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EDUCATION

M.SC. IN MATHEMATICS
Sofia University
July 1974
Thesis: "Reliability of Aging Systems"

Ph.D. IN MATHEMATICS
Lomonosov University (Moscow), Faculty of Mechanics and Mathematics, October 12, 1979
Dissertation: "The structure of the metrics in the space of random variables and their distributions."

DOCTOR OF SCIENCE
(Habilitation) in Physics and Mathematics, Steklov Mathematical Institute, Moscow,
April 10, 1986.
Dissertation: "Probability metrics and their applications to the stability problems for stochastic models"

ABOUT

DATE OF BIRTH: September 6, 1951
CITIZENSHIP: U. S. A.
CURRENT POSITION: Professor, Dept. of Mathematics & Statistics, Texas Tech University

PREVIOUS APPOINTMENTS

2017 – NOW
Professor, Dept. of Mathematics & Statistics,
Texas Tech University

2012 – 2016
Professor, College of Business
Program Director, Finance and Accounting
Stony Brook University
Research Professor, Dept. of Applied Math & Statistics

2011 – 2012
Frey Family Foundation Chair of Quantitative Finance,
Department of Applied Mathematics and Statistics,
Stony Brook University

1998 – 2010
Endowed Chair of Statistics, Econometrics and Mathematical Finance, School of Economics and Business Engineering,
Karlsruhe Institute of Technology

1989 – 1998
Professor, Department of Statistics and Applied Probability,
University of California at Santa Barbara. (1994-1995, Department Chairman)

1988 – 1988
Visiting Associate Professor,
State University of New York at Stony Brook.

1987 – 1987
John H. Van Vleck, Visiting Professor, Wesleyan University,
Connecticut, and Visiting Associate Professor, Centre for Stochastic Processes,
University of North Carolina at Chapel Hill.

1984 – 1986
Senior Research Fellow, Bulgarian Academy of Sciences, and
Visiting Senior Research Fellow, Steklov Mathematical Institute, Academy of Sciences of the USSR, Moscow.

1980 – 1984
Research Fellow, Mathematical Institute, Bulgarian Academy of Sciences.

1977 – 1979
Post-graduate Student, Lomonosov University, Faculty of Mechanics and Mathematics, Department of Probability, Moscow, USSR

1974 – 1977
Mathematician, Mathematical Institute, Bulgarian Academy of Sciences.

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AWARDS

Fellow of the Institute of Mathematical Statistics,
Elected Member of the International Statistical Institute,
Foreign Member of the Russian Academy of Natural Science,
Honorary Doctor of Science at St. Petersburg Technical University,
Senior Humboldt Professor Award (1997)

PUBLISHED/BROADCAST INTERVIEWS

ZARI RACHEV. FACTBOX-TOOLS TO PREDICT MARKET SHOCKS, REUTERS, MAY 24, 2009.
https://www.reuters.com/article/models-math/factbox-tools-to-predict-marketshocks-idUSL169274620090525
https://www.reuters.com/article/us-models-finanalytica/assessing-the-risk-ofa-cataclysm-idUSTRE54O00R20090525

RISIKOMANAGER JOURNAL: Interview with Prof. Dr. Svetlozar Rachev, Chair of Statistics, Econometrics and Mathematical Finance at University of Karlsruhe (TH) and Prof. Stefan Mittnik (Ph.D.) Chair of Financial Econometrics at University of Munich New Approaches for Portfolio Optimization Parting with the Bell Curve
https://statistik.econ.kit.edu/download/doc_secure1/RM-Interview-RachevMittnik-EnglishTranslation.pdf

PATENTS

RACHEV ET. AL. SYSTEM AND METHOD FOR THE VALUATION OF DERIVATIVES
United States Patent, Serial No.: 10/888,414, Filed July 9, 2004, Docket No.: 031/0424:US.UTL,Patent Number 7,630,931, Date of Patent: Dec. 8, 2009

RACHEV ET. AL. SYSTEM AND METHOD FOR PROVIDING OPTIMIZATION OF A FINANCIAL PORTFOLIO USING A PARAMETRIC LEPTOKURTIC
Distribution United States Patent, Serial No.: 10/888,414, Filed July 9, 2004,Decket No.: 031/0424.US.UTL, May, 2010.

