

## Professor Dr. Daniel Rösch

**Chair of Statistics and Risk Management**  
Faculty of Business, Economics and Management Information Systems  
**University of Regensburg**  
93040 Regensburg  
GERMANY  
[WWW](#)



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### CURRICULUM VITAE

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Professor Dr. Daniel Rösch holds the chair in Statistics and Risk Management at the University of Regensburg. Prior to joining the University of Regensburg in 2013 he was Professor of Finance and Director of the Institute of Banking and Finance at the Leibniz University of Hannover from 2007 to 2013. He earned a Ph.D. (Dr. rer. pol.) from the University of Regensburg in 1998 for a work on empirical Asset Pricing. From 2006 to 2011 he was visiting researcher at The University of Melbourne. Since 2011 he is visiting Professor at the University of Technology in Sydney. His research interests cover Banking, Risk Management, Credit Risk Analytics, Financial Regulation and Supervision, Data Science, Machine Learning and Real Estate Finance. He published numerous papers in leading international journals, earned several awards and honors, and regularly gives talks on major international conferences. As a service to the profession he is currently President of the German Finance Association, co-founder and member of the board of directors of the Hannover Center of Finance, and deputy managing director of the workgroup Finance and Financial Institutions of the German Operations Research Society. He also serves on the editorial board of the Journal of Risk Model Validation. Professor Rösch has cooperated with financial institutions and supervisory bodies such as Deutsche Bundesbank in joint research projects. Among others, his work has been funded by Deutsche Forschungsgemeinschaft, the Thyssen Krupp Foundation, the Frankfurt Institute for Finance and Regulation, and the Melbourne Centre for Financial Studies. He participated in a long-term research grant with academics from the University of Technology in Sydney which was supported by the Australian Centre for International Finance and Regulation. In 2014 and 2019 the Handelsblatt and Wirtschaftswoche ranked him amongst the top 5% and 10 % of German speaking researchers in Business and Management.

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## SELECTED AWARDS AND HONORS

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*Best Teaching Award* of the Faculty of Economics and Management of the University of Regensburg (2016)

*Best Paper Award* on the Global Real Estate Summit in Washington D.C. (2015)

*Best Paper Award* on the Finance and Corporate Governance Conference at La Trobe University, Melbourne (2011)

*Outstanding Paper Award* of the Korean Development Bank at the Fifth Annual Conference on Asia-Pacific Financial Markets of the Korean Securities Association, Seoul, Korea (2010)

*Research Award* on the 18th Conference on the Theories and Practices of Securities and Financial Markets, Kaohsiung, Taiwan (2010)

*Best Paper Award* of the Australian Securities Exchange (ASX) on the 22th Australasian Finance and Banking Conference, Sydney (2009)

*Best Paper Award* on the 14th Annual Meeting of the Global Finance Association, Melbourne (2007)

*Förderpreis of the Bayerische Landesbank*, Munich (2006)

*Best Teaching Award* of the Faculty of Economics and Management of the University of Regensburg (2005)

*Best Paper Award* on the 10th Annual Meeting of the Global Finance Association, Frankfurt (2003)

*Förderpreis of the Bayerische Landesbank*, Munich (1999)

*Doctorate grant* of the University of Regensburg (1995)

*Best Diploma* in Management of the Faculty of Economics and Management of the University of Regensburg (1994)

## PUBLICATIONS

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### Books, Monographs and Edited Volumes

Understanding Statistics and Probability - An Introduction to Methods, Techniques and Computer Applications  
2017, *Create Space Independent Publishing Platform*

Credit Risk Analytics: The R Companion,  
2017, *Create Space Independent Publishing Platform*, with Bart Baesens and Harald Scheule

Credit Risk Analytics: Measurement Techniques, Applications, and Examples in SAS  
2016, *Wiley and SAS Business Series*, with Bart Baesens und Harald Scheule

Operations Research Proceedings 2012 - Selected Papers of the International Annual Conference of the German Operations Research Society (GOR),

2014, *Springer*, with Stefan Helber, Michael Breitner, Cornelia Schön; Johann-Matthias Graf von der Schulenburg, Philipp Sibbertsen, Marc Steinbach, Stefan Weber and Anja Wolter (eds.)

