LMU

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MRIC | Munich Risk and Insurance Center

MRIC ANNUAL REPORT 2024

MRIC Annual Report 2024

Contents

1. Governance of the Munich Risk and Insurance Center

Advisory Board

Dr. Andreas Bittl (Allianz)
Prof. Dr. Thomas Hartung (Universität der Bundeswehr München)
Dr. Robert Heene (Versicherungskammer Bayern)
Prof. Dr. Bernd Huber (Ludwig-Maximilians-Universität München)
Dr. Achim Kassow (Munich Re)
Dr. Hans-Peter Kraußer (Bayerisches Staatsministerium für Wirtschaft, Landesentwicklung und Energie)
Dr. Stephanie Müller (Possehl Analytics)
Wolfgang Reichel (LV 1871)
apl. Prof. Dr. Jochen Ruß (Institut für Finanz- und Aktuarwissenschaften – Gesellschaft für Finanz- und Aktuarwissenschaften)
Dr. Herbert Schneidemann (die Bayerische)

Executive Board

Prof. Dr. Thomas Ackermann, LL.M. (Chair for Civil Law, European and International Business Law)
Prof. Dr. Francesca Biagini (Workgroup in Financial and Insurance Mathematics)
Prof. Dr. Johannes Jaspersen (Professorship for Behavioral Risk Management and Insurance)
Dr. Johannes Maier (Institute for Risk Management and Insurance)
Prof. Dr. Andreas Richter (Institute for Risk Management and Insurance)

Managing Director

Dr. Johannes Maier (Institute for Risk Management and Insurance)

2. Members of the Munich Risk and Insurance Center

Professors at Ludwig-Maximilians-Universität München

Prof. Dr. Thomas Ackermann, LL.M. (Chair for Civil Law, European and International Business Law)
Prof. Dr. Francesca Biagini (Workgroup in Financial and Insurance Mathematics)
PD Dr. Dirk Deckert (Workgroup in Financial and Insurance Mathematics)
Prof. Dr. Ralf Elsas (Institute for Finance and Banking)

Prof. Dr. Florian Englmaier (Chair of Organizational Economics)
Prof. Dr. Christian Fries (Workgroup in Financial and Insurance Mathematics)
Prof. Dr. Markus Glaser (Institute for Capital Markets and Corporate Finance)
Prof. Dr. Thomas Hess (Institute for Information Systems and New Media)
Prof. Dr. Johannes Jaspersen (Professorship for Behavioral Risk Management and Insurance)
Prof. Dr. Reiner Leidl (Institute for Health Economics and Health Care Management)
Prof. Dr. Felix-Benedikt Liebrich (Workgroup in Financial and Insurance Mathematics)
Prof. Dr. Thilo Meyer-Brandis (Workgroup in Financial and Insurance Mathematics)
Prof. Stefan Mittnik, Ph.D. (Seminar for Financial Econometrics)
PD Dr. Ari-Pekka Perkkiö (Workgroup in Financial and Insurance Mathematics)
Prof. Dr. Andreas Richter (Institute for Risk Management and Insurance)
Prof. Dr. Manfred Schwaiger (Institute for Market-Based Management)

Assistant, Associate, and Interim Professors at Ludwig-Maximilians-Universität München

Dr. Alexander Kalinin (Workgroup in Financial and Insurance Mathematics)
Dr. Johannes Maier (Institute for Risk Management and Insurance)

Research Assistants at Ludwig-Maximilians-Universität München

Björn Baumann (Chair for Civil Law, European and International Business Law)
Lorenzo Berti (Workgroup in Financial and Insurance Mathematics)
Georg Bollweg (Workgroup in Financial and Insurance Mathematics)
Leonardo Covis (Institute for Risk Management and Insurance)
Andreas Dambaur (Professorship for Behavioral Risk Management and Insurance)
Eva Fischer (Chair for Civil Law, European and International Business Law)
Julia Holzapfel (Institute for Risk Management and Insurance)
Julia Karczewski (Workgroup in Financial and Insurance Mathematics)
Leonard Külpp (Institute for Risk Management and Insurance)
Paulina La Bonte (Institute for Risk Management and Insurance)
Jialing Lin (Institute for Risk Management and Insurance)
Jonathan Cornelius Maisch (Chair for Civil Law, European and International Business Law)
Kerry McCabe (Institute for Risk Management and Insurance)
Mareike Neumayer (Chair for Civil Law, European and International Business Law)
Shazana Rohr (Chair for Civil Law, European and International Business Law)
Annika Steibel (Workgroup in Financial and Insurance Mathematics)
Elisabeth Stöckl (Institute for Risk Management and Insurance)
Severin Uhsler (Chair for Civil Law, European and International Business Law)
Niklas Walter (Workgroup in Financial and Insurance Mathematics)
Niklas Weber (Workgroup in Financial and Insurance Mathematics)

