process," *Annals of Probability* 2:540-545.

- O'BRIEN, G. L. 1980. "A Limit Theorem for Sample Maxima and Heavy Brances in Galton-Watson Trees," *Journal of Applied Probability* 17:539-545.
- O'BRIEN, G. L. 1987. "Extreme Values for Stationary and Markov Sequences," *Annals of Probability* 15:281-291.
- OLSEN, CANDE, ET AL. 1992. "Risk-Based Capital," *Record of the Society of Actuaries* 18(4A):1707-.
- OLSEN, CANDE. 1997. "Risk-Based Capital for 1997 and Beyond," *The Financial Reporter*, Dec. 1997:11-12.
- OLSEN, CANDE, ET AL. 1998 "Proposed Changes to the Statutory Risk-Based Capital Requirements," *Record of the Society of Actuaries* 24(3):19 pp.
- PANJER, H. H. 1981. "Recursive Evaluation of a Family of Compound Distributions," *ASTIN Bulletin*, 12(1):22-26.
- PEABODY, J. LYNN, ET AL. 1994. "Asset/Liability Management: The Banker's Way," *Record of the Society of Actuaries* 20(4B):853-871.
- PERKINS, PETER L., ET AL. 1995. "Health Organization Risk-Based Capital," *Proceedings of the Valuation Actuary Symposium*, Session 4:83-111, Society of Actuaries.
- PERRY, P. R. 1983. "More Evidence on the Nature of the Distribution of Security Returns," *Journal of Financial Quantitative Analysis* 18:211-221.
- PETROV, V. V. 1965. "On the Probabilities of Large Deviations of the Sums of Independent Random Variables," *Theory of Probability and Its Applications* 10:287-298.
- D. PFEIFER, AND J. NEŠLEHOVÁ. 2004. "Modeling and Generating Dependent Risk Processes for IRM and DFA," *ASTIN Bulletin* 34(2):333-360.
- D. PFEIFER, AND J. NEŠLEHOVÁ. 2003. "Modeling Dependence in Finance and Insurance: the Copula Approach," *Blätter der deutschen Gesellschaft für Versicherungs- und Finanzmathematik*, Bd. XXVI/2.
- PICKANDS, J. III. 1975. "Statistical Inference Usin Extreme Order Statistics," *Annals of Statistics* 3:119-131.
- PICTET, O. V., M. M. DACORAGNA, AND U. A. MÜLLER. 1998. "Behavior of the Tail Estimation Under Various Distributions," in Adler, R., R. Feldman, and M. S. Taquq (editors) *A Practical Guide to Heavy Tails: Statistical Techniques and Applications*. Birkhäuser, Boston.

- PRESCOTT, P., AND A. T. WALDEN. 1980. "Maximum Likelihood Estimation of the Parameters of the Three-Parameter Generalized Extreme-Value Distribution," *Biometrika* 67:723-724.
- PRESCOTT, P., AND A. T. WALDEN. 1983. "Maximum Likelihood Estimation of the Parameters of the Three-Parameter Generalized Extreme-Value Distribution from Censored Samples," *Journal of Statistical Computation and Simulation* 16:241-250.
- PRESTON, STEPHEN J., ET AL. 1999. "Variable Annuities and Segregated Funds—Guaranteed Benefits Valuation Issues," *Record of the Society of Actuaries* 25(3):18 pp.
- RAYMOND, CRAIG R., ET AL. 1996. "Strategic Management of Insurance Company Risk," *Record of the Society of Actuaries* 22(3):29 pp.
- REISS, R.-D. 1987. "Estimating the Tail Index of the Claim Size Distribution," *Blätter der DGVM* 18:21-25.
- REISS, R.-D., AND J. THOMAS. 2001. *Statistical Analysis of Extreme Values*. Birkhäuser, Basel.
- RESNICK, S. I. 1987. *Extreme Values, Regular Variation and Point Processes*. Springer, New York.
- RESNICK, S. I. 1987. "Why Non-Linearities Can Ruin the Heavy-Tailed Modeller's Day," in Adler, R., R. Feldman, and M. S. Taquq (editors) *A Practical Guide to Heavy Tails: Statistical Techniques and Applications*. Birkhäuser, Boston.
- ROBBINS, EDWARD L., ET AL. 1993. "The New Risk-Based Capital Requirement—More Good Than Harm?" *Record of the Society of Actuaries* 19(2):1377-1402.
- ROCKAFELLAR, R. T., AND S. URYASEV. 2001. "Conditional Value-at-Risk for General Loss Distributions," *Journal of Banking & Finance* 26(7):1443-1471.
- ROEMELT, GREGORY J., ET AL. 1996. "Asset Modeling Specifics," *Record of the Society of Actuaries* 22(1):22 pp.
- ROGERS, L. C. G., AND S. E. SATCHELL. 1991. "Estimating Variance from High, Low and Closing Prices," *Annals of Applied Probability* 1:504-512.
- ROMANO, C. 2002. "Calibrating and Simulating Copula Functions: An Application to the Italian Stock Market," Working Paper No. 12/2002, CIDEM, University of Rome, 23 pages.
- ROOTZÉN, H., M. R. LEADBETTER, AND L. DE HAAN. 1992. "Tail and Quantile Estimators for Strongly Mixing Stationary Processes," Report, Department of Statistics, University of North Carolina.

