Essays in Empirical Finance:

Volatility, Interdependencies, and Risk in Emerging Markets

Anders C. Johansson
# Table of Contents

Acknowledgements vii  
Introduction xi  
Emerging Markets xi  
Summary of Essays xiv  
References xvii

**Essay 1**  
Spillover Effects among the Greater China Stock Markets  
1. Introduction 2  
2. Literature Review 3  
3. Greater China Equity Markets 5  
4. Data, Unit Roots and Cointegration Tests 7  
4.1 Data and Descriptive Statistics 7  
4.2 Unit Root, Cointegration, and Asymmetry in Volatility 11  
5. Spillover Effects in Returns and Volatilities 16  
6. Empirical Results of the VAR-MVEGARCH 18  
7. Conclusion 26  
References 28

**Essay 2**  
Decomposing the Relationship between Exchange Rates and Stock Prices in Asia by Timescale  
1. Introduction 2  
2. Exchange Rates and Stock Prices 3  
3. Heterogenous Markets 5  
4. Wavelets and Multiresolution Analysis 7  
5. Data and Empirical Results 10  
5.1 Data 10  
5.2 Unit Roots 16  
5.3 Granger Causality Tests on Raw Returns 17  
5.4 MRA and Causality Tests on Different Scales 18  
6. Conclusion 25  
References 26
### Essay 3
**Interdependencies among Asian Bond Markets**

1. Introduction 2
2. Regional Bond Market Development 4
3. Data and Descriptive Statistics 7
4. Unit Root and Cointegration Tests 10
5. Modeling Mean, Volatility and Correlation 15
6. Conclusion 26
References 28

### Essay 4
**Stochastic Volatility and Time-Varying Country Risk in Emerging Markets**

1. Introduction 2
2. Time-Varying Country Risk 4
   - 2.1 CAPM and Beta 4
   - 2.2 The Conditional CAPM 5
   - 2.3 Methods of Estimating Conditional Beta 5
3. Stochastic Volatility 7
   - 3.1 A New Multivariate Stochastic Volatility Model 10
   - 3.2 MCMC Estimation methodology 11
   - 3.3 Model Comparison 13
4. Data and Empirical Results 14
   - 4.1 Data and Descriptive Statistics 15
   - 4.2 Empirical Results of Stochastic Volatility Model 15
   - 4.3 Conditional Beta Estimation 25
   - 4.4 Comparing MSV and GARCH 28
5. Conclusion 30
References 33