

**Professor Dr. Niklas Wagner**

Lehrstuhl für Betriebswirtschaftslehre  
mit Schwerpunkt Finanzcontrolling



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## **PhD-Seminar Advanced Studies in Finance and Financial Control**

WS 2024/25

The seminar is dedicated to advanced topics in the field of finance and financial control. It particularly addresses the following fields of interest:

- Applied financial econometrics
- Asset pricing and capital market microstructure
- Empirical finance, Empirical corporate finance
- Risk management
- Financial control

The seminar is addressed to participants who actively want to enhance their understanding in selected parts of the above areas. Contents will be discussed based on the following (non-exclusive) list of references, see Section II.

Participants should have acquired advanced skills in finance, applied statistics and econometrics, as well as background knowledge in probability theory and random processes (see e.g. Section I.).

Organizational details are given in Section III. Intense discussion of the contents within the seminar is encouraged.

# **I. General References**

## **I.1 Finance**

**Huang C.-F., Litzenberger R. H. (1988):** Foundations for Financial Economics, Elsevier/North-Holland, Amsterdam.

**Ingersoll J. E. (1987):** Theory of Financial Decision Making, Rowman & Littlefield, Totowa.

**Merton R. C. (1990):** Continuous-Time Finance, Blackwell, New York.

**Shiryaev A. N. (1999):** Essentials of Stochastic Finance – Facts, Models, Theory, World Scientific Publishing, River Edge.

## **I.2 Applied Probability**

**Grimmett G. R., Stirzaker D. R. (2001):** Probability and Random Processes, 3rd ed., Oxford University Press, Oxford.

**van der Vaart A. W. (1998):** Asymptotic Statistics, Cambridge University Press, Cambridge.

## **I.3 Empirical Finance**

**Brooks C. (2014):** Introductory Econometrics for Finance, 3rd ed., Cambridge University Press, Cambridge.

**Campbell J. Y., Lo A. W., MacKinlay A. C. (1997):** The Econometrics of Financial Markets, Princeton University Press, Princeton.

**Wagner N. (2020):** Empirical Finance Manuscript, University of Passau.

## **I.4 Econometrics**

**Greene W. H. (2018):** Econometric Analysis, 8th ed, Pearson, London.

**Kennedy P. (2008):** A Guide to Econometrics, 6th ed., Wiley, New York.

**Vogelvang B. (2005):** Econometrics: Theory and Applications with EViews, Pearson, London.

**Wooldridge J. M. (2013):** Introductory Econometrics, 5th ed., South-Western, Mason.

## **I.4 Special Topics in Statistics and Econometrics**

**Engle R. F., Granger C. W. J. (eds.) (1991):** Long-Run Economic Relationships, Readings in Cointegration, Oxford University Press, Oxford.

**Greenberg E. (2008):** Introduction to Bayesian Econometrics, Cambridge University Press, Cambridge.

**Koenker R. (2005):** Quantile Regression, Cambridge University Press, Cambridge.

**Li W. K. (2004):** Diagnostic Checks in Time Series, Chapman & Hall/CRC, Boca Raton.

### I.5 Special Topics in Finance and Financial Control

The following references provide further overview treatments on special topics in finance and financial control, including applied financial econometrics.

**Amihud Y., Mendelson H., Pedersen L. H. (2005):** Liquidity and Asset Pricing, Foundations and Trends in Finance, Volume 1, pp. 269-364.

**Batten J. A., Wagner N. (eds.) (2012):** Derivative Securities Pricing and Modelling, CSEFA Volume 94, Emerald, Bingley.

**Batten J. A., Wagner N. (eds.) (2014):** Risk Management Post Financial Crisis: A Period of Monetary Easing, CSEFA Volume 96, Emerald, Bingley.

**Batten J. A., MacKay P., Wagner N. (eds.) (2013):** Advances in Risk Management, Palgrave MacMillan, London.

**Gregoriou, G. N. (ed.) (2009):** Stock Market Volatility, Chapman & Hall CRC, Boca Raton.

**Lhabitant F. S., Gregoriou, G. N. (eds.) (2008):** Stock Market Liquidity, Wiley, Hoboken.

**Markowitz H. M. (1987):** Mean-Variance Analysis in Portfolio Choice and Capital Markets, Blackwell, New York.

**Prigent J.-L. (2007):** Portfolio Optimization and Performance Analysis, Chapman & Hall CRC, Boca Raton.

**Wagner N. (ed.) (2008):** Credit Risk: Models, Derivatives, and Management, Chapman & Hall CRC, Boca Raton.

### I.6 Computational and Other References

The following references provide treatments on computational statistics and numerical financial calculations. They mostly include treatments of R.