Credit Securitisations and Derivatives - Challenges for the Global Markets  
2013, *Wiley*, with Harald Scheule (eds.)

Model Risk – Identification, Measurement and Management  
2010, *Risk Books*, with Harald Scheule (eds.)

Stress-testing for Financial Institutions - Applications, Regulations, and Techniques  
2008, *Risk Books*, with Harald Scheule (eds.)

Special Issue on Stress-testing  
2009, *Journal of Risk Model Validation* 3, with Harald Scheule (eds.)

Default Risk in Banking Portfolios  
2004, *Habilitation Thesis*, University of Regensburg

Empirische Identifikation von Wertpapierrisiken - Faktoren-, Arbitrage- und Gleichgewichtsmodelle im Vergleich  
1998, *Wiesbaden*, Gabler, Dissertation Thesis, University of Regensburg

### Refereed Publications

Bayesian Loss Given Default Estimation for European Sovereign Bonds  
2019, forthcoming: *International Journal of Forecasting*, with Ralf Kellner and Rainer Jobst

A Country Specific Point of View on International Diversification  
2019, forthcoming: *Journal of International Money and Finance*, with Ralf Kellner

Liquidity constraints, home equity and residential mortgage losses  
2019, forthcoming: *Journal of Real Estate Finance and Economics*, with Hung Do and Harald Scheule

Parameter Estimation, Bias Correction and Uncertainty Quantification in the Vasicek Credit Portfolio Model  
2019, forthcoming: *Journal of Risk*, with Marius Pfeuffer, Maximilian Nagl and Matthias Fischer

Hedging Parameter Risk  
2019, *Journal of Banking and Finance* 100, 111-121, with Arndt Claussen and Martin Schmelzle

Systematic Effects among Loss Given Defaults and their Implications on Downturn Estimation  
2018, *European Journal of Operational Research* 271, 1113-1144, with Jennifer Betz and Ralf Kellner

A Copula Sample Selection Model for Predicting Multi-Year LGDs and Lifetime Expected Losses,  
2018, forthcoming: *Journal of Empirical Finance*, with Steffen Krüger, Toni Oehme and Harald Scheule

Predicting loss severities for residential mortgage loans: A three-step selection approach,  
2018, *European Journal of Operational Research* 270(1), 246-259, with Hung Do and Harald Scheule

The Impact of Loan Loss Provisioning on Bank Capital Requirements  
2018, *Journal of Financial Stability* 36, 114-129, with Steffen Krüger and Harald Scheule

Macroeconomic Effects and Frailties in the Resolution of Non-Performing Loans  
2017, forthcoming: *Journal of Banking and Finance*, with Jennifer Betz, Ralf Kellner and Steffen Krüger

Downturn LGD Modeling using Quantile Regression  
2017, *Journal of Banking and Finance* 79, 42-56, with Steffen Krüger

Valuation of Systematic Risk in the Cross-Section of Credit Default Swap Spreads  
2016, *Quarterly Review of Economics and Finance* 64, 183-195, with Arndt Claussen, Sebastian Löhner and Harald Scheule

Quantifying Market Risk with Value-at-Risk or Expected Shortfall? - Consequences for Capital Requirements and Model Risk  
2016, *Journal of Economic Dynamics and Control* 68, 45-63, with Ralf Kellner

What Drives the Time to Resolution of Defaulted Bank Loans?  
2016, *Finance Research Letters* 18, 7-31, with Jennifer Betz und Ralf Kellner

Systematic Credit Risk and Pricing for Fixed Income Instruments,  
2016, *Journal of Fixed Income* 26(1), 42-60, with Harald Scheule

The Role of Loan Portfolio Losses and Bank Capital for Asian Financial System Resilience  
2016, *Pacific-Basin Finance Journal* 40, 289-305, with Harald Scheule

The Role of Model Risk in Extreme Value Theory for Capital Adequacy  
2016, *Journal Of Risk* 18(6), 39-70, with Ralf Kellner and Harald Scheule

Accuracy of Mortgage Portfolio Risk Forecasts during Financial Crises  
2016, *European Journal of Operational Research* 249 (2), 440-456, with Yongwong Lee and Harald Scheule

A Simple Econometric Approach for Modeling Stress Event Intensities  
2015, *Journal of Futures Markets* 35 (4), 300-320, with Rainer Jobst, Martin Schmelzle, and Harald Scheule