- SABATINI, FRANCIS P. 1996. "Update on Managing Risk Based Capital," Presented to the Insurance Accounting and Systems Association, June 3, 1996.
- SCARSINI, M. 1984. "On Measures of Concordance," *Stochastica* 8:201-218.
- SCHWEIZER, B., AND E. WOLFF. 1981. "On Nonparametric Measures of Dependence for Random Variables," *Annals of Statistics* 9:879-885.
- SEGERDAHL, C.-O. 1955. "When Does Ruin Occur in the Collective Theory of Risk?," *Skandinavisk Aktuarie Tidsskrift* 38:22-36.
- SERFOSO, R. 1982. "Functional Limit Theorems for Extreme Values of Arrays of Independent Random Variables," *Annals of Probability* 10:172-177.
- SHIGLEY, KLAUS O. 1992. "Unit Expense Factors for Risk-Based Capital Requirements," *Product Development News*, Dec. 1992:1-5.
- SIBUYA, M. 1961. "Bivariate Extreme Statistics," *Annals of Mathematical Statistics* 11:195-210.
- SKLAR, A. 1996. "Random Variables, Distribution Functions, and Copulas: A Personal Look Backward and Forward," in *Distributions with Fixed Marginals and Related Topics*, edited by L. Rüschendorf, B. Schweizer, and M. E. Taylor, pp. 213-222. Institute of Mathematical Statistics, Hayward, CA.
- SMITH, BRADLEY M. 1993. "Repositioning for Risk-Based Capital?" *The Financial Reporter*, Oct. 1993:1-6.
- SMITH, R. L. 1982. "Uniform Rates of Convergence in Extreme-Value Theory," *Advances in Applied Probability* 14:600-622.
- SMITH, R. L. 1985. "Statistics of Extreme Values," *Bulletin ISI LI* (Book 4) Paper 26.1.
- SMITH, R. L. 1985. "Maximum Likelihood Estimation in a Class of Non-Regular Cases," *Biometrika* 72:67-90.
- SMITH, R. L. 1986. "Extreme Value Theory Based on the r Largest Annual Events," *Journal of Hydrology* 86:27-43.
- SMITH, R. L. 1987. "Estimating Tails of Probability Distributions," *Annals of Statistics* 15:1174-1207.
- SMITH, R. L. 1988. "A Counterexample Concerning the Extremal Index," *Advances in Applied Probability* 20:681-683.

SMITH, R. L., J. A. TAWN, AND S. G. COLES. 1996. "Markov Chain Models for Threshold Excedances," Preprint, Department of Statistics, University of North Carolina.

SMITH, R. L., AND I. WEISSMAN. 1994. "Estimating the Extremal Index," *Journal of the Royal Statistical Society Series B* 56:515-528.

