THE EFFECTS OF INTERNATIONAL TRADE LIBERALIZATION ON FOOD SECURITY AND COMPETITIVENESS IN THE AGRICULTURAL SECTOR OF BOTSWANA

by

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Thesis submitted in partial fulfilment of the requirements for the degree of

Doctor of Philosophy

In the

Department of Agricultural Economics, Extension and Rural Development

Faculty of Natural and Agricultural Sciences

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Declaration

I declare that this thesis I am submitting to the University of Pretoria for the degree of Ph.D. in Agricultural Economics represents my own work and has never been submitted by me to any other tertiary institution for any degree.

Howard Kgalemang Sigwele
Acknowledgements

In order for me to be able to complete this study, many people contributed to my success. Firstly, I received full support and encouragement from my family when I planned to undertake this costly study, whose tangible benefits might only be perceived in the long term or for that matter remain elusive. I initially had to abandon my regular source of income to pursue my studies at the University of Pretoria, which left my family very vulnerable. My wife, Kutlo, and my children, Lesego and Tootsie, had to practise real household economics to survive!

When I took up the academic programme, Professor Jan Groenewald guided me for some time before he retired. His patience, experience and broad outlook concerning both domestic and international agricultural, trade and food security policy matters benefited me immensely. I am really indebted to him for the inspiration and the quality time he accorded me before his retirement. Professor Johann Kirsten, the Head of the Department of Agricultural Economics, Extension and Rural Development at the University of Pretoria, then took over as my supervisor. Despite his heavy teaching schedule, administrative responsibilities and other assignments, he equally guided me and provided me with the necessary research skills to undertake my study. I also benefited greatly from most of his graduate lectures, publications and research materials. Professor Kirsten continued tirelessly to supervise and communicate with me even after I became a part-time student for several years. I am indeed greatly indebted to him.

Since my study used an economy-wide approach to assess the effects of international trade liberalization and improved market conditions on food security and agricultural competitiveness in Botswana, I have learnt much and benefited immensely from the advice of Dr. Scott McDonald, a lecturer in the Department of Economics, The University of Sheffield, United Kingdom. This study mainly used an analytical tool based on the Social Accounting Matrix (SAM) of which Dr. McDonald played a very key role in guiding me to apply it. He also assisted me in the preparation of a reduced SAM to undertake policy
experiments. Not only was the analytical tool new to me, it was one of the most recent approaches to understanding and measuring the income and expenditure relationships in an economy, especially in low-income countries, where agriculture, in particular, exhibits strong household, sectoral and macro-economic linkages which cannot be fully captured by conventional partial equilibrium analysis. Dr. McDonald taught me at the University of Sheffield, guided and provided me with relevant literature as well as helped me to prepare a number of research papers using the SAM multiplier analysis. Despite his heavy teaching schedule, Dr. McDonald was always ready to assist me in my study. Once again I am greatly indebted to Dr. McDonald for his guidance and patience, and the commitment he demonstrated in supervising me while I was far from Botswana.

Besides Dr. McDonald, I was also assisted by Professor Erik Thorbecke of Cornell University, United States of America, and Professor Geoffrey I. Round of the University of Warwick, United Kingdom who offered relevant materials as well as explanations of SAM multiplier analysis. These two academics are some of the most highly renowned researchers into economy-wide/SAM-based models and their applications. I am grateful for their assistance and advice.

I also benefited considerably from the assistance and materials which I received from my former colleagues in the Botswana Ministry of Agriculture, especially S. Dambuza, N. Macala, C. Khupe, S. Ramolemana, M. Shatera, B. Fidzani, Dr. M. Fanikiso and S. Mosielele. I also received very invaluable support from Mr. Motsewabagale of the Department of Customs as well as Mr. J. Katale from the Central Statistics Office.

