Curriculum Vitae

Prof. Dr. Marc Oliver Rieger

Date of Birth: 22 September 1974

University of Trier University Department IV Universitätsring 15 54286 Trier, Germany

Citizenship: German Marital Status: married, one child

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Current Academic Position

University of Trier, Department IV, **Business Administration**

Professor of Banking and Finance (W3), lectures on behavioral finance, financial economics, financial derivatives, game theory and decision theory. Sabbatical at Xiamen University, China (September – December 2013)

Previous Academic Positions

University of Zürich, ISB

Assistant Professor ("Oberassistent") in Financial Economics. Member of the NCCR Finrisk and of the University Priority Project "Finance and Financial Markets". Lectures on "Advanced Microeconomics", "Financial Economics" and "Banking: Structured Products".

University of Bielefeld Oct. 2008–March 2009 and June 2009 Visiting Professor ("Lehrstuhlvertretung") in Mathematical Economics (former professorship of Prof. Reinhard Selten). Lectures within the QEM-Program (international master degree) on "Finance", "Behavioral Decision Theory and Finance" and "Dynamic Financial Markets".

University of Zürich and ETH Zürich Sep. 2004–March 2007 Postdoctorial Associate and lecturer for "Numerics I" and "Advanced Microeconomics I+II" (game theory and decision theory) at the University of Zürich. Research visits at the University of Bonn, the Université de Savoie and the University of Bath.

Scuola Normale Superiore, Pisa Sep. 2003-Aug. 2004 Postdoctoral Researcher at the Scuola Normale Superiore. Research visit at the Instituto Superior Técnico, Lisbon.

Carnegie Mellon University, Pittsburgh (USA) Sep. 2001–Aug. 2003 Research Scholar at the Center for Nonlinear Analysis. Research visits at the University of Bonn and at the California Institute of Technology.

April 2007–March 2010

since April 2010

Max-Planck-Institute for Mathematics Oct. 1998–Aug. 2001 in the Sciences, Leipzig

Research Assistant, PhD thesis on "Nonconvex Dynamical Problems". Advisor: Prof. Stefan Müller, Director of the MPI.

University of Konstanz

Oct. 1993–Sep. 1998

Student of Mathematics and Physics, diploma thesis on "Asymptotic Behaviour of Radially Symmetric Solutions to Thermoelasticity Equations". Advisor: Prof. Reinhard Racke.

Main Research Interests

My main research interests are in the area of finance, in particular behavioral finance and financial derivatives as well as in the area of decision theory. I often combine theoretical, empirical and (sometimes) experimental methods. My current research is mainly focused on:

- **Behavioral finance** (e.g. application of behavioral finance to investment decisions or dividend policies; equity premium puzzle; behavioral game theory).
- **Financial derivatives and risk measures** (e.g. investor preferences on structured financial products; classification of acceptance sets of certain risk measures).
- **Behavioral decision theory** (e.g. further development of prospect theory; an international survey comparing investor preferences in 53 countries).

Honors and Awards

Listed in the Handelsblatt-Ranking (the most influential ranking or researchers in business administration in the German speaking countries): 26th rank of all researchers below 40 years, 56th rank of all researchers; 2nd rank in the area of finance in Germany.

Jury president of the Swiss Derivative Awards in Zurich since 2010.

Special research grant of the University of Trier (2011).

Grant of the Scuola Normale Superiore for participation in the trimester on "Calculus of Variations and Partial Differential Equations" (2006).

Postdoctoral Scholarship of the Scuola Normale Superiore (2003–2004).

Member of the graduate school of the University of Leipzig (2000–2001).

Scholarship of the Studienstiftung des deutschen Volkes (1993–1998).

Special prize at the final round of the German "Science Fair" competition ("Jugend forscht") with a project on digital processing of astronomical photographies (2013).

Doctoral Students

- Ji Cao (graduation completed in 2014): Analysis of Portfolio Risk of Private Investors" (work on the performance of bank managed portfolios and on effects of the new EU risk classification for structured products). The thesis was granted the "National Award for Outstanding Chinese Students Studying Abroad" of the China Scholarship Council.
- Shuonan Yuan (graduation completed in 2015): "Determining the Structure of Diversification" (work on optimal diversification of structured products and on the role of attention in stock markets).
- Tonn Talpsepp (co-supervisor, PhD degree obtained in 2010). Title of the thesis: "Investor Behavior and Volatility Asymmetry".
- Currently, I am supervising seven doctoral students, three of them being external students, two scholarship students and two research assistants. Their research is focused on behavioral economics, risk measurement and structured products. In addition I am the doctoral co-supervisor of dissertations at the LUISS University of Rome and at the WHU Otto Beisheim School of Management.