RACHEV ET. AL. RISK MANAGEMENT SYSTEM AND METHOD FOR DETERMINING RISK CHARACTERISTICS EXPLAINING HEAVY TAILS OF RISK FACTORS
U.S. Patent Trademark Office, Patent Number 7,778,897, August 17, 2010

RACHEV ET. AL. SYSTEM AND METHOD FOR PROVIDING REALLOCATION AND REVERSE OPTIMIZATION OF A FINANCIAL PORTFOLIO USING A PARAMETRIC LEPTOKURTIC Distribution, United States Patent, U.S. Patent Trademark Office, Patent Number 7,890,409, February 15, 2011

RACHEV ET. AL. SYSTEM AND METHOD FOR GENERATING RANDOM VECTORS FOR ESTIMATING PORTFOLIO RISK
United States Patent, U.S. Patent Trademark Office, Patient Number 8,170,941, May 1, 2012

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LIST OF THE PH.D. STUDENTS OF SVETLOZAR RACHEV

1. PRACHI CHATURVEDI (UCSB, DEPARTMENTS OF STATISTICS AND APPLIED PROBABILITY)
2. BESSY ATHANASOPOULOS (UCSB, DEPARTMENTS OF STATISTICS AND APPLIED PROBABILITY)
3. BERTRAND GAMROWSKI (ECOLE POLYTECHNIQUE, PARIS)
4. THOMAS KOZUBOWSKI (UCSB, DEPARTMENTS OF STATISTICS AND APPLIED PROBABILITY)
5. ANNA PANORSKA (UCSB, DEPARTMENTS OF STATISTICS AND APPLIED PROBABILITY)
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26. MICHAEL GREBECK (UCSB, DEPARTMENTS OF STATISTICS AND APPLIED PROBABILITY)
27. JORGE HERNANDEZ (UCSB, DEPARTMENTS OF STATISTICS AND APPLIED PROBABILITY)
28. CARLO MARINELLI (COLUMBIA UNIVERSITY, DEPARTMENT OF STATISTICS)
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47. PIEPER, MICHAEL (KARLSRUHE, SCHOOL OF ECONOMICS AND BUSINESS ENGINEERING)
48. XIAOCHU ZHANG (STONY BROOK UNIVERSITY, DEPT. OF APPLIED MATH & STATISTICS)
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April 10, 1986.
Dissertation: "Probability metrics and their applications to the stability problems for stochastic models"

LIST OF THE POSTDOCTORAL STUDENTS OF SVETLOZAR RACHEV

1. Dr. Young Shin Kim (Karlsruhe Institute of Technology, School of Business and Economics)
2. Dr. Jiho Park (Texas Tech University, Dept. of Mathematics & Statistics)
3. Dr. Davide Lauria (Texas Tech University, Dept. of Mathematics & Statistics)

CURRENT TEACHING AT TTU

https://www.depts.ttu.edu/math/teaching/current_schedules.php

FALL 2023

MATH 4000-004 Selected Topics Intro to Mathematical Finance I
MATH 4342-001 Mathematical Statistics I
MATH 4343-D01 Mathematical Statistics II
MATH 7000-011 Research THE FINANCIAL MARKET OF ENVIRONMENTAL INDICES
MATH 7000-018 Research Option Pricing in Bachelier's Market Model
MATH 7000-019 Research ESG adjusted trinomial optional pricing model

PUBLICATIONS OF SVETLOZAR RACHEV

BOOKS & MONOGRAPHS
W. Brent Lindquist, Svetlozar T. Rachev, Yuan Hu, Abootaleb Shirvani, Advanced Tools for Risk Management, Springer series, "Dynamic Modeling and Econometrics in Economics and Finance", Springer, 2022.
https://www.springer.com/series/5859/books?page=1

Frank J. Fabozzi, Sergio M. Focardi, Svetlozar T. Rachev, and Bala Arshanapalli, Basics of Financial Econometrics: Tools, Concepts, and Asset Management Applications, Wiley, 2014.
https://onlinelibrary.wiley.com/doi/book/10.1002/9781118856406 2.