Besides my former colleagues, I also received very important assistance regarding data from Mr. Molapisi of the Botswana Meat Commission and Mr. Garebamono of the Botswana Agricultural Marketing Board, which is much appreciated. Among my sponsors, much gratitude is due to the Kellogg Foundation of the United States who provided me with a scholarship which not only covered my academic programme but also helped me to make ends
meet in my family budget! Without their financial support, this study would not have been possible because other existing sources of scholarships were subject to stringent bureaucratic rules. Barclays Bank of Botswana, through its manager, Mr. Mogomotsi, also helped me to cater for my family.

I must once again thank my wife, children, parents, relatives and friends who have been patient enough to see me through. Special gratitude is also extended to Mr. O. Silas, my nephew Tebogo Sigwele, brother, Leungo Sigwele and daughter, Tootsie who assisted me with formatting and proofreading the thesis. I am indeed very proud of all of them for enabling me to complete this study. I also extend my gratitude to Dr.D.N.R. Levey of the University of South Africa who edited my thesis and added some useful information on the study.

Finally, I also wholeheartedly dedicate this achievement to my late parents, Dainah and Zakeli Sigwele, who have always been my inspiration in pursuing education for a bright and independent future. I will always remember them. They were indeed my inspiration and role models, God be always with their spirit!
Abstract

The Effects of International Trade Liberalization on Food Security and Competitiveness in the Agricultural Sector of Botswana

by

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Access to adequate and nutritionally balanced food to achieve a productive and healthy life for all individuals, on a daily basis, has been an elusive challenge in several parts of the world. In many developing countries such as Botswana, increasing per capita food consumption has been hampered by poverty as well as poor access to marketable skills and employment opportunities. Experience and studies elsewhere indicate that international trade liberalization based on comparative cost advantage in the goods sectors, can greatly improve per capita food consumption through improved export market access and reduction in tariffs. The purpose of this study is to analyze the effects of international trade liberalization on food security/household welfare and the competitiveness of the agricultural sector in Botswana.

In undertaking this study basically two hypotheses were made. Firstly, it is hypothesized that trade liberalization within SACU through the reduction of agricultural tariffs on food commodities can improve per capita consumption by reducing domestic food prices. Currently, products like maize grain, beef, dairy and wheat grain attract an import duty which partly increases their
domestic prices within SACU. Poor households in Botswana, in particular, spend a disproportionate share of their disposable income on food most of which is imported. Secondly, this study also hypothesizes that improved market access of agricultural exports for Botswana based on WTO rules could generate additional foreign earnings that could be used to import more food. Globally, agricultural trade is characterized by distortions that restrict free commerce based on comparative advantage. Direct producer price and input subsidies together with export subsidies to farmers especially in major trade players like the EU, USA and Japan constitute barriers to trade and disadvantage developing countries like Botswana which have comparative advantage in several farm commodities. Subsidies by major industrialized countries create an artificial comparative advantage for their farmers as without direct farmer assistance, it is doubtful if some of them could invest in agriculture!

Secondary data on international trade and social accounting matrix (SAM) were used in this study. Trade data were used to conduct policy simulations in order to determine the effects of trade liberalization on food security and competitiveness of the agricultural sector in Botswana. SAM data for 1993/94 were modified and used to generate income and price multipliers to undertake policy simulations. Data from SAM captures the income and demand linkages in the economy.

Using partial equilibrium and economy-wide approach (SAM multiplier analysis), this study shows that Botswana can improve its household welfare or per capita food consumption through an increase in export earnings which in turn could be used to import more food at competitive prices. Except for meat products especially beef, Botswana is a net-importer of most food items. Based on a partial equilibrium agricultural trade policy model, this study found that the country’s agricultural sector enjoys global comparative advantage in beef exports if there was global trade liberalization. The model advocates for the reduction of direct producer price, input and export subsidies in the agricultural sector by WTO members. Beef earnings including those from
other goods like textiles and minerals are used to purchase imported food to increase domestic supply.