Associated Members

Dr. Nikolaos Argyris (Loughborough University)
Dr. Vijay Aseervatham (Swiss Re)
Dr. Klaus Bender (Swiss Re)

Prof. Dr. Enrico Biffis (Imperial College London)
Prof. Patricia Born, Ph.D. (Florida State University)
Prof. Mark Browne, Ph.D. (St. John’s University)
Prof. Richard Butler, Ph.D. (Global Center for Longevity Risk Management at SWUFE)
Prof. Benjamin Collier, Ph.D. (Temple University)
Prof. Randy Dumm, Ph.D. (Temple University)
Prof. Louis Eeckhoudt, Ph.D. (IÉSEG School of Management and C.O.R.E.)
Prof. (em.) Dr. Dr. h.c. Roland Eisen (Goethe Universität Frankfurt am Main)
Dr. Tobias Gerstner (KPMG)
Dr. Michael Hanselmann (Technische Universität München)
Prof. Dr. Thomas Hartung (Universität der Bundeswehr München)
Markus Huber, MBR (Ludwig-Maximilians-Universität München)
Dr. Tobias Huber (Allianz)
Dr. Bernd Jäger (Allianz)
Dr. Verena Jäger (Allianz)
Pierre Joos (v3 consulting)
Dr. Barbara Klimaszewski-Blettner (Allianz)
Dr. Alexander Kling (Institut für Finanz- und Aktuarwissenschaften – Gesellschaft für Finanz- und Aktuarwissenschaften)
Dr. Christian Knoller (Allianz)
Prof. Dr. Martin Kocher (Federal Minister of Labor and Economy, Austria)
Dr. Gunther Kraut (Munich Re)
Dr. Andreas Kunz (Munich Re)
Dr. Alex Langnau (Allianz)
Dr. Christoph Lex (Munich Re)
Dr. Lu Li (Munich Re)
Dr. Peter Liebwein (Swiss Re)
Dr. Dominik Lohmaier (Versicherungskammer Bayern)
Prof. Richard MacMinn, Ph.D. (National Chengchi University)
Prof. Dr. Edgar Neuburger (Institut für Wirtschaftsmathematik und betriebliche Altersversorgung)
Dr. Stefan Neuß (Diözese Passau)
Dr. Laila Neuthor (we4 Impact)
Dr. Peter Ott (EY)
Prof. Dr. Richard Peter (University of Iowa)
Prof. Kai Purnhagen, Ph.D., LL.M. (University of Bayreuth)
Prof. Marc Ragin, Ph.D. (University of Georgia)
Prof. Dr. Paul Raschky (Monash University)
Dr. Sophie-Madeleine Roth (Munich Re)
Prof. (em.) Dr. Wolfgang Runggaldier (University of Padova)
Dr. Rainer Sachs (Munich Re)
Prof. Dr. Jörg Schiller (Universität Hohenheim)
Dr. Herbert Schmidt (riva solutions)
Pascal Schoenmaekers (Munich Re)
Dr. Günter Schwarz (Munich Re)

Dr. Sebastian Soika (Munich Re)
Prof. Dr. Petra Steinorth (Universität Hamburg)
Dr. Sebastian Strasser (Swiss Re)
Dr. Dennis Strümpel (ShoulderByte GmbH)
Yunjie Sun, Ph.D. (EY)
Prof. Dr. Gregor Svindland (Leibniz Universität Hannover)
Brandon Sweitzer (St. John's University)
Prof. Paul Thistle, Ph.D. (University of Nevada, Las Vegas)
Dr. Frederik Weber (Munich Re)
Hon.-Prof. Thomas Wilson, Ph.D. (Allianz)
Dr. Michael Wolgast (twp Berlin)
Dr. Ferdinand Zahn (Munich Re)
Prof. Dr. Aihua Zhang (University of Leicester)

3. Personnel

The following persons worked at the institutes involved in the Munich Risk and Insurance Center during the reporting period:

3.1 Personnel at the Institute for Risk Management and Insurance

Professors

Prof. Dr. Andreas Richter
Hon.-Prof. Thomas Wilson, Ph.D.