**Davison A. C., Hinkley D. V. (1997):** Bootstrap Methods and their Application, Cambridge University Press, Cambridge.

- Faraway J. J. (2005):** Linear Models with R, Chapman & Hall/CRC, Boca Raton.
- Ligges U. (2007):** Programmieren mit R, 2. Aufl., Springer, Berlin, Heidelberg.
- Nenadic O., Zucchini W. (2004):** Statistical Analysis with R, Mimeo, Göttingen.
- Paradis E. (2005):** R for Beginners, Technical Document, Université de Montpellier II.
- Rizzo M. L. (2008):** Statistical Computing with R, Chapman & Hall CRC, Boca Raton.
- Rogers, L. C. G., Talay, D. (eds.) (1997):** Numerical Methods in Finance, Cambridge University Press, Cambridge.
- Venables W. N., Ripley B. D. (2002):** Modern Applied Statistics with S, 4th ed., Springer, New York.
- Venables W. N., Smith D. M (2009):** An Introduction to R: A Programming Environment for Data Analysis and Graphics, The R Development Core Team, Vienna.

## **II. Course References**

### **II.1 Asset Pricing and Market Microstructure**

- Brunnermeier M. K. (2001):** Asset Pricing Under Asymmetric Information, Oxford University Press, Oxford.
- Cochrane J. H. (2001):** Asset Pricing, Princeton University Press, Princeton.
- Dixit A. K., Pindyck R. S. (1994):** Investment under Uncertainty, Princeton University Press, Princeton.
- Duffie J. D. (2001):** Dynamic Asset Pricing Theory, 3rd ed., Princeton University Press, Princeton.
- Hasbrouck J. (2007):** Empirical Market Microstructure, Oxford University Press, Oxford.
- Lengwiler Y. (2004):** Microfoundations of Financial Economics, Princeton University Press, Princeton.
- O'Hara M. (1995):** Market Microstructure Theory, Blackwell, New York.
- Pennacchi G. (2008):** Theory of Asset Pricing, Pearson Addison Wesley, Boston.
- Singleton K. J. (2006):** Empirical Dynamic Asset Pricing, Princeton University Press, Princeton.

## II.2 Econometrics and Financial Econometrics

**Davidson R., MacKinnon J. G. (1993):** Estimation and Inference in Econometrics, Oxford University Press, Oxford.

**Gourieroux C., Jasiak J. (2001):** Financial Econometrics, Princeton University Press, Princeton.

**Hamilton J. D. (1994):** Time Series Analysis, Princeton University Press, Princeton.

**Hayashi F. (2000):** Econometrics, Princeton University Press, Princeton.

**Maddala G. S., Kim I.-M. (1998):** Unit Roots, Cointegration, and Structural Change, Cambridge University Press, Cambridge.

**Peracchi F. (2001):** Econometrics, Wiley, Chichester.

**Winkelmann R. (1997):** Econometric Analysis of Count Data, 2nd ed., Springer, New York.

**Wooldridge J. M. (2002):** Econometric Analysis of Cross Section and Panel Data, MIT Press, Cambridge.

## II.3 Financial Modeling and Stochastic Calculus

**Björk T. (2009):** Arbitrage Theory in Continuous Time, 3rd ed., Oxford University Press, Oxford.

**Cont R. (2008):** Frontiers in Quantitative Finance, Volatility and Credit Risk Modeling, Wiley, Hoboken.

**Cont R., Tankov P. (2008):** Financial Modeling with Jump Processes, 2nd ed., Chapman & Hall CRC, Boca Raton.

**Lamberton D., Lapeyre B. (1996):** Introduction to Stochastic Calculus Applied to Finance, Chapman & Hall CRC, Boca Raton.

