The phenomenon of time-varying variation of financial returns has been extensively explored in financial as well as econometric literature. The aim of this thesis is to advance various aspects of measuring and modeling volatility of financial assets. This thesis consists of four independent research papers and it quite naturally falls into two parts. The first part focuses on direct volatility measurements using high-frequency data. Particular attention is addressed to the presence of jumps as it is of great interest to distinguish between the volatility and the jump risk. This part discusses some new procedures designed to detect jumps in asset prices. The second part concerns modeling of financial volatility. This part of the thesis presents new models for the time-varying dependence of multiple assets. Together with simulation studies and empirical illustrations, the developed in this thesis methods and models to measure and model financial volatility are demonstrated to provide better results over standard alternative approaches.

Pawel Janus (1981) holds a Master of Science degree from Warsaw School of Economics (2006). He then moved to the Netherlands and graduated in Tinbergen Institute MPhil programme (2008) with a concentration in econometrics and finance. He next joined the Tinbergen Institute and VU University Amsterdam to conduct doctoral research in the area of time series analysis with applications to financial data. As of October 2011 he has been working as a Quantitative Risk Specialist at UBS.

Invitation

To the Public Defence of the Doctoral Thesis

Developments in Measuring and Modeling Financial Volatility

by

Pawel Janus

on Thursday 16 February 2012 at 11.45am in the Aula of VU University Amsterdam De Boelelaan 1105, Amsterdam

After the defence there will be a reception in the same building

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