

Estimation of Rubber Price Returns Using Quantile Regression

Kwadwo Agyei Nyantakyi*, B. L. Pieris¹, L. H. P. Gunaratne²

Postgraduate Institute of Agriculture
University of Peradeniya
Sri Lanka

ABSTRACT: *The rubber industry in Sri Lanka is of much economic importance. The current world consumption of rubber, totalling around 18 million tonnes per year, consists of 48% natural rubber (NR). Thus, in terms of quantity by type, NR is still the largest. Price returns on rubber have effect on both its production and replanting and also the GDP of the Sri Lankan economy in the long run and the world economy. Therefore, accurate analysis and prediction of the price returns on the asset become very important since the supply of agricultural products in the future is affected by continuous future price uncertainties or volatility. Quantile regression was used for the estimation, prediction and analysis of the effects of price returns on rubber production and GDP of Sri Lanka. There were high changes at the percentile 75%, 90%, and the 95% which shows that the rate of change of price decreased drastically with a unit increase in production. At the 50% percentile, the values coincide with that of the conditional mean value with all other quantile having varying rate of change of price with respect to a unit change in production. For each quantile, a regression model was fitted.*

Keywords: *Asset returns, production, price, quantiles, rubber*

¹ Department of Crop Science, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka

² Department of Agricultural Economics and Business Management Faculty of Agriculture, University of Peradeniya

* Corresponding author: knyantakyi@yahoo.com