

AKSOE 14 Financial Markets and Risk Management II

Zeit: Mittwoch 14:00–16:00

Raum: TU P-N203

AKSOE 14.1 Mi 14:00 TU P-N203

Connection between autocorrelated order flow and uncorrelated stock returns — ●PHILIPP WEBER and BERND ROSENOW — Institut für Theoretische Physik der Universität zu Köln, Zùlpicher Straße 77, 50937 Köln

Trades at a stock exchange are initiated by market orders, i.e. orders to buy or sell a certain amount of stocks immediately. The flow of market orders has strong autocorrelations, hence the knowledge of past order flow allows a prediction of future order flow for a time period of several hours. In contrast, stock returns are almost completely uncorrelated and cannot be predicted for more than a few minutes. This is quite surprising because the execution of market orders has a strong influence on stock price changes.

In order to explain this puzzle, we analyzed trading strategies taking advantage of the predictability of order flow. For example, a "front runner" uses her knowledge about future order flow. If she predicts a large market buy order, she buys these shares just before the predicted order arrives and sells them at a profit afterwards. We describe models based on such profitable strategies and show that by using the order flow correlations for earning money the correlations of returns are destroyed. Our model reproduces the empirically found correlations between returns and order flow.

AKSOE 14.2 Mi 14:30 TU P-N203

On optimization of CAPM-Portfolios by calculation and underwriting the loss — ●ULI WILLIBALD SPREITZER¹, VLADIMIR REZNIK¹ und THOMAS RIEPL² — ¹Dr. Dr. Heissmann GmbH, Abraham-Lincoln-Str. 22, 65189 Wiesbaden — ²Thomas-Mann-Straße 22, 93077 Bad Abbach

For a portfolio, consisting of an investment without risk and an investment with variable return we calculate the loss by "lower partial moments". We show constellations, when it is preferable to invest in the investment with variable rate of return and to safeguard the possible loss of this investment by an insurance. We discuss this for different insurance premiums.

AKSOE 14.3 Mi 15:00 TU P-N203

Tobin Tax and market depth — ●GUDRUN EHRENSTEIN^{1,2}, DIETRICH STAUFFER¹, and FRANK WESTERHOFF³ — ¹Institute for Theoretical Physics, Cologne University — ²School of Engineering and Science, International University of Bremen — ³Department of Economics, University of Osnabrück

This paper investigates - on the basis of the Cont-Bouchaud model - whether a Tobin tax can stabilize foreign exchange markets. Compared to earlier studies, this paper explicitly recognizes that a transaction tax-induced reduction in market depth may increase the price responsiveness of a given order. We find that the imposition of a transaction tax may still achieve a triple dividend: (1) exchange rate fluctuations decrease, (2) currencies are less mispriced, and (3) central authorities raise substantial tax revenues. However, if the price impact function is too sensitive with respect to market depth, stabilization may turn into destabilization.

AKSOE 14.4 Mi 15:30 TU P-N203

Stock markets cross-levels correlations: Short-range stock return linear regression models for developing stock markets — ●MICHAEL ROMANOVSKY, VLADISLAV KHARLAMOV, ANDREW SHURUP, and IGOR ZHUKOV — General physics Institute, Vavilov str., 38, 119991 Moscow Russia

An account of levels of international stock markets is convenient for analysis of one-level and cross-level correlations of securities on stock markets since one may expect a reaction of stock rates on cumulative indexes changes, especially in developing economics. Cross-level correlations between stocks of developing markets (beginning Russian and Brazil markets) and indices of all highest levels are investigated. Linear multi-regression models are generated. It includes basic model variables: various MSCI indexes and several commodity price returns, and the function: the investigated stock price return. The result was done for the Russian Trade System index RTSI (Russian electronic stock exchange) using 2 variables of MSCI indexes WRLD/ENERGY and WRLD/INFORMATION TECH as well as 2 variables of commodities OIL and ALUMINIUM. Using the base of correlation matrices traced for all 2001, the value R2adj for the

first 10 days of 2002 is 0.248. The same analysis was conducted for Brazil national stock index BOVESPA. There were used two variables (MSCI indexes) WRLD/CONSUMER STAPLES and WRLD/INFORMATION TECH only. The prediction coefficient was smaller than for RTSI: R2adj = 0,168. The proposed method could be used for short-range forecasts of developing stock markets dynamics.