**Mikosch T. (1998):** Elementary Stochastic Calculus, World Scientific Publishing, River Edge.

**Wiersema U. F. (2008):** Brownian Motion Calculus, Wiley, Chichester.

## II.4 Risk Modelling, Management and Financial Control

**Bluhm C., Overbeck L. (2007):** Structured Credit Portfolio Analysis, Baskets and CDOs, Chapman & Hall CRC, Boca Raton.

**Duffie J. D., Singleton K. J. (2003):** Credit Risk, Princeton University Press, Princeton.

**Lando D. (2004):** Credit Risk Modeling, Princeton University Press, Princeton.

**Lo A. W. (2008):** Hedge Funds: An Analytic Perspective, Princeton University Press, Princeton.

**McNeil A. J., Frey R., Embrechts P. (2015):** Quantitative Risk Management, rev. ed., Princeton University Press, Princeton.

**Rachev S. T., Mittnik S. (2000):** Stable Paretian Models in Finance, Wiley, Chichester.

**Schönbucher P. J. (2003):** Credit Derivatives Pricing Models, Wiley, Chichester.

**Sriboonchitta S., Wong W.-K., Dhompongsa S., Nguyen H. T. (2010):** Stochastic Dominance and Applications to Finance, Risk and Economics, Chapman & Hall CRC, Boca Raton.

**Taylor S. J. (2005):** Asset Price Dynamics, Volatility, and Prediction, Princeton University Press, Princeton.

**Wu, L. (2009):** Interest Rate Modeling: Theory and Practice, Chapman & Hall CRC, Boca Raton.

## II.5 Statistical Modeling and Financial Control

**Beran J. (1994):** Statistics for Long-Memory Processes, Chapman & Hall CRC, Boca Raton.

**Coles S. (2001):** An Introduction to Statistical Modeling of Extreme Values, Springer, London.

**Embrechts P., Klüppelberg C., Mikosch T. (1997):** Modeling Extremal Events for Insurance and Finance, Springer, New York.

**Fahrmeir L., Tutz G. (2001):** Multivariate Statistical Modeling Based on Generalized Linear Models, 2nd ed., Springer, New York.

**Glasserman P. (2003):** Monte Carlo Methods in Financial Engineering, Springer, New York.

- Iacus S. M. (2008):** Simulation and Inference for Stochastic Differential Equations, Springer, New York.
- Kim C.-J., Nelson C. R. (1999):** State-Space Models with Regime Switching, MIT Press, Cambridge.
- Mandelbrot B. B. (1997):** Fractals and Scaling in Finance: Discontinuity, Concentration, Risk, Springer, New York.
- Maronna R. A., Martin, R. D., Yohai, V. J. (2006):** Robust Statistics, Theory and Methods, Wiley, Chichester.
- Norris J. R. (1997):** Markov Chains, Cambridge University Press, Cambridge.
- Robert C. P., Casella, G. (2004):** Monte Carlo Statistical Methods, 2nd ed., Springer, New York.
- Speyer J. L., Chung W. H. (2008):** Stochastic Processes, Estimation, and Control, SIAM, Philadelphia
- Wang H. (2012):** Monte Carlo Simulation with Applications to Finance, Chapman & Hall CRC, Boca Raton.
- Zucchini W., MacDonald I. L. (2009):** Hidden Markov Models for Time Series, Chapman & Hall CRC, Boca Raton.

### **III. Organizational Issues**

<b>Type of Course:</b>	Blocked seminar
<b>Target Audience:</b>	PhD Students in Business and Economics with a research interest in Corporate Finance, Financial Economics, International Financial Markets, Financial Econometrics and / or Financial Control.
<b>Credit Points:</b>	Creditable as a PhD Seminar
<b>Contribution:</b>	(i) Interactive contributions to the seminar <i>discussion</i> ; (ii) In-depth <i>presentation</i> of a relevant field of interest as treated in the references of Section II. Additionally, books from Sections I.1 and I.2 as well as individual book or literature review suggestions are possible choices. The presented field should relate to one reference or to several chapters of two references. All selections are subject to individual arrangement between supervisor and candidate. (iii) Based on the field of interest in (ii), a written three page <i>research proposal</i> , which includes benchmark paper references and the basic research idea.
<b>Registration:</b>	Application via Email to the Chair in Finance and Financial Control: <a href="mailto:fincon@uni-passau.de">fincon@uni-passau.de</a> .