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Range Volatility Models and Their Applications in Finance

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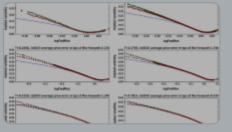
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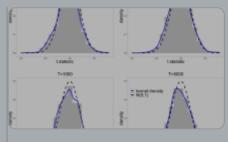
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Chou (2005, 2006), Cheung (2007), Martens and van Dijk (2007), Chou and Wang (2007), Chou et al. (2007), and Chou and Liu (2008a,b).

References

Alizadeh, S., M. Brandt, and F. Diebold. 2002. "Range-based estimation of Stochastic Volatility models." *Journal of Finance* 57, 1047–1091.

Article Google Scholar

Andersen, T., T. Bollerslev, F. Diebold, and H. Ebens. 2001. "The distribution of realized stock return volatility." *Journal of Financial Economics* 61, 43–76.

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price volatility: theory, evidence, and application to option pricing." *Journal of Business* 57, 97–112.

Article Google Scholar

Barndorff-Nielsen, O. and N. Shephard. 2003. "How accurate is the asymptotic approximation to the distribution of realised volatility?," in *Identification and inference for econometric models*, A Festschrift for Tom Rothenberg, D. Andrews, J. Powell, P. Ruud, and J. Stock (Eds.). Econometric Society Monograph Series, Cambridge University Press, Cambridge.

Google Scholar

Bauwens, L., S. Laurent, and J. V. K. Rombouts. 2006. "Multivariate GARCH models: a survey." *Journal of Applied Econometrics* 21, 79–109

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review of the theory and empirical evidence." Journal of Econometrics 52, 5-59.

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Brandt, M. and F. Diebold. 2006. "A no-arbitrage approach to range-based estimation of return covariances and correlations." *Journal of Business* 79, 61–74.

Article Google Scholar

Brandt, M and C. Jones. 2006. "Volatility forecasting with range-based EGARCH models." *Journal of Business and Economic Statistics* 24, 470–486.

Article Google Scholar

Cappiello L., R. Engle, and K. Sheppard, 2006, "Asymmetric dynamics in the

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Chou, R. Y. and N. Liu. 2008a. *The economic value of volatility timing using a range-based volatility model*, Working paper, Academia Sinica.

Google Scholar

Chou, R. Y. and N. Liu. 2008b. *Estimating time-varying hedge ratios with a range-based multivariate volatility model*, Working paper, Academia Sinica.

Google Scholar

Chou, H. and D. Wang. 2007. "Forecasting volatility of UK stock market: a test of conditional autoregressive range (CARR) model." *International Research Journal of Finance and Economics* 10, 7–13.

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Cox, J. and M. Rubinstein. 1985. Options markets, Prentice-Hall, NJ.

Google Scholar

Engle, R. F. 1982. "Autoregressive conditional heteroscedasticity with estimates of the variance of United Kingdom inflation." *Econometrica* 50, 987–1007.

Article Google Scholar

Engle, R. 2002a. "Dynamic conditional correlation: a simple class of multivariate GARCH models." *Journal of Business and Economic Statistics* 20, 339–350.

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Garman, M. and M. Klass. 1980. "On the estimation of security price volatilities from historical data." *Journal of Business* 53, 67–78.

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Grammatikos, T. and A. Saunders. 1986. "Futures price variability: a test of maturity and volume effects." *Journal of Business* 59, 319–330.

Article Google Scholar

Hanke, J. and D. Wichern. 2005. *Business forecasting*, 8th ed., Prentice Hall, New York.

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Martens, M. and D. van Dijk. 2007. "Measuring volatility with the realized range." *Journal of Econometrics* 138, 181–207.

Article Google Scholar

McAleer, M. and M. Medeiros. 2008. "Realized volatility: a review." *Econometric Reviews* 27, 10-45.

Article Google Scholar

Nelson, D. 1991. "Conditional heteroskedasticity in asset returns: a new approach." *Econometrica* 59, 347–370.

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Rogers, L., S. Satchell, and Y. Yoon. 1994. "Estimating the volatility of stock prices: a comparison of methods that use high and low prices." *Applied Financial Economics* 4, 241–247.

Article Google Scholar

Shu, J. H. and J. E. Zhang. 2006. "Testing range estimators of historical volatility." *Journal of Futures Markets* 26, 297–313.

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Taylor, S. J. 1986. *Modelling financial time series*, Wiley, Chichester.

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