A CGE Model of the Sri Lankan Economy with Applications to Assess the Impacts of Agricultural Policies

Submitted by

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Abstract

Agricultural development is seen as a necessary precondition for economic growth in most developing countries. There exists a large body of theoretical and empirical literature on the agricultural sector’s contribution promoting growth and reducing poverty. Since many rural households in Sri Lanka depend directly or indirectly on agriculture, and given that the agricultural sector makes a considerable contribution to the overall economy, one might expect agriculture to be a key component of growth and development in Sri Lanka. Even though public policy towards the agricultural sector has not been consistent in Sri Lanka, it has attracted governments’ attention and resources with the focus of development of the country and poverty alleviation.

The purpose of this thesis is to quantitatively assess the effects of some key policies in the agricultural sector of Sri Lanka. In doing so, it employs a CGE model of the economy with a tops-down regional extension. The study adopted the most recent Input-Output table for Sri Lanka, namely, the 2000 table, as the main data source for the model. This study then examines the likely impacts of domestic agricultural policies on the economy at national level, its key industries and its main regions on a wide range of goals such as growth, employment, output and income levels. The policy interventions investigated include productivity improvement in agriculture, a complete liberalisation of prevailing agricultural tariffs and land expansion in agriculture.

The results reveal that each policy considered in the study contributes positively to the GDP growth. The productivity improvement is likely to cause a negative impact on aggregate employment, while other two policies expand aggregate employment. Implications at industry level show that all three simulations stimulate not only the agricultural output but also industry and services outputs. Particularly, agricultural productivity improvement and land expansion seem to promote agricultural and food processing industries, and foster the growth of predominant agricultural regions of the country. At the industry level, a striking finding is that those two policies reduce the demand for agriculture-related labour in the short-run indicating negative income effects on agricultural households. Furthermore, the results suggest a slowdown in export-related manufacturing industries in the long-run as a result of
liberalisation of prevailing agricultural tariffs and land expansion. Finally, the study recommends several appropriate policy responses based on these major findings.
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## Acronyms and Abbreviations

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<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
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<tr>
<td>AGE</td>
<td>Applied General Equilibrium</td>
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<td>AoA</td>
<td>Agreement on Agriculture</td>
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<td>APEC</td>
<td>Asia Pacific Economic Cooperation</td>
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<td>APEX</td>
<td>Agricultural Policy Experiments</td>
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<td>ARTNeT</td>
<td>Asia-Pacific Research and Training Network</td>
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<td>CATPRN</td>
<td>Canadian Agricultural Trade Policy Network</td>
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<tr>
<td>CBSL</td>
<td>Central Bank of Sri Lanka</td>
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<tr>
<td>CCB</td>
<td>Coconut Cultivation Board</td>
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<tr>
<td>CES</td>
<td>Constant Elasticity of Substitution</td>
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<tr>
<td>CFS</td>
<td>Consumer Finance and Socio-Economic survey</td>
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<td>CGE</td>
<td>Computable General Equilibrium</td>
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<tr>
<td>CIE</td>
<td>Centre for International Economics</td>
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<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
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<tr>
<td>DCS</td>
<td>Department of Census and Statistics</td>
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<tr>
<td>DDEC</td>
<td>Dambulla Dedicated Economic Centre</td>
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<tr>
<td>ESCAP</td>
<td>Economic and Social Commission for Asia and the Pacific</td>
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<tr>
<td>FAO</td>
<td>Food and Agriculture Organisation</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>GEMPACK</td>
<td>General Equilibrium Modelling Package</td>
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<tr>
<td>GNP</td>
<td>Gross National Product</td>
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<tr>
<td>GPS</td>
<td>Guaranteed Price Scheme</td>
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<td>GTAP</td>
<td>Global Trade Analysis Project</td>
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<td>HARTI</td>
<td>Hector Kobbakaduwa Agrarian Research Institute</td>
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<tr>
<td>HCI</td>
<td>Head Count Index</td>
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<tr>
<td>HDI</td>
<td>Human Development Index</td>
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<td>HYV</td>
<td>High Yielding Varieties</td>
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<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>I-O</td>
<td>Input-Output</td>
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<td>IOT</td>
<td>Indian Ocean Tsunami</td>
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