

Chapter 6

Conclusion

The effect of the Singapore oil price in logarithm return is presented that it has time-varying correlations in dynamic conditional correlation with the others log return of Asia stock index. The time-varying correlations in dynamic conditional correlation multivariate model DCC, the regime-switching SETAR (Self Exciting Threshold Autoregressive model), and smooth transition conditional correlation model, LSTAR (Logistic Smooth Threshold Autoregressive model) are presented in the thesis.

The testing for the constant-correlation hypothesis based on the Lagrange Multiplier (LM) approach in Journal of econometrics (Tse.Y.K., 2000) found that the KLSE (KLSE Composite index), Malaysian stock market, the BSESN (Bombay SE Sensitive index) Bombay Stock Exchange indicates statistical significance at the 10% level. Thus, there is no evidence against time-invariant correlations. These results have low correlations and/or their relationships stable over time. They show the correlations of market returns, and log returns of Singapore gasoline price to be not time varying. The results for Nikkei 225 (Nikkei Stock Average 225), Tokyo Stock Exchange, TWSE (Taiwan's composite index), Taiwan Stock Exchange, ALL (ASX All Ordinaries index) have time-varying correlations them and bivariate case. The log returns of stock index has low correlations and/or their relationships are not stable over time. we would expect the correlations of market returns to be time varying.

The VARMA-GARCH models show significant dynamics for the log returns of all stock index and log returns of Singapore gasoline price, except for the BSESN (Bombay SE Sensitive index) Bombay Stock Exchange. On the other hand, The BSESN (Bombay SE Sensitive index) Bombay Stock Exchange are not affected to log returns of Singapore gasoline price by non significance dynamic conditional correlation equation while the others indexes have affected to dynamic conditional correlation equation.

The selecting models depend on The Pooled AIC (Philip Hans Franses, 2004) by using the package TsDyn in software R (Antonio, 2007). The gamma value of model of The Nikkei 225 (Nikkei Stock Average 225), Tokyo Stock Exchange, the TWSE (Taiwan's composite index), Taiwan Stock Exchange, and the BSESN (Bombay SE Sensitive index) Bombay Stock Exchange are not significant. The SETAR (Self Exciting Threshold Autoregressive model) models are considered to capture the patterns. The threshold values are all in the region of -0.1062 to 0.0681. The SETAR (Self Exciting Threshold Autoregressive model) models show the significant variable and minima lag length. The maxima of lag length in model equal lag three in conditional correlation coefficient of The BSESN (Bombay SE Sensitive index) Bombay Stock Exchange model and significance at 0.01. The significance at 0.01 minima lag length equal one in each model.

Semiparametric Estimation of ARFIMA Models of Asian Stock Indexes, which is the log daily Asia prices Index from November 10, 1998 to November 10, 2008 have highly persistent and remains very significant at lag 200 that presents in the autocorrelation function. The R/S statistic and GPH test are introduced for testing long memory property. At 1% level of significance, they confirm the long memory property of log daily Asia prices Index. Using BIC choose autoregressive order p which is proposed by (Beran J. A., 1999). The BSESN (Bombay SE Sensitive Index) Bombay Stock Exchange, N225 (Nikkei Stock Average 225) Tokyo Stock Exchange, PSI (PSE Composite Index) Philippine Stock Exchange have d value in rank $-1/2 < d < 0$ which are stationary and short memory. The SSEC (Shanghai Composite Index) Shanghai Stock Exchange, JKSE (Jakarta Composite) Indonesia Jakarta Composite, KLSE (KLSE Composite Index) Malaysian stock market, SETI (SET Composite Index) the Stock Exchange of Thailand, KS11 (KOSPI Index) Korean Stock Exchange, TWSE (Taiwan's composite index) Taiwan stock Exchange are stationary and long memory, because the d value are in rank $0 < d < 1/2$. The m value of BSESN (Bombay SE Sensitive Index) Bombay Stock Exchange equals 1 that it has slop of the linear trend. The diagnostic test indicates the log price indexes of JKSE (Jakarta Composite) Indonesia Jakarta Composite, KLSE (KLSE Composite Index) Malaysian stock market, KS11 (KOSPI Index) Korean Stock Exchange, SETI (SET Composite Index) the Stock Exchange of Thailand appear to be very significant, at

least for the time period investigated. However, the log price indexes of SSEC (Shanghai Composite Index) Shanghai Stock Exchange, BSESN (Bombay SE Sensitive Index) Bombay Stock Exchange, N225 (Nikkei Stock Average 225), Tokyo Stock Exchange, PSI (PSE Composite Index) Philippine Stock Exchange and TWSE (Taiwan's composite index) Taiwan Stock Exchange fall inside the confidence band. The ACF plot of all log price Asia Indexes present that the long memory behavior have been well capture by the model. The graph contains the predicted values, standard errors of predictions and generating coefficient plot of the coefficient do not change the prediction.

Analysis and Comparison of Asian Stock Markets Using Integrated Time-Varying Model Processing are used by financial and econometric model base with time varying, State Space CAPM, Bayesian CAPM, Quantile regression CAPM. The alpha and beta values in ten Asian Stock Markets show the minimum and maximum values by aspect of CAPM model.

The highest time-varying alpha among portfolios in all Asian Stock Markets are presented by The Quantile estimator, with all values in the region of 0.0248 to 0.9206 and the lowest time-varying alpha among portfolios in all Asian Stock Markets with all values in the region of -0.0238 to -0.0706. The State Space estimator presents highest time-varying beta among portfolios in all Asian Stock Markets, with all values in the region of 1.2596 to 1.7443. The Quantile estimator presents the lowest time-varying beta among portfolios in all Asian Stock Markets, with all values in the region of -0.3396 to 0.7406. The State Space estimator and Bayesian estimator show the closely value in the median.

The test of symmetry testing compares estimates at the 2.5% and 97.25% quartile with the median specification. There are some sectors in Asian Stock markets showing individual coefficient restriction test values even less evidence of asymmetry. Except, The Stock Exchange of Thailand (SET) shows all values are less evidence of asymmetry in each sectors.

Future research

The other Asian market has to be studied such as Futures market. Some commodity in market always shows seasonal pattern especially in Agricultural

products. The seasonality ARCH model and seasonality bilinear model are methods to study risk and pattern of futures prices with season.



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