Assistant Professors

Dr. Johannes Maier

Research Assistants

Leonardo Covis
Julia Holzapfel
Leonard Külpp
Paulina La Bonte
Jialing Lin
Kerry McCabe
Elisabeth Stöckl

Other Doctoral Candidates

Benjamin Heidler
Markus Huber
Pierre Joos

Administrative Staff

Katrin Unterberger

Lecturers

Dr. Klaus Bender (Swiss Re)
Prof. Patricia Born, Ph.D. (Florida State University)
Prof. Oliver Brand, LL.M. (Universität Mannheim)
Verena von Dehn (von Dehn & Neelsen Consulting)
Prof. Randy Dumm, Ph.D. (Temple University)
Prof. Dr. Ralf Elsas (Ludwig-Maximilians-Universität München)
Dr. Florian Gallasch (Munich Re)
Emilio Galli Zugaro (Methodos S.p.A., Orvieto Academy)
Prof. Dr. Dietmar Harhoff (Max-Planck-Institut für Innovation und Wettbewerb)
Prof. Dr. Thomas Hartung (Universität der Bundeswehr München)
Prof. Dr. Thomas Hess (Ludwig-Maximilians-Universität München)
Prof. Dr. Michael Hubbel (Temple University)
Dr. Alexander Kling (Institut für Finanz- und Aktuarwissenschaften – Gesellschaft für Finanz- und Aktuarwissenschaften)
Dr. Ralf Klotzbücher (riva solutions)
Dr. Christian Knoller (Allianz)
Prof. Dr. Johann Kranz (Ludwig-Maximilians-Universität München)
Prof. Dr. Tobias Kretschmer (Ludwig-Maximilians-Universität München)
Dr. Peter Liebwein (Swiss Re)
Prof. Dr. Stefan Mittnik (Ludwig-Maximilians-Universität München)
Dr. Stephanie Müller (Possehl Analytics)
Prof. Dr. Richard Peter (University of Iowa)
Dr. Joachim Rawolle (Capgemini)
Dr. Manfred Reichl (MR Advisory)
Dr. Andreas Reuß (Institut für Finanz- und Aktuarwissenschaften – Gesellschaft für Finanz- und Aktuarwissenschaften)
apl. Prof. Dr. Jochen Ruß (Institut für Finanz- und Aktuarwissenschaften – Gesellschaft für Finanz- und Aktuarwissenschaften)
Prof. Dr. Jörg Schiller (Universität Hohenheim)
Prof. Dr. Manfred Schwaiger (Ludwig-Maximilians-Universität München)
PD Dr. Günter Schwarz (Munich Re)
Prof. Dr. Uwe Sunde (Ludwig-Maximilians-Universität München)
Jie Ying, Ph.D. (Southern Illinois University)
Iris Zeppezauer (Sekunde Eins)

Student Assistants

Theresa Mayer
Sebastian Schuller
Carlo Schumacher

3.2 Personnel at the Workgroup in Financial and Insurance Mathematics

Professors

Prof. Dr. Francesca Biagini
PD Dr. Dirk Deckert
Prof. Dr. Christian Fries
Prof. Dr. Thilo Meyer-Brandis
Prof Dr. Katharina Oberpriller
PD Dr. Ari-Pekka Perkkiö

Assistant Professors

Dr. Alexander Kalinin (Interim Professor)

Other Doctoral Candidates

Georg Bollweg
Julia Karczewski
Annika Steibel
Niklas Walter
Niklas Weber

Administrative Staff

Anna Warlimont

Lecturers

Dr. Henning Christ (Munich Re)
Dr. Andreas Lenckner (Allianz)
Korbinian Meindl (Neuburger & Partner)
Dr. Ulrich Riegel (Munich Re)
Dr. Irene Schreiber (Deloitte)
Dr. Christoph Wagner (EY)
Dr. Yinglin Zhang (Hannover Re)

3.3 Personnel at the Chair for Civil Law, European and International Business Law

Professor

Prof. Dr. Thomas Ackermann, LL.M.

Research Assistants

Konstantin Bachmann
Johannes Melchior Blaschczok
Eva Fischer

Frederik Junker
Leonie Frederike Ott
Shazana Rohr

Administrative Staff

Martina Schmidt

Student Assistants

Nour Al-Khumeisi
Yifeng Dong
Melanie Friedl
Luca Giehl
Julia Goßen
Sophie Zäuner

3.4 Personnel at the Professorship for Behavioral Risk Management and Insurance

Professor

Prof. Dr. Johannes Jaspersen

Research Assistant

Andreas Dambaur

Other Doctoral Candidates

Pengcheng Ren

4. Courses

4.1 Courses at the Institute for Risk Management and Insurance

Summer Term 2024

Bachelor of Science:

Risiko und Versicherung (Richter, Yin)
Versicherungsbilanzen (Knoller, Stöckl)
Praxis der PR: Communicative Leadership (Galli Zugaro)
Hauptseminar: Insurance Demand and New Business Models (Richter, Holzapfel)
Case Studies in Enterprise Risk Management (Dumm, Hubbel, Külpp)
START with Business Modelling (Covis)
Integrating AI Tools in Risk and Insurance (Külpp)

Master of Science:

Insurance Economics (Maier)
Reinsurance (Liebwein)
Projektkurs: Versicherungsmanagement (Maier)
Value-Based Management of Financial Institutions (Wilson)
Financial Risk Management (Glaser, Richter, Külpp)

