

Contents

1	Introduction	1
2	Efficient Stock Markets	7
2.1	Equilibrium Models of Asset Pricing	8
2.1.1	The Martingale Model of Stock Prices	8
2.1.2	Lucas' Consumption Based Asset Pricing Model	9
2.2	Econometric Tests of the Efficient Market Hypothesis	13
2.2.1	Autocorrelation Based Tests	14
2.2.2	Volatility Tests	16
2.2.3	Time-Varying Expected Returns	25
3	The Informational Role of Volume	29
3.1	Standard Grossman-Stiglitz Model	31
3.2	The No-Trad Result of the BEO Model	34
3.3	A Model with Nontradable Asset	37
4	Volume and Volatility of Stock Returns	43
4.1	Empirical and Numerical Results	45
4.2	Summary	50

5	Nonlinear Analysis of Return and Volume	59
5.1	A Preliminary Data Exploration	60
5.2	Estimation of the Conditional Density	64
5.2.1	SNP Estimator	64
5.2.2	SNP Fitting of the Bivariate Return- Volume Conditional Density	67
5.3	Nonlinear Impulse Response Analysis	72
5.3.1	Conditional Mean and Conditional Variance Profile	72
5.3.2	Computation	74
5.3.3	Empirical Results	75
6	Testing the Structure Model	85
6.1	The Structural Model	86
6.2	Efficient Method of Moments	87
6.2.1	EMM Estimator	89
6.3	Application of EMM	91
6.3.1	Score Generator	91
6.3.2	Estimation of the Structural Model	92
6.4	Does the Stochastic Volatility Model Do Better?	96
6.5	Summary	98
7	Conclusions	103
A	Proof of Proposition 1	107
B	Proof of Proposition 2	113
	References	123