Professional and Administrative Service

- Member of various committees at the University of Trier.
- Member of the Advisory Board of the Confucius Institute of Trier (since 2016).
- Referee for various journals in economics, finance and mathematics (e.g. American Economic Review, Journal of Banking and Finance, Management Science, Journal of Economic Behavior and Organization, Journal of Economic Dynamics and Control, Theory and Decision, Nonlinearity, SIAM Journal of Appl. Math., Journal of Mathematical Economics) and reviewer of Mathematical Reviews of the American Mathematical Society.
- Organizer of the regular symposium QFQP⁺⁺ together with Professor Frank Seifried (mathematics, University of Trier), a symposium in Quantitative Finance of the universities of the "Greater Region".
- Organizer of the "East Asia Days" at the University of Trier (September 2014).
- Organizer of the "*Trier-Luxembourg Workshop on Financial Investments*" at the University of Trier (December 2011).
- Organizer of the public presentation of the ISB at the "*Parcours des Wissens*" for the 175th anniversary of the University of Zürich (March 2008).
- Organizer and member of the Scientific Committee for the international conference "ANA – Advances in Nonlinear Analysis" at the Carnegie Mellon University. For details see: http://www.math.cmu.edu/~ana/. (May/June 2003).

Selected Talks

Invited talks at seminars and colloquia:

University of Piräus; University of Kaiserslautern; University of Zürich; Xiamen University; Zhongnan University of Economics and Law, Wuhan; Central South University, Changsha; Unversity of Bonn; University of Mainz; NTNU Trondheim; University of Dortmund; University of Kiel; University of Göttingen; University of Konstanz; University of Trier; University of Luxembourg; University of Ulm; Doshisha University (Kyoto); University of Münster; University of Bielefeld, University of Fribourg; Brunel University (London); Université de Savoie; University of Bonn; ETH Zürich; University of Sussex; University of Bath; Instituto Superior Técnico, Lisbon; California Institute of Technology; University of Regensburg; University of Stuttgart; Perdue University, Indiana; University of Illinois etc.

Conference talks (refereed papers) since 2008:

Institutional and Individual Investors - CGR Conference, Bath, 2015. Second International Go Game Science Conference, Liberec, 2015. 3rd Luxembourg Household Finance Workshop, 2015. World Banking and Finance Symposium, Singapore, 2014*. Experimental Economics Workshop, Xiamen, 2013. World Finance and Banking Symposium, Peking, 2013*. 3rd Quantitative Economics Conference, Sanya, 2013. Annual Meeting of the Academy of Beh. Finance and Economics, Chicago, 2013*. 5th International IFABS Conference, Nottingham, 2013*. 16th Conference of the Swiss Finance Association (SGF), Zürich, 2013*. 19th Annual Meeting of the German Finance Association (DGF), Hannover, 2012*. EFMA Conference, Barcelona, 2012*. FMA European Conference, Istanbul, 2012*. 15th Conference of the Swiss Finance Association (SGF), Zürich, 2012. 11th Kölner Finanzmarktkolloquium, Köln, 2012. 10th INFINITI conference, Dublin, 2012. Campus for Finance, WHU, Vallendar, 2012. 12th Symposium on Finance, Banking and Insurance, Karlsruhe, 2011. ESA (Economic Science Association) European Conference, Luxembourg, 2011. 8th INFINITI conference, Dublin, 2010*. CARISMA conference "The interface of behavioral and quantitative finance", London, 2010. EFA (European Finance Association) conference, Bergen, 2009. Annual conference of the "Verein für Socialpolitik", Magdeburg, 2009. 12th Conference of the Swiss Finance Association (SGF), Zürich, 2009. 8th Kölner Finanzmarktkolloquium, Köln, 2009. 11th Symposium on Finance, Banking and Insurance, Karlsruhe, 2008. 15th Meeting of the German Finance Association (DGF), Münster, 2008. European Mathematics Conference, Amsterdam, 2008 (invited talk). Conference on mathematical economics und finance, Manchester, 2008. 11th Conference of the Swiss Finance Association (SGF), Zürich, 2008. Asian Finance Association Conference, Yokohama, 2008. International Chinese Finance Conference, Dalian, 2008. *Presentation by co-author.