Master of Business Research:

Microeconomic Modeling Methods (Peter)

Additional Seminars:

Forschungsseminar Finance and Risk Seminar (Jaspersen, Richter, Glaser, Elsas, Riordan)
Vertiefungskolloquium (Covis, Holzapfel, Külpp, McCabe, La Bonte, Richter, Stöckl, Yin)

Executive Master of Insurance:

Corporate Finance (Elsas)
Current Trends in Finance and Insurance (Hartung, Reuß)
Data Analysis (Mittnik)
Insurance Accounting (Gallasch, Knoller)
Value-Based Management of Insurance Companies (Wilson)

Winter Term 2024/2025

Bachelor of Science:

Insurance Management (Maier, McCabe, Stöckl)
Risiko und Versicherung (Richter, Külpp)
Decisions (Maier, Külpp)
Praxis der PR: Communicative Leadership (Galli Zugaro)
Hauptseminar: Information and Insurance (Richter, McCabe)
Proseminar: Catastrophe Risk Management (Born)

Master of Science:

Advanced Risk Management (Richter, La Bonte)
Proseminar: Aktuelle Entwicklungen in der Altersvorsorge (Ruß, Kling)
Proseminar: Asset Liability Management (Schwarz)
Behavioral Decision Making (Maier)

Additional Seminars:

Forschungsseminar Finance and Risk Seminar (Jaspersen, Richter, Glaser, Elsas, Riordan)
Vertiefungskolloquium (Covis, Külpp, McCabe, La Bonte, Richter, Stöckl, Yin)

Executive Master of Insurance:

Business Models and Current Challenges (Müller, Zeppezauer)
Corporate Governance (Reichl)
Digital Transformation in the Insurance Industry (Kranz, Müller)

General Business Administration (Hartung, Schiller)
General Economics (Harhoff, Sunde, Kretschmer)
Insurance Management and Economics – Principles (Richter)
Insurance Marketing (Schwaiger)
Law and Regulation (Brand, Schiller)
Management Simulation Game (Klotzbücher, von Dehn)
Mathematics Preparatory Course (Knoller)
Quantitative Methods (Knoller)
Risk Management (Bender)
Risk Theory (Knoller, Jaspersen)
Seminar: Insurance Research Projects (Richter)

4.2 Courses at the Workgroup in Financial and Insurance Mathematics

Summer Term 2024

Bachelor Financial Mathematics:

Angewandte Finanzmathematik (Perkkiö)

Master Financial Mathematics:

Finanzmathematik III / Fixed Income Markets and Credit Derivates (Meyer-Brandis, Steibel)
Finanzmathematik IV / Quantitative Risk Management (Oberpriller, Bollweg)
Numerical Methods for Financial Mathematics (Fries, Weber, Walter)
Introduction to Object-Oriented Programming in Java (Walter)
Financial Modelling with Stochastic Partial Differential Equations (Kalinin)

Additional Seminars:

Forschungsseminar Advanced Topics in Mathematical Finance (Meyer-Brandis)
Pricing and Hedging Techniques in Incomplete Markets: Mean-Variance Hedging and Risk Minimization (Zhang)
Versicherungsmathematisches Kolloquium (Biagini, Oberpriller, Fürhaupter, Meyer-Brandis, Schneemeier, Neuburger)
Oberseminar Finanz- und Versicherungsmathematik (Biagini, Meyer-Brandis, Scherer, Zagst, Knochenhauer, Min)
Risk and Insurance (Oberpriller)
Quantitative Finance Interview Preparation Class (Weber)
LMU Spring Workshop on Finance, Stochastics, and Statistics (Perkkiö, Walter)

Winter Term 2024/2025

Bachelor Financial Mathematics:

Finanzmathematik in diskreter Zeit (Oberpriller, Bollweg)

Master Financial Mathematics:

Computational Finance and Object Orientated Implementation (Fries, Weber)
Convex Stochastic Optimization (Perkkiö)

Finanzmathematik II / Stochastic Calculus and Arbitrage Theory in Continuous Time (Meyer-Brandis, Steibel, Karczewski)
Modellierung und Enterprise Risk Management (Schreiber)
Stochastic Processes (Kalinin)

Additional Seminars:

Forschungsseminar Advanced Topics in Mathematical Finance (Meyer-Brandis)
LMU Christmas Workshop in Stochastics and Finance (Perkkiö, Kalinin, Weber)
Reading Course: Martingales in Continuous Times (Kalinin)
Oberseminar Finanz- und Versicherungsmathematik (Biagini, Meyer-Brandis, Min, Scherer, Zagst)
Stochastic Differential Equations (Kalinin)
Extreme Value Theory with Applications in Finance and Insurance (Oberpriller)
Versicherungsmathematisches Kolloquium (Biagini, Fürhaupter, Meyer-Brandis, Neuburger, Oberpriller, Schneemeier)

