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Measuring Rice Competitiveness: New Evidence Using an Extension of the Policy Analysis Matrix

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Abstract

The advent of free trade agreements, including the Asean Free Trade agreement (AFTA) and WTO accession, pose challenges for the Malaysian rice sector as it must compete with low-cost exporting countries. This implies not only structural changes in trade, but also adjustments at the farm level to improve efficiency and competitiveness. Further developments in the rice sector will therefore depend on the availability of sufficient, relatively low-cost and high-quality rice, or in other words, on the competitiveness of rice production. In this paper we aim to improve our understanding of the forces that drive the competitiveness of rice production in Malaysia. We use an extension of the Policy Analysis Matrix proposed by Monke and Pearson (1989). This extension allows us to take farm-level heterogeneity into account and draws distribution of competitiveness scores for each rice farm. The results demonstrate that more than 50 % of farmers produced rice competitively in the main and off seasons over the period 2010-2014 and these competitive farms produced a disproportionately large number of the total rice production in each year. Additionally, we briefly note the contrast between the distributions of using disaggregate social cost benefit (SCB) and average SCB that would result from the use of aggregated data. In a second stage analysis, we use dynamic panel regressions methods to examine factors influencing rice competitiveness. We conclude that participation in farmers' organisation, gender and total farm size are the major determinants of rice competitiveness, while the distance to the rice mills, off-farm income and the use of hired labor are the main constraints that reduce competitiveness. Finally, the dynamic system generalized method of moment (SGMM) estimates provided in this paper reveal that the provision of input subsidies and bonus payments in the previous period have no strong effects on the current competitiveness. This suggests a better understanding of the agricultural policy reform, which allows better targeting of policies in order to enhance the competitiveness of the rice sector.

Keywords: Competitiveness, dynamic panel, Malaysia, rice farming, subsidies