Selected Publications

Publications in peer-reviewed journals in economics and finance:

- [1] "Corporate Cash Holdings and Ambiguity Aversion" (with Wolfgang Breuer und K. Can Soypak), forthcoming in: *Review of Finance*.
- [2] "How Time Preferences Differ: Evidence from 53 Countries" (with Mei Wang und Thorsten Hens), forthcoming in: *Journal of Economic Psychology*.
- [3] "The impact of culture on loss aversion" (with Mei Wang und Thorsten Hens), forthcoming in: *Journal of Behavioral Decision Making*.
- [4] "The war puzzle: Contradictory effects of international conflicts on stock markets" (with Amelie Brune, Thorsten Hens und Mei Wang), *International Review of Economics*, Vol. 62, Issue 1, pp. 1-21, 2015.
- [5] "Risk Preferences Around the World", (with Mei Wang und Thorsten Hens), *Management Science*, Vol. 61, Issue 3, pp. 637-648, 2015.
- [6] "Evolutionary stability of prospect theory preferences", *Journal of Mathematical Economics*, 50, pp. 1-11, 2014.
- [7] "The behavioral foundations of corporate dividend policy a cross-country analysis" (with Wolfgang Breuer und K. Can Soypak), *Journal of Banking and Finance*, 42, pp. 247-265, 2014.
- [8] "Can utility maximization explain the demand for structured investment products?" (with Thorsten Hens), *Quantitative Finance*, 14(4), pp. 673-681, 2014.
- [9] "International evidence on the equity premium puzzle and time discounting" (with Thorsten Hens und Mei Wang), *Multinational Finance Journal*, 17(3/4), pp. 149-163, 2014.
- [10] Risk classes for structured products: mathematical aspects and their implications on behavioral investors" (with Ji Cao), *Annals of Finance*, Vol. 9, Issue 2, pp. 167-183, 2013.
- [11] "Can ambiguity aversion solve the equity premium puzzle? Survey evidence from international data" (with Mei Wang), *Finance Research Letters*, 9(2), pp. 63-72, 2012.
- [12] "Explaining the demand for structured financial products: survey and field experiment evidence" (with Thorsten Hens), *ZfB*, Vol. 82, Issue 5, pp. 491-508, 2012.
- [13] "Why do Investors buy bad financial products? Probability misestimation and preferences in financial investment decisions", *Journal of Behavioral Finance*, Vol. 13, Issue 2, pp. 108-118.4, 2012.
- [14] "Optimal financial investments for non-concave utility functions", *Economics Letters*, Vol. 114, Issue 3, pp. 239-240, 2012.
- [15] "Too risk-averse for prospect theory?" (with Thuy Bui), Modern Economy, Vol. 2, Issue 4, pp. 691-700, 2011.

- [16] "Volatility asymmetry, news and private investors" (with Michal Dzielinski and Tonn Talpsepp), *The Handbook of News Analytics*, Wiley & Sons, 2011.
- [17] "Co-monotonicity of optimal investments und the design of structural financial products", *Finance and Stochastics*, 15(1), pp. 27–55, 2011.
- [18] "Explaining asymmetric volatility around the world" (with Tonn Talpsepp), *Journal* of Empirical Finance, 17(5), pp. 938-956, 2010.
- [19] "Financial Market Equilibria with Cumulative Prospect Theory" (with Enrico De Giorgi and Thorsten Hens), *Journal of Mathematical Economics*, 46(5), pp. 633–651, 2010.
- [20] "SP/A and CPT: a reconciliation of two behavioral decision theories", *Economics Letters*, 108(3), pp. 327–329, 2010.
- [21] "What is behind the Priority Heuristic? A mathematical analysis" (with Mei Wang), *Psychological Review*, 2008.
- [22] "Prospect Theory for continuous distributions" (with Mei Wang), *Journal of Risk and Uncertainty*, vol. 36, no. 1, pp. 83–102, 2008.
- [23] "Cumulative Prospect Theory and the St. Petersburg Paradox" (with Mei Wang), *Economic Theory*, 28, pp. 665-679, 2006.

