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Nota di contenuto	ARCH Models for Financial Applications; Contents; Preface; Notation; 1 What is an ARCH process?; 1.1 Introduction; 1.2 The autoregressive conditionally heteroscedastic process; 1.3 The leverage effect; 1.4 The non-trading period effect; 1.5 The non-synchronous trading effect; 1.6 The relationship between conditional variance and conditional mean; 1.6.1 The ARCH in mean model; 1.6.2 Volatility and serial correlation; 2 ARCH volatility specifications; 2.1 Model specifications; 2.2 Methods of estimation; 2.2.1 Maximum likelihood estimation; 2.2.2 Numerical estimation algorithms 2.2.3 Quasi-maximum likelihood estimation2.2.4 Other estimation methods; 2.3 Estimating the GARCH model with EViews 6: an empirical example; 2.4 Asymmetric conditional volatility specifications; 2.5 Simulating ARCH models using EViews; 2.6 Estimating asymmetric ARCH models with G@RCH 4.2 OxMetrics: an empirical example; 2.7 Misspecification tests; 2.7.1 The Box-Pierce and Ljung-Box Q statistics;

2.7.2 Tse's residual based diagnostic test for conditional heteroscedasticity; 2.7.3 Engle's Lagrange multiplier test; 2.7.4 Engle and Ng's sign bias tests
 2.7.5 The Breusch-Pagan, Godfrey, Glejser, Harvey and White tests
 2.7.6 The Wald, likelihood ratio and Lagrange multiplier tests; 2.8 Other ARCH volatility specifications; 2.8.1 Regime-switching ARCH models; 2.8.2 Extended ARCH models; 2.9 Other methods of volatility modelling; 2.10 Interpretation of the ARCH process; Appendix; 3 Fractionally integrated ARCH models; 3.1 Fractionally integrated ARCH model specifications; 3.2 Estimating fractionally integrated ARCH models using GARCH 4.2 OxMetrics: an empirical example
 3.3 A more detailed investigation of the normality of the standardized residuals: goodness-of-fit tests
 3.3.1 EDF tests; 3.3.2 Chi-square tests; 3.3.3 QQ plots; 3.3.4 Goodness-of-fit tests using EViews and GARCH; Appendix; 4 Volatility forecasting: an empirical example using EViews 6; 4.1 One-step-ahead volatility forecasting; 4.2 Ten-step-ahead volatility forecasting; Appendix; 5 Other distributional assumptions; 5.1 Non-normally distributed standardized innovations
 5.2 Estimating ARCH models with non-normally distributed standardized innovations using GARCH 4.2 OxMetrics: an empirical example
 5.3 Estimating ARCH models with non-normally distributed standardized innovations using EViews 6: an empirical example; 5.4 Estimating ARCH models with non-normally distributed standardized innovations using EViews 6: the logl object; Appendix; 6 Volatility forecasting: an empirical example using GARCH Ox; Appendix; 7 Intraday realized volatility models; 7.1 Realized volatility; 7.2 Intraday volatility models
 7.3 Intraday realized volatility and ARFIMAX models in GARCH 4.2 OxMetrics: an empirical example

Sommario/riassunto

Autoregressive Conditional Heteroskedastic (ARCH) processes are used in finance to model asset price volatility over time. This book introduces both the theory and applications of ARCH models and provides the basic theoretical and empirical background, before proceeding to more advanced issues and applications. The Authors provide coverage of the recent developments in ARCH modelling which can be implemented using econometric software, model construction, fitting and forecasting and model evaluation and selection. Key Features: Presents a comprehensive overview of both t