Cure Events in Default Prediction  
2014, *European Journal of Operational Research* 238, 846-857, with Marcus Wolter

An Analytical Approach for Systematic Risk Sensitivity of Structured Finance Products

- 2014, *Review of Derivatives Research* 17, 1-37, with Arndt Claussen and Sebastian Löhr
- Asset Portfolio Securitization and Cyclicity of Regulatory Capital  
2014, *European Journal of Operational Research* 237, 289-302, with Kristina Lützenkirchen and Harald Scheule
- Forecasting Probabilities of Default and Loss Rates Given Default in the Presence of Selection  
2014, *Journal of the Operational Research Society* 65, 393-407, with Harald Scheule
- Ratings Based Capital Adequacy for Securitizations  
2013, *Journal of Banking and Finance* 37, 5236-5247, with Kristina Lützenkirchen and Harald Scheule
- Forecasting Mortgage Securitization Risk under Systematic Risk and Parameter Uncertainty  
2013, *Journal of Risk and Insurance* 81, 563-586, with Harald Scheule
- The Path to Impairment: Do Credit Rating Agencies Anticipate Default Events of Structured Finance Transactions?"  
2013, *European Journal of Finance* 19 (9), 841-860, with Matthias Bodenstedt and Harald Scheule
- Dynamic Correlation Modeling and Spread Forecasting in Structured Finance  
2013, *Journal of Futures Markets* 33 (11), 994-1023, with Sebastian Löhr, Olga Mursajew and Harald Scheule
- Capital Incentives and Adequacy for Securitizations  
2012, *Journal of Banking and Finance* 36, 733-748, with Harald Scheule
- Mehrperiodenausfallprognose eines Bankportfolios aus deutschen mittelständischen Unternehmen  
2012, *Kredit und Kapital*, 45/2, with Marcus Wolter
- Empirical Performance of Loss Given Default Prediction Models  
2011, *Journal of Risk Model Validation* 5, No. 2, 25-44, with Benjamin Bade and Harald Scheule
- Default and Recovery Dependencies in a Simple Credit Risk Model  
2011, *European Financial Management* 17, No. 1, 120-144, with Benjamin Bade and Harald Scheule
- Downturn Credit Portfolio Risk, Regulatory Capital and Prudential Incentives  
2010, *International Review of Finance* 10, No. 2, 185-207, with Harald Scheule
- Credit Portfolio Models - Statistical Methods  
2009, *Encyclopedia of Quantitative Finance*, edited by Rama Cont
- Credit Portfolio Loss Forecasts for Economic Downturns  
2009, *Financial Markets, Institutions, and Instruments* 18, No. 1, 1-26, with Harald Scheule
- Downturn LGD for Hong Kong Mortgage Loan Portfolios  
2009, *Journal of Risk Model Validation* 3, No. 4, 3-11, with Harald Scheule

Credit Rating Impact on CDO Evaluation

2008, *Global Finance Journal* 19, 235-251, with Harald Scheule

Estimating Credit Contagion in a Standard Factor Model

2008, *Risk* 21, August, 78-82, with Birker Winterfeldt

Multiyear Dynamics for Forecasting Economic and Regulatory Capital in Banking

2007, *Journal of Credit Risk* 3, No. 4, 113-134, with Harald Scheule

Multiyear Risk of Credit Losses in SME Portfolios

2007, *Journal of Financial Forecasting* 1, No. 2, 25-53, with Alfred Hamerle, Rainer Jobst and Thilo Liebig

Stress-Testing Credit Risk Parameters - An Application to Retail Loan Portfolios

2007, *Journal of Risk Model Validation* 1, No. 1, 55-75, with Harald Scheule

Parameterizing Credit Risk Models

2006, *Journal of Credit Risk* 2, No. 4, 101-122, with Alfred Hamerle

A Multi-Factor Approach for Systematic Default and Recovery Risk

2005, *Journal of Fixed Income* 15, No. 2, 63-75, with Harald Scheule

Misspecified Copulas in Credit Risk Models: How Good Is Gaussian?