Stoyan Stoyanov, Svetlozar Rachev, Frank Fabozzi, Optimal Portfolio Management in Highly Volatile Markets, Scholars Press, 2013
https://www.amazon.com/Optimal-Portfolio-Management-Volatile- Markets/dp/3639514130

Rachev, S. T., Klebanov, L.B., Stoyanov, S.V., Fabozzi, F., The Methods of Distances in the Theory of Probability and Statistics, John Wiley, Finance, 2013
https://www.springer.com/gp/book/9781461448686

Rachev, S. T., Kim, Y., Bianchi, M., Fabozzi, F., Financial Models with Levy Processes and Volatility Clustering, Springer, New York 2011
http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470482354,descCd-tableOfContents.html

Rachev, S. T., Stoyanov, S. V., Fabozzi, F., A Probability Metrics Approach to Financial Risk Measures, Wiley – Blackwell, 2011
http://www.wiley.com/WileyCDA/WileyTitle/productCd-1405183691.html

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April 10, 1986.
Dissertation: "Probability metrics and their applications to the stability problems for stochastic models"

PUBLICATIONS OF SVETLOZAR RACHEV CONT.

Rachev, S. T., Hoechstoetter, M., Fabozzi, F., Focardi, S., Probability and Statistics for Finance, John Wiley, Finance, 2010
http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470400935.html

Klebanov, L., Rachev, S. T., Fabozzi, F., Robust and Non-Robust Models in Statistics, NOVA-Science Publishers, NY, 2009
https://www.novapublishers.com/catalog/product_info.php?products_id=10251

Trueck, S., Rachev, S. T., Rating Based Modeling of Credit Risk: Theory and Application of Migration Matrices, Academic Press Advances Finance, 2008
http://www.elsevier.com/wps/find/bookdescription.cws_home/716895/description#description

Rachev, S. T., Stoyanov, S., Fabozzi, F., Advanced Stochastic Models, Risk Assessment and Portfolio Optimization: The Ideal Risk, Uncertainty, and Performance Measures, John Wiley, Finance, 2007
http://www.wiley.com/WileyCDA/WileyTitle/productCd-047005316X.html

Rachev, S. T., Hsu, J., Bagasheva, B., Fabozzi, F., Bayesian Methods in Finance, John Wiley, Finance, 2007
http://www.wiley.com/WileyCDA/WileyTitle/productCd-0471920835.html

Rachev, S. T., Mittnik, S., Fabozzi, Frank J., Focardi, S., Jasic, T., Financial Econometrics: From Basics to Advanced Modeling Techniques, John Wiley, Finance, 2007
http://www.wiley.com/WileyCDA/WileyTitle/productCd-0471784508.html

Chernobai, A., Rachev, S. T., Fabozzi, F., Operational Risk: A Guide to Basel II Capital Requirements, Models and Analysis, John Wiley, Finance, 2007
http://www.wiley.com/WileyCDA/WileyTitle/productCd-0471780510.html

Klebanov, L. Kozubowski, T. Rachev, S. T., Ill-Posed Problems in Probability and Stability of Random Sums, NOVA Science Publishers, New York, 2006
https://www.novapublishers.com/catalog/product_info.php?products_id=4546

Rachev, S. T., Menn, C., Fabozzi, F., Fat-Tailed and Skewed Asset Return Distributions: Implications for Risk Management, Portfolio selection and Option Pricing, John Wiley, Finance, 2005
http://www.wiley.com/WileyCDA/WileyTitle/productCd-0471718866.html

Rachev, S. T., Mittnik, S., Stable Paretian Models in Finance, John Wiley, Series in Financial Economics and Quantitative Analysis, Chechester, New York, 2000
http://www.wiley.com/WileyCDA/WileyTitle/productCd-0471953148.html