Books:

- [24] "Financial Economics a concise introduction to classical and behavioral finance", approx. 400 pages, (with Thorsten Hens), Springer Verlag (2010). – Second edition forthcoming in 2016.
- [25] "Optionen, Derivate und strukturierte Produkte ein Praxisbuch", approx. 350 pages, NZZ-Verlag, Zürich and Verlag Schäffer-Poeschel (2009). – Second edition forthcoming in 2016.

Publications in applied mathematics (previous research area):

- [1] "Gradient flows in asymmetric metric spaces" with Chenchiah, Isaac Vikram; Zimmer, Johannes; in: Nonlinear Anal. 71 (2009), no. 11, 5820--5834.
- [2] "Young measure flow as a model for damage" with Zimmer, Johannes; in: Z. Angew. Math. Phys. 60 (2009), no. 1, 1--32.
- [3] "Higher dimensional problems with volume constraints existence and Gammaconvergence"; in: Interfaces Free Bound. 10 (2008), no. 2, 155--172.
- [4] "Local minimizers of functionals with multiple volume constraints" with Oudet, Édouard; in: ESAIM Control Optim. Calc. Var. 14 (2008), no. 4, 780--794.
- [5] "Parameter dependence of multiscale systems and nanostructures on crystals" with Zirnstein, Heinrich-Gregor; in: Math. Mech. Solids 12 (2007), no. 5, 513--525.
- [6] "Variational problems for functionals involving the value distribution. Variational problems in materials science", 25--41, Progr. Nonlinear Differential Equations Appl., 68, Birkhäuser, Basel, 2006.

- [7] "Global existence for nonconvex thermoelasticity" with Zimmer, Johannes; in: Adv. Math. Sci. Appl. 15 (2005), no. 2, 559--569.
- [8] "Parabolic systems with nowhere smooth solutions" with Müller, Stefan; Šverǎk, Vladimír; in Arch. Ration. Mech. Anal. 177 (2005), no. 1, 1--20.
- [9] "A model for hysteresis in mechanics using local minimizers of Young measures. Elliptic and parabolic problems", 403--414, Progr. Nonlinear Differential Equations Appl., 63, Birkhäuser, Basel, 2005.
- [10] "On the Gamma-limit of the Mumford-Shah functional" with Tilli, Paolo; in: Calc. Var. Partial Differential Equations 23 (2005), no. 4, 373--390.
- [11] "A relaxed model for step-terraces on crystalline surfaces" with Kurzke, Matthias; in: J. Convex Anal. 11 (2004), no. 1, 59--67.
- [12] "Abstract variational problems with volume constraints"; in: ESAIM Control Optim. Calc. Var. 10 (2004), no. 1, 84--98 (electronic).
- [13] "Young-measure approximations for elastodynamics with non-monotone stress-strain relations" with Carstensen, Carsten; in: M2AN Math. Model. Numer. Anal. 38 (2004), no. 3, 397--418.
- [14] "Exponential stability and global existence in thermoelasticity with radial symmetry", in: Quart. Appl. Math. 62 (2004), no. 1, 1--25.
- [15] "Young measure solutions for nonconvex elastodynamics"; in: SIAM J. Math. Anal. 34 (2003), no. 6, 1380--1398 (electronic).
- [16] "A volume constrained variational problem with lower-order terms", with Morini, Massimiliano; in: Appl. Math. Optim. 48 (2003), no. 1, 21--38.
- [17] "Time dependent Young measure solutions for an elasticity equation with diffusion";
 in: International Conference on Differential Equations, Vol. 1, 2 (Berlin, 1999), 457--459, World Sci. Publ., River Edge, NJ, 2000.

Media presence and publicity (selection)

Several newspaper articles and interviews, e.g. in:

- FAZ (Frankfurter Allgemeiner Zeitung),
- Süddeutsche Zeitung,
- Stern,
- Wirtschaftswoche,
- Westdeutsche Zeitung,
- Südkurier,
- Trierischer Volksfreund,
- NZZ (Neue Zürcher Zeitung),
- Tagesanzeiger,
- Bilanz (Schweizer Investment-Magazin),
- Cash Daily,
- Payoff Magazine etc.

Several radio interviews (Swiss radio DRS, Deutschlandfunk).