4.3 Courses at the Professorship for Behavioral Risk Management and Insurance

Summer Term 2024

Master of Business Research:

Basic Readings in Accounting and Finance (Jaspersen)

Winter Term 2024/2025

Bachelor of Science:

Behavioral Aspects of Risk Management and Insurance (Jaspersen, Dambaur)
Entscheidungen unter Risiko (Jaspersen, Dambaur)

Master of Business Research:

Experimental Methods (Jaspersen)
Readings in Finance and Insurance (Jaspersen)

5. Final Theses

5.1 Completed Theses at the Institute for Risk Management and Insurance

Bachelor Theses

Climate Change and Insurance Demand
Climate Change and Risk Theory: Expected Utility versus Maxmin Regret
Theoretical Analysis of Economic Incentives in Workers Compensation Insurance
Health Insurance Systems: A Comparison Between Germany and Australia
The Impact of Social Isolation on Woman’s Wellbeing: A Comparative Study

Precautionary Savings of Natives and Immigrants: Evidence Based on Microdata in Germany
The Adoption, Impact and Measurement of Enterprise Risk Management
Sustainable = Profit? An Empirical Analysis of ESG-Scores and their Value Relevance for Insurance Companies
The Impact of Genetic Testing on Health Insurance Market Equilibria
Tools for Mitigating Climate Risk
Lonelier during Pandemic? Evidence from a Longitude Survey
Microinsurance for Major Disasters? Microinsurance as a Potential Climate Change Mitigator
Charity Hazard – The Effect of Government Compensation on Insurance Demand
Environmental Performance in the Insurance Industry: A Comparative Analysis of Climate Change Risk Awareness, Environmental Scores and Firm Value
An Economic Analysis of Corporate Cyber Risk Management Strategies
A Comparative Study of General and Domain-Specific Risk Attitude
The Degree of Downside Risk Aversion
Explaining Behavioral Anomalies by Non-Bayesian Belief Updating
Microinsurance for Major Disasters? Microinsurance as a Potential Climate Change Mitigator
Competition and Premiums in Healthcare Markets
Envy and Altruism – How Does Others' Wealth Influence Own Utility?
Lifelong Annuities in German Private Pensions
Determinants of Genetic Testing Uptake
Externality Problems in Interdependent Networks
Institutional Variations in Flood Insurance: An International Comparison
Revisiting Underwriting Risk: An Analysis of the Effect of Premium Growth on Loss Ratios
InsurTech as a Tool for Mitigating Climate Change

Master Theses

Risk Management and Bank Performance during the 2023 U.S. Banking Crisis
Navigating Uncertainty: The Impact of Information on Decision-Making under Risk with Applications to Pandemic Risk Management
The Value of a Statistical Life in the Light of the Covid-19 Pandemic
Development of a Predictive Risk-Pricing and Management Model for Micromobility Sharing
Self-Protection and Offsetting Effects: An Application to Governmental Policies Addressing Pandemic Risk
Mitigating Nonperformance Risk in Insurance Contracts: Models and Measures
Prevention: Subsidies and the Influence of Savings Decisions
ESG and Insurance Firm Performance
Corporate Cyber Risk Management with Interdependent Risks and Uninsurable Losses
Volatility Risk of Green Bonds

Doctoral Theses

Holzapfel, Julia: Essays on Information Asymmetries and Risk Classification in Insurance

5.2 Completed Theses at the Workgroup in Financial and Insurance Mathematics

Bachelor Theses

Valuation of Hybrid Financial and Actuarial Products in Life Insurance by a Novel 3-Step Method

Climate Impact Investing

Discrete-Time Portfolio Optimization under Maximum Drawdown Constraint with Partial Information and Deep Learning Resolution

Time Consistency in Mean-Variance Portfolio Selection

Expectation Constraints in Convex Stochastic Optimization

Master Theses

Portfolio Optimization with Ambiguous Correlation

Sequential Vine Copula Selection Algorithm

Derivative Hedging Using Reinforcement Learning Methods

Considering Investors with Different Green Preferences in the Decarbonisation of Financial Markets: A Mean-Field Game Approach

Evaluating Risk Measures: A Comparative Analysis of Value at Risk and Expected Shortfall

Pricing CAT futures in a Stochastic Volatility Setting: An Extension to the Italien Weahter Market

The Development of the Carbon Price as a Driver of Transition Scenario Uncertainty in Corporate Bonds

Assessing the Impact of Pro-Environmental Investing and Penalization on Corporate Greenwashing Practices