2005, *Journal of Risk* 8, No. 1, 41-58, with Alfred Hamerle

Backtesting von Ausfallwahrscheinlichkeiten und "Risiko2"

2005, *Die Unternehmung* 59, No. 6, 535-546, with Alfred Hamerle

Bankinterne Parametrisierung und empirischer Vergleich von Kreditrisikomodellen

2005, *Die Betriebswirtschaft* 65, No. 2, 179-196, with Alfred Hamerle

An Empirical Comparison of Default Risk Forecasts from Alternative Credit Rating Philosophies

2005, *International Journal of Forecasting* 21, 37-51

Forecasting Retail Portfolio Credit Risk

2004, *Journal of Risk Finance* 5, No. 2, Winter/Spring, 16-32, with Harald Scheule

Econometric Approaches for Sector Analysis

2004, in: Lehrbaß, F., Gundlach, M. (Hrsg): *CreditRisk+ in the Banking Industry*, Heidelberg, Springer-Verlag, 231-248, with Leif Boegelein, Alfred Hamerle and Michael Knapp

Modeling Systematic Consumer Credit Risk: Basel II and Reality

2003, *Risk Management Association Journal*, December 2003 - January 2004, 66-69, with Harald Scheule

Benchmarking Asset Correlations

2003, *Risk* 16, November, 77-81, with Alfred Hamerle and Thilo Liebig

Correlations and Business Cycles of Credit Risk: Evidence from Bankruptcies in Germany

2003, *Financial Markets and Portfolio Management* 17, No. 3, 309-331

Risikofaktoren und Korrelationen für Bonitätsveränderungen

2003, *Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung (ZfbF)* 55, Mai, 199-223,  
with Alfred Hamerle

The Informational Content of Credit Ratings and Cyclical Patterns of Default Rates

2002, *Central European Journal of Operations Research* 10, 163-186

Zum Einsatz "fundamentaler" Faktorenmodelle im Portfoliomanagement

1998, *Die Betriebswirtschaft* 58, No. 1, 38-48, with Alfred Hamerle

Zur empirischen Identifikation von Risikofaktoren bei Modellen der Arbitrage Pricing  
Theory

1998, *OR Spectrum* 20, No. 2, 123-134, with Alfred Hamerle

Das Surrogatproblem bei "multivariaten" CAPM-Tests

1997, *Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung (ZfbF)* 49, No. 10, 858-  
876, with Alfred Hamerle

Empirische Rendite-Risiko-Beziehung in der Kapitalmarktforschung: Meßfehlerproblem und  
Vergleich von OLS- und GLS-Schätzung

1996, *Allgemeines Statistisches Archiv* 80, No. 4, 361-370, with Alfred Hamerle

Ineffiziente Benchmarks und Identifikation der Bestimmungsfaktoren von  
Wertpapierrenditen

1996, *Allgemeines Statistisches Archiv* 80, No. 3, 299-312, with Alfred Hamerle

Kapitalmarktanomalien und Rendite-Risiko-Beziehung bei einem ineffizienten Marktindex

1996, *Financial Markets and Portfolio Management* 10, No. 1, 61-74, with Alfred Hamerle

### Other Publications

Finanzwirtschaft und Finanzinstitutionen

2013, *OR News*, 68-69, with Michael Breitner

Credit Ratings und Kapital für Verbriefungstransaktionen

2011, *Risikomanager* 9, 20-21, with Arndt Claussen, Sebastian Löhr, Kristina  
Lützenkirchen and Harald Scheule

Securitization Rating Performance and Agency Incentives

2011, *BIS Working Paper Series*, with Harald Scheule

Warum haben Ratings von Verbriefungen versagt?

2010, *Sparkassenzeitschrift* 73, Nr. 46, November

Foreword in *Breeden, J. L.: "Reinventing Retail Lending Analytics"*  
2010, Risk Books, London, with Harald Scheule

Sicherheit und Risikomanagement an den Finanzmärkten“  
2010, *Uni-Magazin, Leibniz Universität Hannover*, with Michael Breitner, Hans-Jörg von Mettenheim and Grigoriy Tymchenko

Downturn Model Risk - Another View on the Global Financial Crisis  
2010, in: *Model Risk – Identification, Measurement and Management*, Risk Books, with Harald Scheule

Credit Losses in Economic Downturns - Empirical Evidence for Hong Kong Mortgage Loans  
2008, *Hong Kong Institute for Monetary Research Working Paper No.15*, with Harald Scheule

