Curriculum Vitae

Prof. Dr. Marc Oliver Rieger

Date of Birth: 22 September 1974

University of Trier University Department IV Universitätsring 15 54296 Trier, Germany Citizenship: German Marital Status: married, one child

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Current Academic Position

University of Trier, Department IV, Business Administration

since April 2010

Professor of Banking and Finance (W3), lectures on "Behavioral Finance", "Financial Derivatives", "Game and Decision Theory" and "Financial Economics". Sabbatical at **Xiamen University, China** (September – December 2013)

Previous Academic Positions

University of Zürich, ISB

April 2007–March 2010 Financial Economics. Member of 1

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 *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. 2003Research Scholar at the Center for Nonlinear Analysis. Research visits at theUniversity of Bonn and at the California Institute of Technology.

Max-Planck-Institute for MathematicsOct. 1998–Aug. 2001in the Sciences, LeipzigOct. 1998–Aug. 2001

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 **behavioral finance**, **decision theory** and **financial derivatives**. I often combine theoretical, empirical and experimental methods.

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).

Grants for events and research of BhFS, IRML, Arkus Financial Solutions and Trier public utility company, several times since 2011.

Offer of a professorship at the *University of Trier* (accepted), at the *University of Kiel* (rejected) and at the Norwegian University of Science and Technology (rejected). (2010)

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 German Merit Foundation (Studienstiftung des deutschen Volkes), 1993–1998.

Special prize at the final round of the German "Science Fair" competition ("Jugend forscht") in 1993.

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): Work on 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".
- Hai Minh Ngo (graduation completed in 2016), work on Behavioral Explanations of Equity Premium Puzzles. The collaborative paper was granted the "Best Doctoral Student Paper Award" of the Academy of Behavioral Finance & Economics (Chicago, 2013).
- Amin Ashtiani (LUISS Rom, co-supervisor, graduation completed in 2017): "An Essay in Behavioral and Experimental Economics"
- Actually, I am supervising six doctoral students, four of them being external students, one scholarship students and one research assistants. Their research is focused on household finance.

Professional and Administrative Service

- Main organizer of the "International Conference on Research in Mind Games" (August 2018 in Pisa), http://mind.uni-trier.de.
- Member of the Advisory Board of the Confucius Institute of Trier (since 2016), currently substitute director
- Speaker of the Department of Business Administration (2012-2013).
- Various committees at the University of Trier.
- 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)
- 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" (since 2015).
- 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 2010).

- 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 Piraeus; 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 Luxembourg; University of Ulm; Doshisha University (Kyoto); University of Münster; University of Bielefeld, University of Fribourg; Brunel University (London); Université de Savoie; ETH Zürich; University of Sussex; University of Bath; Instituto Superior Técnico, Lisbon; California Institute of Technology; University of Illinois etc.

Conference talks (refereed papers) since 2008:

DGF-Conference, Ulm, 2017.

Experimental Finance Conference, Nizza, 2017. Research in Behavioral Finance Conference, Amsterdam, 2016. 12th European Meeting on Game Theory (SING12), Odense (Denmark), 2016* GAMES 2016, 5th World Congress of the Game Theory Society, Maastricht, 2016* 69th European Meeting of the Econometric Society, Genf, 2016* Go Symposium, at the Japanese Go Congress, Takarazuka (Japan), 2016 Second International Go Game Science Conference, Liberec, 2015. Institutional and Individual Investors - CGR Conference, Bath, 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 of the Swiss Finance Association (SGF), Zürich, 2008.
11th Conference of the Swiss Finance Association (SGF), Zürich, 2008.
International Chinese Finance Conference, Dalian, 2008.
*Presentation by co-author.

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, Kulturradio et al., 2008-2016).

TV interview (ARD, Report München, on the subject of Zero Interest-Rate Policy, 20.9.2016).

Selected Publications

Publications in peer-reviewed journals in economics and finance:

Revise & resubmit:

- [1] "Non-cooperative games with prospect theory players and dominated strategies" (with Lars Metzger), *Games and Economic Behavior*
- [2] "Happy Savers and Happy Spenders: An experimental study comparing US Americans and Germans" (with Amin Ashtiani), *Journal of Behavioral and Experimental Economics*
- [3] "What leads to overtrading and under-diversification? Survey evidence from retail investors" (with Thuy Phan and Mei Wang), *Journal of Behavioral and Experimental Finance*

Published or in print:

- [4] "Asymmetric attention and volatility asymmetry" (with Michał Dzieliński and Tõnn Talpsepp), *Journal of Empirical Finance*, Vol. 45, pp. 59-67, 2018.
- [5] "Segmentation of financial clients by attitudes and behavior: a comparison between Switzerland and Vietnam." (with Thuy Phan and Mei Wang), *International Journal of Bank Marketing*, in print, 2018.
- [6] "Comment on Cenci et al. (2015): Half-full or half-empty? A model of decision making under risk", *Journal of Mathematical Psychology*, Vol. 81, pp. 110-113, 2017.
- [7] "Characterization of acceptance sets for co-monotone risk-measures", *Insurance: Mathematics and Economics*, Vol. 74, pp. 147-152, 2017.
- [8] "The impact of culture on loss aversion" (with Mei Wang and Thorsten Hens), Journal of Behavioral Decision Making, Vol. 30, Issue 2, pp. 270-281, 2017.
- [9] "Estimating cumulative prospect theory parameters from an international survey" (with Thorsten Hens and Mei Wang), *Theory and Decision*, Vol. 82, Issue 4, pp. 567-596, 2017.
- [10] "Should Your Bank Invest for You? Evidence from Private Banking Accounts" (with Ji Cao and Marcel Fischli), *Journal of Behavioral and Experimental Finance*, Vol 13, pp. 1-8, 2017.
- [11] "How Time Preferences Differ: Evidence from 53 Countries" (with Mei Wang and Thorsten Hens), *Journal of Economic Psychology*, Vol. 52, pp. 115–135, 2016.
- [12] "Corporate Cash Holdings and Ambiguity Aversion" (with Wolfgang Breuer and K. Can Soypak), *Review of Finance*, Vol. 21, Issue 5, pp. 1933-1974, 2016.
- [13] "The war puzzle: Contradictory effects of international conflicts on stock markets" (with Amelie Brune, Thorsten Hens and Mei Wang), *International Review of Economics*, Vol. 62, Issue 1, pp. 1-21, 2015.
- [14] "Risk Preferences Around the World", (with Mei Wang and Thorsten Hens), Management Science, Vol. 61, Issue 3, pp. 637-648, 2015.

- [15] "Evolutionary stability of prospect theory preferences", *Journal of Mathematical Economics*, 50, pp. 1-11, 2014.
- [16] "The behavioral foundations of corporate dividend policy a cross-country analysis" (with Wolfgang Breuer and K. Can Soypak), *Journal of Banking and Finance*, 42, pp. 247-265, 2014.
- [17] "Can utility maximization explain the demand for structured investment products?" (with Thorsten Hens), *Quantitative Finance*, 14(4), pp. 673-681, 2014.
- [18] "International evidence on the equity premium puzzle and time discounting" (with Thorsten Hens and Mei Wang), *Multinational Finance Journal*, 17(3/4), pp. 149-163, 2014.
- [19] 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.
- [20] "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.
- [21] "Explaining the demand for structured financial products: survey and field experiment evidence" (with Thorsten Hens), *ZfB*, Vol. 82, Issue 5, pp. 491-508, 2012.
- [22] "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.
- [23] "Optimal financial investments for non-concave utility functions", *Economics Letters*, Vol. 114, Issue 3, pp. 239-240, 2012.
- [24] "Too risk-averse for prospect theory?" (with Thuy Bui), *Modern Economy*, Vol. 2, Issue 4, pp. 691-700, 2011.
- [25] "Volatility asymmetry, news and private investors" (with Michal Dzielinski and Tonn Talpsepp), *The Handbook of News Analytics*, Wiley & Sons, 2011.
- [26] "Co-monotonicity of optimal investments und the design of structural financial products", *Finance and Stochastics*, 15(1), pp. 27–55, 2011.
- [27] "Explaining asymmetric volatility around the world" (with Tonn Talpsepp), *Journal* of Empirical Finance, 17(5), pp. 938-956, 2010.
- [28] "Financial Market Equilibria with Cumulative Prospect Theory" (with Enrico De Giorgi and Thorsten Hens), *Journal of Mathematical Economics*, 46(5), pp. 633–651, 2010.
- [29] "SP/A and CPT: a reconciliation of two behavioral decision theories", *Economics Letters*, 108(3), pp. 327–329, 2010.
- [30] "What is behind the Priority Heuristic? A mathematical analysis" (with Mei Wang), *Psychological Review*, 2008.
- [31] "Prospect Theory for continuous distributions" (with Mei Wang), *Journal of Risk and Uncertainty*, vol. 36, no. 1, pp. 83–102, 2008.
- [32] "Cumulative Prospect Theory and the St. Petersburg Paradox" (with Mei Wang), *Economic Theory*, 28, pp. 665-679, 2006.

Books:

- "Financial Economics a concise introduction to classical and behavioral finance", approx. 400 pages, (with Thorsten Hens), Springer Verlag (2010). (The 2nd edition was published in 2016.)
- [2] "Optionen, Derivate und strukturierte Produkte ein Praxisbuch", approx. 350 pages, NZZ-Verlag, Zürich and Verlag Schäffer-Poeschel (2009). (The 2nd edition was published 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, no. 11, 5820-5834, 2009.
- [2] "Young measure flow as a model for damage" with Zimmer, Johannes; in: Z. Angew. Math. Phys. 60, no. 1, 1–32, 2009.
- [3] "Higher dimensional problems with volume constraints existence and Gammaconvergence"; in: Interfaces Free Bound. 10, no. 2, 155-172, 2008.
- [4] "Local minimizers of functionals with multiple volume constraints" with Oudet, Édouard; in: ESAIM Control Optim. Calc. Var. 14, no. 4, 780-794, 2008.
- [5] "Parameter dependence of multiscale systems and nanostructures on crystals" with Zirnstein, Heinrich-Gregor; in: Math. Mech. Solids 12, no. 5, 513-525, 2007.
- [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, no. 2, 559-569, 2005.
- [8] "Parabolic systems with nowhere smooth solutions" with Müller, Stefan; Šverǎk, Vladimír; in Arch. Ration. Mech. Anal. 177, no. 1, 1-20, 2005.
- [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, no. 4, 373-390, 2005.
- [11] "A relaxed model for step-terraces on crystalline surfaces" with Kurzke, Matthias; in: J. Convex Anal. 11, no. 1, 59-67, 2004.
- [12] "Abstract variational problems with volume constraints"; in: ESAIM Control Optim. Calc. Var. 10, no. 1, 84-98 (electronic), 2004.
- [13] "Young-measure approximations for elastodynamics with non-monotone stress-strain relations" with Carstensen, Carsten; in: M2AN Math. Model. Numer. Anal. 38, no. 3, 397-418, 2004.
- [14] "Exponential stability and global existence in thermoelasticity with radial symmetry", in: Quart. Appl. Math. 62, no. 1, 1-25, 2004.

- [15] "Young measure solutions for nonconvex elastodynamics"; in: SIAM J. Math. Anal. 34, no. 6, 1380--1398 (electronic), 2003.
- [16] "A volume constrained variational problem with lower-order terms", with Morini, Massimiliano; in: Appl. Math. Optim. 48, no. 1, 21-38, 2003.
- [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.

Other publications:

- "Neue Perspektiven f
 ür eine alte Synagoge Die ehemalige Synagoge Stavenhagen als authentischer Ort der Erinnerung", in: Medaon – Magazin f
 ür j
 üdisches Leben in Forschung und Bildung, 2018.
- [2] "Ungeduld und Risikoeinstellungen: Hemmschuhe für Integration?" (with Mei Wang), in: *Weiterbildung*, Vol. 2, pp. 23-25, 2017.
- [3] "Der globale Blick auf Risiko und Zeit" (with Mei Wang), in: *Forschung und Lehre*, 23, 3, pp. 236-237, 2016.

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 10/11),
- "*Financial Economics*" (Master, summer terms 2010 and 2011),
- *"Grundlagenmodul"* (Master, includes mathematics, decision and game theory and empirical research, since winter term 11/12),
- "Advanced Microeconomics" (Master in Economics, winter term 10/11),
- "*Finanzderivate*" (Master, since winter term 10/11),
- "Investition und Finanzierung" (Bachelor, since winter term 11/12),
- "*Finance & Banking II*" (Bachelor, since summer term 2014).

Project Groups:

- *"Decision Theory and Applications to Finance"* (Master, summer term 2011 to winter term 11/12), collaboration with the department of Economics.
- "*Framing in Finance*" (Master, summer term 2014 to winter term 14/15).
- *"Verkehrsmittelwahl"* (Bachelor, winter term 15/16).
- "Behavioral Finance" (Master, summer term 2016 to winter term 16/17).

Xiamen University

• "*Behavioral Finance*" (lecture & seminar with Prof. Mei Wang, fall 2013).

University of Zurich (lectures)

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

University of Bielefeld

- Lectures on *"Finance" and "Dynamic Financial Markets"* and seminar on *Behavioral Decision Theory and Finance"* (winter term 2008/2009, international "Quantitative Economic Master" program).
- "*Behavioral Economics*" (Ph.D. course, June 2009).

Carnegie Mellon University

Lectures on "Algebraic Topology" (spring 2003) and "Topics in Applied Mathematics – Game Theory" (spring 2002).

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), since 2012.
- Superivision of a group project for the scholar competition "History" by the Federal President (Körber Foundation) titled "To be different – misfits in history" (2015).
- Courses for the "Leipziger Schülergesellschaft Mathematik", 1999–2001.

Work in practice (selection)

- Study about the choice of transport in cooperation with VRT and SWT Trier
- Academic supervision of a study on digital marketing for asset managers by Edelman.ergo Unternehmenskommunikation
- Development of a investor classification, including an 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 Society of German Certified Fee Based Financial Advisors (2012 and 2014).

Honorary Activities

- Speaker of the Advisory Board of "Verkehrsverbund Region Trier" (VRT), 2012-2015.
- Secretary of the Young Talents' Promotion at Deutscher Go Bund e.V. (since 2013) and Vice President (2016-2018).
- Project Manager of the European Go Federation for the European Youth Team Championship (since 2015).
- Advisor and Marketing Manager for the European Go Congress 2017.
- Jury at the science fair competition "Jugend forscht" (2016 and 2017).
- Founding Member and board member of the Association "Alte Synagoge Stavenhagen e.V." and responsible for their website www.synagoge-stavenhagen.de (since 2017)