Portfolio Optimization Using Quantile Functions and Wasserstein Distance

Water-Related Climate Risk Analysis and Water Trading with Index Return Forecast

Cooperation and Collective Arbitrage in Multi-Agent Markets

Development of Two Stochastic Covariance Matrix Models for Commodity Markets

Extension of the Gibson-Schwartz and Schwartz-Smith Model for Commodity Markets

Bermudan Swaption Pricing under the Cheyette Model

Nonlinear Valuation with XVAs: Two Converging Approaches

Applications of Optimal Control and Maximum Principles in Modeling CO2 Emmisions and Credit Risk

Development of a Predictive Risk Pricing and Management Model for Micromobility Sharing

9 Equivalence Hypotheses on Whether Convex Functions and Decreasing Functions Retain Semi-Martingale Properties

Elicitability and Identifiability of Set-Valued Measures of Systemic Risk

Stochastic Dual Dynamic Programming and Portfolio Optimization

Galerkin Stochastic Dual Dynamic Programming

Default Forward Rate Models for the Valuation of Loans

Margin Valuation Adjusted Based on LCH SwapClear and Monte Carlo LIBOR Market Models

Pricing American Options: Analysis of a Primal-Dual Simulation Algorithm

Doctoral Theses

Walter, Niklas: Topics on Rough Volatility Models

5.3 Completed Theses at the Professorship of Behavioral Risk Management and Insurance

Bachelor Theses

Decision Making under Pressure
Left-Digit Bias
A Comparative Analysis of the Behavior of Professionals and Non-professionals
Keeping up with the Joneses? Peer Effects in Decision Making
Dealing with Flood Risks
Preparing for Retirement

6. Publications

Biagini, F.; Gonon, L.; Mazzon, A.; Meyer-Brandis, T.: Detecting asset price bubbles using deep learning, Mathematical Finance, 35 (1), 74-110, 2024

Biagini, F.; Gonon, L.; Walter, N.: Approximation Rates for Deep Calibration of (Rough) Stochastic Volatility Models, SIAM Journal on Financial Mathematics, 15 (3), 734-784, 2024

Brigo, D.; Graceffa, F.; Kalinin, A.: Mild to classical solutions for XVA equations under stochastic volatility, SIAM Journal on Financial Mathematics, 15 (1), 215-254, 2024

Geuchen, B.; Oberpriller, K.; Schmidt, T.: Affine models with path-dependence under parameter uncertainty and their application in finance, International Journal of Theoretical and Applied Finance, 27 (2), 2024

Holzapfel, J.; Peter, R.; Richter, A.: Mitigating moral hazard with usage-based insurance, Journal of Risk and Insurance, 91 (4), 813-839, 2024

Kalinin, A.; Meyer-Brandis, T.; Proske, F.: Stability, uniqueness and existence of solutions to McKean–Vlasov SDEs: a multidimensional Yamada–Watanabe approach, Stochastics and Dynamics, 24 (5), 2024

Kalinin, A.; Meyer-Brandis, T.; Proske, F.: Stability, uniqueness and existence of solutions to McKean–Vlasov stochastic differential equations in arbitrary moments, Journal of Theoretical Probability, 37 (4), 2941-2989, 2024

Oberpriller, K.; Ritter, M.; Schmidt, T.: Robust asymptotic insurance-finance arbitrage, European Actuarial Journal, 14, 929-963, 2024

Pennanen, T.; Perkkiö, A.-P.: Dual solutions in convex stochastic optimization, Mathematics of Operations Research, 2024

Pennanen, T.; Perkkiö, A.-P.: Convex Stochastic Optimization - Dynamic Programming and Duality in Discrete Time (Book), Probability Theory and Stochastic Modelling (PTSM), 107, 2024

Perkkiö, A.-P.; Treviño-Aguilar, E.: Convex integral functionals of càdlàg processes, Stochastic Processes and their Applications, 181, 104561, 2025

Richter, A.; Schiller, J.: Die Zukunft der deutschen Rentenversicherung: Möglichkeiten kapitalgedeckter Vorsorge und die Rolle lebenslanger Renten, ifo Schnelldienst, 12, 2024

7. Working Papers

Biagini, F.; Gonon, L.; Walter, N.: Universal Randomized Signatures for Generative Time Series Modelling

Biagini, F.; Mazzon, A.; Oberpriller, K.: Multi-dimensional Fractional Brownian Motion in the G-Setting

Bollweg, G.; Meyer-Brandis, T.: Mean-Field SDEs Driven by G -Brownian Motion

Boyer, M.; Stöckl, E.: Moral Hazard with Interdependent Risks: The Effect of Ex-Post Effort Verification in Cyber Insurance

Chudik, A.; Ellis, C.; Jaspersen, J.: Constructed Regressors and Overlapping Fixed Effects

Collier, B.; Huber, T.; Jaspersen, J.; Richter, A.: Homeowners' Willingness To Hedge Flood Risks as Prices Increase

