Thesis Title Price Efficiency in Palm Oil Markets of Thailand

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Abstract

The objectives of this study, "Price Efficiency in Palm Oil Markets of Thailand", were to understand the pricing system in Thai palm oil market and to know the degree of price transmission between each market levels. The price data used in this study were fresh fruit bunch (FFB) price, domestics crude palm oil (CPO) price, domestics refined bleached deodorized palm oil (RPO) price and Malaysian crude palm oil (CPO) price. Weekly price data used was averaged from daily price data during May 13, 2003 to February 16, 2007, total to 197 weeks. All of the data used were obtained form Department of Internal Trade, Ministry of Commerce, Thailand. The analysis of price transmissions using Vector Autoregressive Model (VAR) and testing Cointegration by Johansen and Juselius method were carried out in order to find long-run relationship. Vector Error Correction Model (VEC) was used to test the short-run relationship.

The results of this study indicated that domestic palm oil pricing system contained different forms and methods depend on types of products. The pricing system of palm oil industry are (1) For fresh fruit bunch (FFB) prices, palm oil miller would set the price based on crude palm oil price and the ratio of oil content of fresh fruit bunch. The local collectors and cooperative would set their prices the same or lower than palm oil miller price. (2) CPO prices were obtained from negotiation

between miller and palm oil refiner and (3) RPO prices were set by palm oil refiner plants. The price was determined base on costs of processing, CPO prices and other substituted vegetable oil prices.

The estimated result of VAR model indicated that the appropriate number of lag equaled to 2 weeks and the test of Cointegration using Johnson and Jeselius method showed that there were 2 Cointegrating vectors in long-run relationship which mean that (1) In long-run, FFB price was related to domestic RPO price with price elasticity equaled to 1.8. However, FFB price show no price relationship to Malaysian CPO price. (2) In long-run, domestic CPO price was related to domestic RPO price and Malaysian CPO price with the price elasticities of 0.89 and 0.34, respectively. The test of pricing efficiency showed that the price elasticity of FFB to domestic RPO price and price elasticity of domestic CPO to domestic RPO price were significantly not different from 1.00 at 90% level of confident. One can concluded that price efficiency exist in domestic palm oil market because there were price transmission from domestic RPO price to domestic CPO and FFB price, however Malaysian CPO price only affected domestic CPO price and not others.

The result of VEC model estimation with lagged 2 weeks showed that there were only 2 equations that could explained the error correction term of price adjustment. (1) The error correction coefficient in short-run equation of FFB price equaled to -0.1317 which mean that if there were other factors affected FFB price and create FFB price shocked out of equilibrium by 1%, the FFB price would adjusted back to equilibrium at the size of 0.1317% in the following week. (2) The error correction coefficient in short-run equation of domestic CPO price equaled to -0.1350. (this coefficient is not statistically significant at 90% level of confident). However, the sign of the coefficient was correct, therefore this could be used to explain that if there were other factors affected to domestic CPO price create price shocked by of 1%, the domestic CPO price would adjusted back to equilibrium at the size of 0.1350% in the following week.

The test of short and long term relationship showed that domestic palm oil market had price efficiency in long-term. Domestic RPO price transmits to FFB price and domestic CPO price efficiently. The estimated coefficient of FFB price and domestic CPO price error correction term were very similar.

The result showed that price efficiency exist in domestic palm oil market. There for the government price subsidy policy was not appropriate. Nevertheless, farmers should have excess to market information especially domestic CPO price and domestic RPO price. In addition, farmers should understand how to calculate FFB price in order to know the appropriate price they should received. The relationship between Thai and Malaysian CPO price imply that if free trade agreement was completely imposed domestic CPO price would be declined due to Malaysian CPO price. Therefore, Thailand palm oil industry should be improved especially technique to reducing cost of production in order develop to compete to Malaysia.