SORNETTE, D., P. SIMONETTI, AND J. V. ANDERSEN. 2000. " ϕ^q -field Theory for Portfolio Optimization: "Fat-Tails" and Non-Linear Correlations (Working Title: Non-Linear Covariance Matrix and Portfolio Theory for Non-Gaussian Multivariate Distributions)," *Physics Report*, 335(2):19-92.

STEIN, E., AND C. STEIN. 1991. "Stock Price Distributions with Stochastic Volatility: An Analytic Approach," *Reviews of Financial Studies* 4:727-752.

SUMMERS, SHELDON D., ET AL. 2000. "Statutory Reporting Current National Association of Insurance Commissioners Developments," *Record of the Society of Actuaries* 26(2):20 pp.

SUNDT, BJØRN. 1999. "On Multivariate Panjer Recursions," *ASTIN Bulletin*, 29:29-45.

SUTTON, JR., HARRY L., ET AL. 1995. "Health Risk-Based Capital: Pricing and Financial Implications," *Record of the Society of Actuaries* 21(3A):291-308.

TAN, JOSEPH H., ET AL. 1992. "Recent NAIC Developments Related to MSVR and Risk-Based Capital and Their Impact on Investment Strategies," *Record of the Society of Actuaries* 18(4A):1667-1686.

TAWN, J. A. 1988. "An Extreme-Value Model for Dependent Observations," *Journal of Hydrology* 101:227-250.

TEUGELS, J. L. 1981. "Remarks on Large Claims," *Bulletin of the Institute of International Statistics* 49:1490-1500.

TEUGELS, J. L. 1984. "Extreme Values in Insurance Mathematics," in Tiago de Oliveira, J. (editor) *Statistical Extremes and Applications*, pp. 81-89. Reidel, Dordrecht.

TJØSTHEIM, D. 1996. "Measures of Dependence and Tests of Independence," *Statistics* 28:249-284.

VENTER, G. G. 2002. "Tails of Copulas," *Proceedings of the Casualty Actuarial Society*, 89:68-113.

VITALE, R. 1990. "On Stochastic Dependence and a Class of Degenerate Distributions," *Topics in Statistical Dependence*, Edited by H. Block, A. Sampson, and T. Savits. Institute of Mathematical Statistics, Hayward, CA.

- WALHIN, JEAN-FRANÇOIS. 2003. "On the Optimality of Multiline Excess Covers," *Casualty Actuarial Society Forum*, Spring 2000:231-243.
- WANG, S. 1998. "Aggregation of Correlated Risk Portfolios: Models and Algorithms," *Proceedings of the Casualty Actuarial Society*, 85:848-939.
- WANG, S., AND J. DHAENE. 1998. "Comonotonicity, Correlation Order and Premium Principles," *Insurance: Mathematics and Economics* 22:235-242.
- WANG, S. 2000. "A Class of Distortion Operators for Pricing Financial and Insurance Risks," *Journal of Risk and Insurance*, 67(1):15-36.
- WEISSMAN, I. 1978. "Estimation of Parameters and Large Quantiles Based on the Largest k Observations," *Journal of the American Statistical Association*, 73:812-815.
- WILKINSON, M. E. 1982. "Estimating Probable Maximum Loss with Order Statistics," *Proceedings of the Casualty Actuarial Society*, 69:195-209.
- WIRCH, L. AND M. HARDY. 1999. "A Synthesis of Risk Measures for Capital Adequacy," *Insurance: Mathematics and Economics* 25:337-347.
- WISEBLATT, PERRY L., ET AL. 1997. "Managing Risk-Based Capital (RBC)," *Record of the Society of Actuaries* 23(3):26 pp.
- YOUNG, MELVILLE J., ET AL. 1997. "Surplus Management Strategies," *Record of the Society of Actuaries* 21(2):83-94.
- ZEHNWIRTH, BEN. 1994. "Probabilistic Development Factor Models with Applications to Loss Reserve Variability, Prediction Intervals, and Risk-Based Capital," *Casualty Actuarial Society Forum*, Spring 1994:447-606.
- ZURCHER, MICHAEL L., ET AL. 1996. "Quantification of C-3 Risk (vs. Risk-Based Capital): Developing a Methodology/Table," *Proceedings of the Valuation Actuary Symposium*, Session 20:341-373, Society of Actuaries.