Finanzwirtschaft und Finanzinstitutionen  
2009, *OR News*, 74-75, with Michael Breitner and Hans-Jörg v. Mettenheim

Integrating Stress-Testing Frameworks  
2008, in: *Stress-testing for Financial Institutions -Applications, Regulations, and Techniques*, Risk Books, with Harald Scheule

Estimating Credit Contagion in a Standard Factor Model  
2008, Oktober, *Risk Asia*, 66-71, with Birker Winterfeldt

A Multi-Factor Approach for Systematic Default and Recovery Risk  
2006, in: *The Basel II Risk Parameters*, Bernd Engelmann and Robert Rauhmeier (eds.), Springer, with Harald Scheule

Ein einfaches Modell zur Risikomessung von Kreditportfolien  
2005, in: *Wirtschaftsstatistik*, Festschrift zum 65. Geburtstag von Eberhard Schaich, 65-79, with Alfred Hamerle

Myth and Reality of Discriminatory Power for Rating Systems  
2005, *Wilmott Magazine*, January, 2-6, with Stefan Blochwitz, Alfred Hamerle, Stefan Hohl and Robert Rauhmeier

Modeling Systematic Consumer Credit Risk: Basel II and Reality  
2005, *Credit Technology* 53, 35-42, with Harald Scheule

Validierung von Ratingsystemen - Teil II: Performancemessung  
2005, *Kredit und Rating Praxis* 31, Nr. 1, 15-19, with Alfred Hamerle

Validierung von Ratingsystemen - Teil I: Statistische Validierung  
2004, *Kredit und Rating Praxis* 30, Nr. 6, 20-22, with Alfred Hamerle

Vergleich verschiedener Ansätze zur Modellierung von Assetkorrelationen  
2004, *Deutsches Risk* 4, Januar, 39-45, with Alfred Hamerle and Thilo Liebig

Was leisten Trennschärfemaße für Ratingsysteme?



2004, *Zeitschrift für das gesamte Kreditwesen* 57, Nr. 22, November, 1275-1278, with Stefan Blochwitz, Alfred Hamerle, Stefan Hohl and Robert Rauhmeier

Credit Risk Factor Modeling and the Basel II IRB Approach

2003, *Deutsche Bundesbank, Series 2: Banking and Financial Supervision*, No. 2, with Alfred Hamerle and Thilo Liebig

Assetkorrelationen der Schlüsselbranchen in Deutschland

2002, *Die Bank*, Juli, 470-473, with Alfred Hamerle and Thilo Liebig

Transfer von Kreditrisiko - Strukturen von Kreditderivaten

2001, *Kredit-Praxis* 27, Nr.1, 8-13

#### **AD-HOC REFEREEING**

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Applied Financial Economics, Business Research, Deutsche Forschungsgemeinschaft (DFG), Deutsche Gesellschaft für Finanzwirtschaft, Deutscher Akademischer Austausch Dienst, Die Betriebswirtschaft, Economic Notes, Empirical Economics, European Financial Management, European Journal of Finance, European Journal of Operational Research, Financial Markets and Portfolio Management, Fonds zur Förderung des wissenschaftlichen Nachwuchses, Frankfurter Institut für Risikomanagement und Regulierung, German Economic Review, IMA Journal of Management Mathematics, International Journal of Forecasting, Journal of Banking and Finance, Journal of Credit Risk, Journal of Economic Dynamics and Control, Journal of Empirical Finance, Journal of Financial Econometrics, Journal of Financial Intermediation, Journal of Financial Stability, Journal of The Operations Research Society, Journal of Risk Model Validation, Journal of The Royal Statistical Society, Kredit und Kapital, Österreichische Nationalbank, Quantitative Finance, Risk Magazine, Review of Managerial Science, Schmalenbach Business Review, Schweizerische Gesellschaft für Finanzmarktforschung, Swiss Journal of Economics and Statistics (SJES), Springer-Verlag, Statistics and Decision, Verband der Hochschullehrer für Betriebswirtschaft, Wiley & Sons, Zeitschrift für Bankrecht und Bankwirtschaft, Zeitschrift für Betriebswirtschaft, Zeitschrift für betriebswirtschaftliche Forschung