

Jirawat Jaroensathapornkul 2007: Impacts of Government Spending on Thailand's Agricultural Sector. Doctor of Philosophy (Agricultural Economics), Major Field: Agricultural Economics, Department of Agricultural and Resource Economics. Thesis Advisor: Professor Sopin Tongpan, Ph.D. 150 pages.

The thesis consisted of two parts in line with the theme of forward linkage between government spending and agriculture. As a macro level, how much the public consumption spending benefits to agriculture is examined in the first part. As a micro level, how much the public investment in rice research contributes to productivity and social welfare is analyzed in the second part.

The first part begins with the estimation of parameters in the structural model. It reveals that the government consumption spending has impact on interest rate, exchange rate, price index and GDP. These variables link government spending to the agricultural sector. The estimated parameters are utilized for policy simulation. As simulation results, when the government increases the consumption spending by 5, 10 and 15%, its impacts on agricultural sector are concluded in terms of percentage change from baseline value as follows. Food consumption raises to 1.04, 2.08 and 3.12%. Food export raises to 0.05, 0.10 and 0.15%. Meanwhile, food import raises to 1.06, 2.12 and 3.19%. Consequently, surplus of trade balance for food worsens to 0.22, 0.43 and 0.65%. In addition, employment in agricultural sector raises to 0.01, 0.03 and 0.05%. Capital stock in agricultural sector also raises to 0.05, 0.09 and 0.14%. Gross domestic production in agricultural sector subsequently raises to 0.16, 0.31 and 0.47%. Therefore, Thailand's agricultural sector is affected not only by the spending specifically designed for it but also by the government consumption spending.

The second part provides a measure of the current state of technical knowledge determined in part by current and past public investment in rice research. According to the technical knowledge, rice production function is estimated. The result reveals that the improvement of technical knowledge enhances the land productivity and also leads to the changes in rice production structure. Since rice planted areas are expanded along with the employment of agricultural manual workers, the cost is no doubt increased. The public rice research represents a crucial driving force for encouraging the growth of production. Further, the social welfare deriving from public investment in rice research is estimated by using Marshallian concept. The result reveals that the cumulative economic surplus is rather high. Consequently, the B/C ratio implies that those investments generate a benefit of 2.83, 2.55 and 2.32 Baht for every Baht spent by 5, 10 and 15% discount rate, respectively.

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Thesis Advisor's signature

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