

## Finanzökonometrisches MA-Seminar

### Sommersemester 2014

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#### Proposed Topics:

(1) *Vine Copulas*

Advisor: Malte Kurz ([malte.kurz@stat.uni-muenchen.de](mailto:malte.kurz@stat.uni-muenchen.de))

References:

- Aas, Czado, Frigessi & Bakken (2009): Pair-Copula Constructions of Multiple Dependence. *Insurance: Mathematics and Economics* 44(2), pp. 182–198.
- Brechmann & Schepsmeier (2013): Modeling Dependence with C- and D-Vine Copulas: The R Package CDVine. *Journal of Statistical Software* 52(3), pp. 1–27.
- Hobæk Haff, Aas & Frigessi (2010): On the simplified pair-copula construction – Simply useful or too simplistic? *Journal of Multivariate Analysis* 101(5), pp. 1296–1310.
- Stöber, Joe & Czado (2012): Simplified Pair Copula Constructions – Limits and Extensions. *Journal of Multivariate Analysis* 119, pp. 101–118.

(2) *Time-Varying Copulas*

Advisor: Malte Kurz ([malte.kurz@stat.uni-muenchen.de](mailto:malte.kurz@stat.uni-muenchen.de))

References:

- Manner & Reznikova (2012): A Survey on Time-Varying Copulas: Specification, Simulations, and Application. *Econometric Reviews* 31(6), pp. 654–687.
- Patton (2006): Modelling asymmetric exchange rate dependence. *International Economic Review* 47(2), pp. 527–556.

(3) *Multivariate GARCH Models*

Advisor: Holger Fink ([holger.fink@stat.uni-muenchen.de](mailto:holger.fink@stat.uni-muenchen.de))

References:

- Tsay (2005): *Analysis of Financial Time Series*. Chapter 9.

- Bauwens & Laurent & Rombouts (2006): Multivariate GARCH Models: A Survey. *Journal of Applied Econometrics* 21, pp. 70–109.
- Engle (2002): Dynamic Conditional Correlation: A Simple Class of Multivariate Generalized Autoregressive Conditional Heteroskedasticity Models. *Journal of Business & Economic Statistics* 20(3), pp. 339–350.

(4) ***Volatility Surfaces***

Advisor: Holger Fink ([holger.fink@stat.uni-muenchen.de](mailto:holger.fink@stat.uni-muenchen.de))

References:

- Hull (2012): *Options, Futures, and Other Derivatives*. Chapter 14.
- Cont R., Fonseca J. and Durrleman V. (2002): Stochastic Models of Implied Volatility Surfaces. *Economic Notes by Banca Monte dei Paschi di Siena Spa.* 3, pp. 361–377.

(5) ***Factor Models***

Advisor: Holger Fink ([holger.fink@stat.uni-muenchen.de](mailto:holger.fink@stat.uni-muenchen.de))

References:

- Ruppert (2011): *Statistics and Data Analysis for Financial Engineering*. Chapter 17.
- Tsay (2005): *Analysis of Financial Time Series*. Chapter 8.
- Connor (1995): The Three Types of Factor Models: A Comparison of Their Explanatory Power. *Financial Analysts Journal* 51, pp. 42–46.

(6) ***Unit Root Testing***

Advisor: Serkan Yener ([serkan.yener@stat.uni-muenchen.de](mailto:serkan.yener@stat.uni-muenchen.de))

References:

- Hayashi (2000): *Econometrics*. Chapter 9.
- Dickey & Fuller (1979): Distribution of Estimators for Autoregressive Time Series with a Unit Root. *Journal of the American Statistical Association* 74, pp. 427–431.
- Kwiatkowski & Phillips & Schmidt & Shin (1979): Testing the Null Hypothesis of Stationarity Against the Alternative of a Unit Root. *Journal of Econometrics* 54, pp. 159–178.
- Perron (1989): The Great Crash, the Oil Price Shock, and the Unit Root Hypothesis. *Econometrica* 57, pp. 1361–1401.

(7) ***Cointegration & Pairs Trading***

Advisor: Serkan Yener ([serkan.yener@stat.uni-muenchen.de](mailto:serkan.yener@stat.uni-muenchen.de))

References:

- Ruppert (2011): *Statistics and Data Analysis for Financial Engineering*. Chapter 15.
- Alexander & Giblin & Weddington III (2001): Cointegration and Asset Allocation: A New Hedge Fund. *ISMA Centre Discussion Papers in Finance*, [URL](#).
- Gatev & Goetzmann & Rouwenhorst (2006): Pairs Trading: Performance of a Relative-Value Arbitrage Rule. *The Review of Financial Studies* 19, pp. 797–827.

(8) ***Realized Volatility & HAR(CH)-RV Models***

Advisor: Serkan Yener ([serkan.yener@stat.uni-muenchen.de](mailto:serkan.yener@stat.uni-muenchen.de))

References:

- McAleer & Medeiros (2008): Realized Volatility: A Review. *Econometric Reviews* 27, pp. 10–45.
- Corsi (2009): A Simple Approximate Long-Memory Model of Realized Volatility. *Journal of Financial Econometrics* 7, pp. 174–196.
- Müller & Dacorogna & Davé & Olsen & Pictet & von Weizsäcker (1997): Volatilities of Different Time Resolutions: Analyzing the Dynamics of Market Components. *Journal of Empirical Finance* 4, pp. 213–239.

(9) ***Resampling Techniques for Portfolio Analysis***

Advisor: Serkan Yener ([serkan.yener@stat.uni-muenchen.de](mailto:serkan.yener@stat.uni-muenchen.de))

References:

- Ruppert (2011): *Statistics and Data Analysis for Financial Engineering*. Chapter 6.
- Michaud (1989): The Markowitz Optimization Enigma: Is 'Optimized' Optimal? *Financial Analysts Journal* 45, pp. 31–42.
- Scherer (2002): Portfolio Resampling: Review and Critique. *Financial Analysts Journal* 58, pp. 98–109.

## General Requirements for 9 ECTS Credits:

- (1) writing a term paper (at least 50,000 words)
- (2) presenting the term paper at the seminar (about 30 minutes)
- (3) complete attendance

## Modus Operandi:

- (1) Working language is either German or English (depending on participants' preference).
- (2) The topics and additional organizational matters will be addressed in the preparatory meeting at 04:00 pm s.t. on April 10 in room 245 (Ludwigstr. 33/II).
- (3) Every student must pick three topics, list them in a preferential ordering (highest to lowest), and send this list no later than noon of April 14 to one of the above organizers.
- (4) The organizers will assign topics according to (highest) preferences (if possible) or by lottery. Students will be informed about the outcome of this assignment process on April 14.
- (5) Every student is required to meet with the responsible advisor within the first two weeks after the assignment process is completed.
- (6) This seminar will be held as a one-day workshop on June 23.
- (7) Term paper submission no later than noon June 11. No exceptions granted!