Dambaur, A.: Risk-Taking under Social Pressure

De Ambroggio, U.; Makai,T.; Panagiotou, K.; Steibel, A.: Limit Laws for Critical Dispersion on Complete Graphs

Elsas, R.; Jaspersen, J.; Luz, V.: Ambiguity and the Skewness Premium

Fries, C.: Climate Models and Interest Rate Risk: How Interest Rate Risk Affects Inter-Generational Equity in Climate Models

Fries, C.: Fair Share of GDP to Mitigate Climate Change Costs (According to DICE)

Fries, C.: Implied CO_2-Price and Interest Rate of Carbon

Fries, C.: A Proposal for a Lean and Functional Delivery Versus Payment Across Two Blockchains

Fries, C.; Quante, L.: Intergenerational Equitable Climate Change Mitigation: Negative Effects of Stochastic Interest Rates; Positive Effects of Financing

Gonon, L.; Meyer-Brandis, T.; Weber, N.: Computing Systemic Risk Measures with Graph Neural Networks

Jaspersen, J.; Ragin, M.; Peter, R.: Insurance and the Preference for Early Resolution of Uncertainty

Kalinin, A.: Resolvent and Gronwall Inequalities and Fixed Points of Evolution Operators

Maier, J.; Quint, M.: The Interaction of Memory Imperfections

Richter, A., Schiller, J.; Stöckl, E.: Insurance in Credence Goods Markets - Risk Transfer and Fraud Prevention

Stöckl, E.: Claimant Fraud in Workers Compensation – How Firms Discipline Their Workers

8. Conference Presentations and Invited Lectures

American Risk and Insurance Association Annual Meeting, Denver, USA, August 2024: **Dambaur, A.; Maier, J.; Külpp, L.; Stöckl, E.**

Bachelier Finance Society World Congress, Rio de Janeiro, Brazil, July 2024: **Biagini, F.; Oberpriller, K.; Meyer-Brandis, T.**

Behavioral Insurance Workshop, Munich, Germany, December 2024: **Jaspersen, J.; Maier, J.; Külpp, L.**

Berlin Workshop on Mathematical Finance for Young Researchers, Berlin, Germany, September 2024: **Weber, N.**

Bernoulli-IMS 11th World Congress in Probability and Statistics, Ruhr University Bochum, Germany, August 2024: **Kalinin, A.**

European Conference on Operational Research, Copenhagen, Denmark, June/July 2024: **Perkkiö, A.-P.**

European Group of Risk and Insurance Economists Seminar, Hamburg, Germany, September 2024: **Dambaur, A.; Holzapfel, J.; Jaspersen, J.; Stöckl, E.**

Experimental Finance Conference, Stavanger, Norway, June 2024: **Maier, J.**

Finance and Stochastics Research Seminar, Imperial College London, UK, October 2024**: Weber, N.; Kalinin, A.**

Munich Climate School, Munich, Germany, October 2024: **Fries, C.**

Munich Finance Day, Munich, Germany, July 2024: **Dambaur, A.; Jaspersen, J.**

International Conference on Probabilistic, Combinatorial and Asymptotic Methods for the Analysis of Algorithms, Leipzig, Germany, June 2024: **Steibel, A.**

International Conference on Stochastic Calculus and Applications to Finance (IIT Madras), Chennai, India, June 2024: **Kalinin, A.**

Jahrestagung der Deutschen Gesellschaft für Finanzwirtschaft, Aachen, Germany, September 2024: **Jaspersen, J.**

PGMO-DAYS, Paris, France, November 2024: **Perkkiö, A.-P.**

Risk Theory Society (RTS) Annual Seminar 2024, Iowa City, USA, May 2024**: Holzapfel, J.**

Stochastische Analysis und Stochastik der Finanzmärkte, HU/TU Berlin, Germany, May 2024: **Oberpriller, K.**

XLIV Dynamics Days Europe, Constructor University Bremen, Germany, July 2024**: Kalinin, A.**

XXV Workshop on Quantitative Finance, Bologna, Italy, April 2024: **Oberpriller, K.; Weber, N.**

9. Awards, Grants, and Scholarships

Biagini, Francesca: Cavaliere della Stella d'Italia, from the President of the Italian Republic

Bollweg, Georg: Stipendium, Verein zur Förderung der Versicherungswissenschaft in München e.V.

Jaspersen, Johannes: Insurance Demand on Incomplete Markets - Research Grant

Jaspersen, Johannes: Geneva Risk and Insurance Review Best Paper Award

Steibel, Annika: Stipendium, Verein zur Förderung der Versicherungswissenschaft in München e.V.

Walter, Niklas: Stipendium, Verein zur Förderung der Versicherungswissenschaft in München e.V.

Weber, Niklas: Stipendium, Verein zur Förderung der Versicherungswissenschaft in München e.V.