Through a SAM income multiplier analysis, policy simulations on improved export market access for beef and textiles indicated that households, factors and activities gained from global trade liberalization. However, poor households without assets or factors such as capital and skills marginally benefited from improved export market access. This finding also indicates the potential negative income distributional effects which require policy support to benefit poor households during trade liberalization. Beef and textiles exports were chosen when undertaking policy simulations based on improved market access.

With a SAM price multiplier analysis, policy simulations based on SACU tariff reduction on maize grain, beef, powdered milk and wheat grain was made. Applied tariffs were used for policy simulations. A reduction in tariffs not only improves household welfare, factors and activities also benefit through lower domestic food costs/prices. This study found that SACU tariff reduction indeed contributed to welfare improvements among households in Botswana as their cost of living declined. Poor households, in particular, benefited most from tariff reduction in imported food commodities.

Factors including low-wage workers also gained from a reduction of import duties on selected food commodities. However, government loses tariff revenue when import duties are cut while producers of exports enjoying preferential markets such as the beef producers in Botswana lose when trade-distorting agricultural subsides are removed/reduced. Like government, consumers of imported food items are, in short term, adversely affected by an increase in food prices following the reduction of trade-distorting agricultural subsidies (producer price, input and export subsidies). The results of the SAM price multiplier analysis also indicated limited price/cost transmission in the economy following tariff reduction. Limited price transmission or circular flow of cost reduction in the economy imply weak competition in the market, poor information dissemination, institutional rigidities, etc hence the need for an
effective competition policy and law. An effective competition policy and authority minimizes unfair trading practices and provides consumers and the economy with choice and possibly maximum net-value for money.

In addition to improving welfare and reducing cost of living, etc, this study also found that when policy simulations/shocks were made, income and demand linkages in the economy were identified. In some simulations the linkages demonstrated a strong circular flow of income/price transmission while in others the multiplier effects were weak indicating limited economic integration/competition, a policy challenge that requires efforts for sustained diversification. Based on the results from SAM multiplier analysis, this study has provided Botswana with useful information to design policies that enhance economic integration and diversification.

To maximize her benefits from international trade liberalization, Botswana also needs to implement complementary policies to address supply-side constraints and improve infrastructure, competition, information technology, etc. Safeguard mechanisms are still necessary to protect the agricultural sector and the economy in Botswana from unfair trade practices including market failure.
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<th>ACRONYMS/ABBREVIATIONS</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACP</td>
<td>African, Caribbean and Pacific</td>
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<tr>
<td>ATPSM</td>
<td>Agricultural Trade Policy Simulation Model</td>
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<tr>
<td>BIDPA</td>
<td>Botswana Institute for Development and Policy Analysis</td>
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<tr>
<td>BLNS</td>
<td>Botswana, Lesotho, Namibia and Swaziland</td>
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<tr>
<td>CSO</td>
<td>Central Statistics Office</td>
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<td>EU</td>
<td>European Union</td>
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<td>FAO</td>
<td>Food and Agriculture Organization</td>
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<td>FAP</td>
<td>Financial Assistance Policy</td>
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<td>FTA</td>
<td>Free Trade Area</td>
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<tr>
<td>HIES</td>
<td>Household Income and Expenditure Survey</td>
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<tr>
<td>HIV/AIDS</td>
<td>Human Immuno-deficiency Virus/Acquired Immune Deficiency Syndrome</td>
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<tr>
<td>IDASA</td>
<td>Institute for Development Alternatives in South Africa</td>
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<tr>
<td>IFPRI</td>
<td>International Food Policy Research Institute</td>
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<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>MFDP</td>
<td>Ministry of Finance and Development Planning</td>
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<tr>
<td>OECD</td>
<td>Organization of Economic Cooperation and Development</td>
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<td>SADC</td>
<td>Southern African Development Community</td>
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<td>SAM</td>
<td>Social Accounting Matrix Theory</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>US (A)</td>
<td>United States (of America)</td>
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<td>WHO</td>
<td>World Health Organization</td>
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