Projects outside academia

- Academic supervision of a study on digital marketing for asset managers by Edelman.ergo Unternehmenskommunikation
- Educational software for the *Sunflower Foundation* and the Zurich MoneyMuseum.
- Design of a multi-touch-table for the composition of structured products (in collaboration with the *Swiss Design Institute for Finance and Banking*). For photos and the web version of the software please see http://www.sdfb.ch/de/projekte/edit.
- Various projects, e.g. with Credit Suisse and Zürcher Kantonalbank, please refer to <u>http://globalinvestor.credit-suisse.com/behavioural/</u>.
- Reports on investor protection.
- Various Lectures, e.g. at the Congress of the VDH (2012 and 2014).

Academic Courses

University of Trier

Lectures (often combined with seminars or group projects):

- "Entscheidungs- und Spieltheorie" (Diplom, SS 2010),
- "*Behavioral Finance*" (Master, since summer term 2010).
- "*Mathematik und Statistik*" (Master, winter term 2010/11),
- "*Financial Economics*" (Master, summer terms 2010 and 2011),
- "*Grundlagenmodul*" (Master, lecture includes mathematics, decision theory, game theory and empirical research, regularly since 2011/12),
- "Advanced Microeconomics" (Master in Economics, winter term 2010/11),
- "*Finanzderivate*" (Master, regularly since 2010/11),
- "Investition und Finanzierung" (Bachelor, regularly since 2011/12),
- *"Finance & Banking II"* (Bachelor, summer term 2014).

Project Groups:

- *"Decision Theory and Applications to Finance"* (Master, from summer term 2011 until winter term 2011/12), in collaboration with the department of Economics.
- "*Framing in Finance*" (Master, from sumer term 2014 until winter term 2014/15).
- "*Verkehrsmittelwahl*" (Bachelor, winter term 2015/16).

University of Zurich

Lectures:

- "Banking: Structured Products" (Bachelor, spring 2008 und spring 2009),
- "Advanced Microeconomics" (Master/PhD, autumn 2007 und autumn 2008),
- "Financial Economics" (Master/PhD, winter term 06/07 und autumn 2007),
- "*Microeconomics I+II*" (Bachelor, spring 2007 und autumn 2007),
- "*Numerics I*" (Bachelor, summer term 2005),
- "Behavioral Finance and wealth management" (2008, MBA-Level).

University of Bielefeld

Lectures:

- "*Finance*" (winter term 08/09),
- "Dynamic Financial Markets" (winter term 2008/09),
- *"Behavioral Decision Theory and Finance"* (seminar, winter term 2008/09).

All lectures on Master level within the framework of the international QEM (Quantitative Economic Master Program).

• "*Behavioral Economics*" (Ph.D. course, June 2009).

Carnegie Mellon University

Lectures:

- "*Algebraic Topology*", spring 2003.
- "*Topics in Applied Mathematics Game Theory*", spring 2002.

University of Leipzig

Courses for the "Leipziger Schülergesellschaft Mathematik", 1999–2001.

Course evaluations

Evaluation of the following courses at **Carnegie Mellon University** and the **University of Zurich** were made:

- "Banking: Structured Products": 5.2 (out of 6)
- "Advanced Microeconomics": 5.2 bzw. 5.1 (out of 6)
- "Microeconomics II": 4.1 (out of 6)
- "Algebraic Topology": 5.0 (out of 5)
- "Topics in Applied Mathematics Game Theory": 3.9 (out of 5)

At the **University of Trier** no regular comprehensive evaluation exists.

Other teaching activities

- Various courses for practitioners on Behavioral Finance and financial derivatives, e.g. for Uhlenbruch publishing house, the universities of Zurich and Liechtenstein etc.
- Talks at special events organized for children and senior citizens at the University of Trier.
- Voluntary Go teacher (Certificate by Myongji University, Seoul, Korea).
- Superivision of a group project for the German highschool student history competition (Körber Foundation) on Chinese immigrants in Trier and Germany.

Honorary Activities

- Head of the Advisory Board of Verkehrsverbund Region Trier (VRT), 2012-2015.
- Responsible for the promotion of young go players at the German Go Association (since 2013).
- Project Manager of the European Go Federation for the European Youth Team Championship (since 2015).
- Jury member of the German science fair competition (2016).
- Founding member of the association "Alte Synagoge Stavenhagen e.V." and responsible for their website www.synagoge-stavenhagen.de