Chapter 5

Conclusion and Recommendation

5.1 Conclusion

This paper focuses on the role of exchange rate volatility and export volumes volatility. In our discussion, concentrate on the sign and the significance of point and interval estimates of a_{ij} and b_{ij} obtained from multivariate equations.

Under unit root test, the unit root is rejected for the preponderance of the logarithm of export volumes and logarithm of exchange rate series at the level. However, if the fractional alternative is considered such as seasonal unit root, the unit root null can be decisively rejected for a significant number of these series.

Before estimating multivariate ARCH model, this part has to be modeled univariate ARCH. It found volatility pattern in logarithm of export volumes variable and logarithm of exchange rate variable.

The estimation result of the logarithm of export volumes shows ARIMA, AR (1), model which t-statistic rejects null hypothesis of coefficient at 5% level. For conditional variance, the results from the GARCH model is GARCH (2,1) and coefficients are significant at the 0.05 level.

The statistic test for ARCH effects which is distributed as a χ^2 has the null hypothesis of no ARCH is rejected, that is the probability that no ARCH is present in this data. Moreover, the Inverted AR Roots is 0.95 which model has convert property. The estimation result of the logarithm of exchange rate shows ARIMA, AR(1), model which t-statistic rejects null hypothesis of coefficient at 5% level. For conditional variance, the results from the GARCH model is GARCH (2,1) and coefficients are significant at the 0.05 level.

The statistic test for ARCH effects which is distributed as a χ^2 has the null hypothesis of no ARCH is rejected, that is the probability that no ARCH is present in this data. Moreover, the Inverted AR Roots is 0.92 which the model has converted property.

Finally, this part estimates multivariate GARCH models to examine the relationship of volatility of logarithm of export volumes and logarithm of exchange rate changes. This part found the relationship of variance of two variables that are

explained by DCC (Dynamic conditional correlation) Model. Multivariate GARCH (2,1) model for the monthly logarithm of export volumes and logarithm of exchange rate . The coefficient of ARCH variables has significant at 5% level. The coefficient matrix of shock (ARCH) lag t-1 $a_{\ln X_{(t-1)}, \ln e_{(t-1)}}, a_{\ln e_{(t-1)}, \ln X_{(t-1)}}$ is negative values. They are the opposite direction to the coefficient matrix of shock (ARCH) lag t-2 $a_{\ln X_{(t-2)}, \ln e_{(t-2)}}, a_{\ln X_{(t-2)}, \ln e_{(t-2)}}$; The meaning shows that the coefficient $b_{\ln X_{(t-1)}, \ln e_{(t-1)}}, b_{\ln e_{(t-1)}, \ln X_{(t-1)}}$ lag variance of export volumes and exchange rate of Thailand are inverse direction each other.

5.2 Recommendation

The model in multivariate GARCH has some suspects. The testing shows parsimonious univariate GARCH model. In multivariate GARCH, the coefficients of model have some ambiguous sign which has the same conclusion of Mustafa's paper. This problem may be from seasonality in export data. It should be concerned this problem in the next time.