Rachev, S. T., Rueschendorf, L., Mass Transportation Problems, Vol II: Applications, Springer, New York, 1999
http://www.springer.com/statistics/book/978-0-387-98352-3

Rachev, S. T., Rueschendorf, L., Mass Transportation Problems, Vol I: Theory, Springer, New York, 1998
http://www.springer.com/mathematics/probability/book/978-0-387-98350-9construction_of.html?id=2_V9AAAAIAAJ

Rachev, S. T., Rueschendorf, L., Mass Transportation Problems, Vol I: Theory, Springer, New York, 1998
http://www.springer.com/mathematics/probability/book/978-0-387-98350-9

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PUBLICATIONS OF SVETLOZAR RACHEV CONT.

Rachev, S. T., Probability Metrics and the Stability of Stochastic Models, Wiley, Chichester, New York, 1991
http://books.google.com/books/about/Probability_metrics_and_the_stability_of.html?id=5grvAAAAMAAJ

Kashnikov, V., Rachev, S T., Mathematical methods for construction for queuing models, Moscow, Nauka, (in Russian) 1988, English translation, Wadsworth & Brooks/Cole Advanced Books, 1990.
http://books.google.com/books/about/Mathematical_methods_for_construction_of.html?id=2_V9AAAAIAAJ

Kakosyan, A., Klebanov, L., Rachev, S. T., Quantitative Criteria for Convergence of Measures, Erevan, Ajastan Press, 1978 (in Russian)

HANDBOOKS & SPECIAL VOLUMES

W. Lindquist, S. Rachev (2023) Mathematical and Empirical Finance, a special issue of the Journal of Risk & Financial Management, Journal of Risk & Financial Management

Rachev, S.T., Sun, E, Fabozzi, F, Charchano O, Kim, Y, A Quasi-Maximum Likelihood Estimation Strategy for Value-at Risk Forecasting: Application to Equity Index Futures? Markets, Handbook of Financial Econometrics and Statistics, SpringerReference.com April 15, 2013.

Rachev, S.T., Chernobai, A., Fabozzi F, Composite Goodness-of-Fit Tests for Left Truncated Loss Sample, SpringerReference.com April 15, 2013.

Rachev, S. T., Fabozzi, F., (Guest Editors), Special Issue on Studies in Mathematical and Empirical Finance, Mathematical Methods of Operations Research, Vol. 69/3, July, 2009
http://www.springerlink.com/content/1432-2994/69/3/

Bol, G., Rachev, S. T., Würth, R., (Editors), Risk Assessment: Decisions in Banking and Finance, Springer/Physika, 2009
http://www.springer.com/business+%26+management/finance/book/978-3-7908-2049-2

Rachev, S. T. (Editor), Handbook of Computational and Numerical Methods in Finance, Birkhäuser, Boston, 2004
http://www.springer.com/birkhauser/mathematics/book/978-0-8176-3219-9

Bol, G., Nakhaeizadeh, G., Rachev, S. T., Rieder, T., Vollmer, K., (Editors), Credit Risk: Measurement, Evaluations and Management, Springer Verlag, Physika-Verlag Series, Heidelberg, NY, 2003
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Rachev S. T. (Editor), Handbook of Heavy Tailed Distributions in Finance, North Holland Handbooks of Finance, Elsevier/North-Holland, Amsterdam, Boston, London, NY, 2003
http://www.elsevier.com/wps/find/bookdescription.cws_home/622468/description#description

Rachev, S. T. (Editor), Mathematical Models in Market and Credit Risk Editor, Mathematical Methods of Operations Research, Vol. 55/2, 2002, Springer, NY
http://www.springerlink.com/content/1432-2994/55/2/

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Rachev, S.T., Sun, E, Fabozzi, F, Charchano O, Kim, Y, A Quasi-Maximum Likelihood Estimation Strategy for Value-at Risk Forecasting: Application to Equity Index Futures? Markets, Handbook of Financial Econometrics and Statistics, SpringerReference.com April 15, 2013.

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