10. Doctoral Workshops

MRIC Winter Workshop, St. Johann, Austria, January 2024

Behavioral Risk Management and Insurance, Munich, December 2024

11. Doctoral Research in Progress

Bollweg, Georg: Stochastic Models with Parameter Uncertainty

Covis, Leonardo: Essays on Risk Management and Insurance

Dambaur, Andreas: Essays in Insurance Demand

Karczewski, Julia: Cyber Insurance

Külpp, Leonard: Essays on Decision Theory, Risk Management and Insurance

La Bonte, Paulina: Essays on Risk Management and Insurance

Lin, Jialing: Essays on Risk Management and Insurance

McCabe, Kerry: Essays on Risk Management and Insurance

Oberpriller, Katharina: Mathematical Models for Insurance Markets
Ren, Pengcheng: Innovation in the Insurance Industry
Steibel, Annika: Stability Analysis of Pandemic Models
Stöckl, Elisabeth: Essays on Risk Management and Insurance
Walter, Niklas: Topics of Rough Volatility Models and Machine Learning in Finance
Weber, Niklas: Computing Systemic Risk Measures via Graph Neural Networks

12. Academic Visitors to the MRIC

Daniel Bauer (University of Wisconsin-Madison): October 2024
Patricia Born (Florida State University): December 2024
Mark Browne (St. John’s University): January 2024
David Dicks (Baylor University): January 2024
Randy Dumm (University of South Florida): May 2024
Cameron Ellis (University of Iowa): January 2024
Maghan Esson (University of Iowa): January 2024
Michael Hubbel (Temple University): May 2024
Alexander Mürmann (Wirtschaftsuniversität Wien): January 2024
Richard Peter (University of Iowa): June 2024
Jörg Schiller (Universität Hohenheim): January 2024
Justin Sydnor (University of Wisconsin-Madison): August 2023 to July 2024

13. Exchange Programs

Student Exchange

Collaborations with Florida State University and Georgia State University for student exchanges in the field of risk and insurance
Collaborations with University Paris Saclay and University of Bologna for a double degree in Business Mathematics

14. Events Hosted by the MRIC

Conferences

Behavioral Insurance Workshop, Munich, Germany, December 2024

Seminars

David Dicks (Baylor University) January 2024: Uncertainty, Contracting, and Beliefs in Organizations
Daniel Bauer (University of Wisconsin-Madison) October 2024: Virtuous Innovation or Obfuscation? Product Innovation in the Variable Annuities Market

Courses Held by International Guest Lecturers

Prof. Patricia Born, Ph.D. (Florida State University): Proseminar Catastrophe Risk Management
Prof. Randy Dumm, Ph.D. (University of South Florida): Case Studies in Enterprise Risk Management
Prof. Michael Hubbel (Temple University): Case Studies in Enterprise Risk Management
Prof. Dr. Richard Peter (University of Iowa): Microeconomic Modeling Methods

Guest Lectures

Dr. Klaus Bender (Swiss Re) in Risiko und Versicherung: Versicherungstechnische Risikopolitik

15. Professional Board Membership and Academic Service

15.1 Prof. Dr. Thomas Ackermann, LL.M.

Editorial Board, Common Market Law Review
Editorial Board, Neue Zeitschrift für Kartellrecht
Head and Coordinator of the MUST (Munich University Summer Training) Program in German and European Law
Member of the Selection Committee "Juristische Bücher des Jahres"
Referee for National and International Academic Organizations and Institutions (DFG, DAAD, Studienstiftung, NVAO, EUI)

15.2 Prof. Dr. Francesca Biagini

President of the Bachelier-Finance Society
Vice-President of LMU for International Affairs and Diversity

15.3 Prof. Dr. Thilo Meyer-Brandis

Co-Director of quantLab@LMU: Computer Laboratory for Quantitative Risk Control
Managing Board, German Data Science Society
Advisory Board, Frankfurter Institut für Risikomanagement und Regulierung (FIRM)

15.4 Prof. Dr. Johannes Jaspersen

Editorial Board, Journal of Risk and Insurance

15.5 Prof. Dr. Andreas Richter

Vice Dean of the Munich School of Management
Academic Director of the Executive Master of Insurance Program
Past President of the American Risk and Insurance Association
Executive Board, European Group of Risk and Insurance Economists

16. IMPRINT

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Prof. Dr. Johannes Jaspersen
Dr. Johannes Maier
Prof. Dr. Andreas Richter

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Dr. Johannes Maier

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This report refers to the calendar year 2024. For seminar series or courses, which can be attributed to one semester, the report refers to the summer term 2024 and the winter term 2024/2025. With regard to final theses, this report lists submissions within the calendar year 2024.
Facts concerning the Workgroup in Financial and Insurance Mathematics and the Chair for Civil Law, European and International Business Law are reported whenever they reflect topics related to the field of risk management and insurance.