

Agricultural Productivity in the Socialist Countries

Lung-Fai Wong

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About the Book and Author

With the emergence of collectivization, the communal movement, and the food crisis, the development of agriculture in socialist countries has become a topic of great interest to economists. Focusing on productive efficiency, Dr. Wong estimates an agricultural metaproduction function for nine countries--China, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Romania, Yugoslavia, and the Soviet Union--and computes both the partial productivities and total productivity in comparable units. Using the growth accounting procedure, the author performs a quantitative comparative analysis of the differences and the sources of differences in agricultural productivity among socialist countries. Methods of analyzing productivity measures are described, revealing the contribution of land, labor, education, and other factors in agricultural growth. Dr. Wong concludes by discussing the policy implications for development strategy and the effects on the world food market.

Dr. Lung-Fai Wong is legislative analyst and research specialist of the Research Department in the Minnesota House of Representatives.

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It should be noted that this study was conducted by the author independently. The conclusions presented reflect only the views of the author and not the views of individuals or affiliated institutions that supported or assisted the author in any way.

Lung-Fai Wong

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Introduction

Importance of This Study

Ever since the emergence of collectivization, the development of agriculture in socialist countries has been of great interest to economists. The recent increase in food purchases by socialist countries in the international market has heightened this interest. Over the past 30 years, several events have attracted attention: the communal movement in China during the late 1950s, the economic reform in the East European countries in the 1960s, the food crisis in Poland during the second half of the 1970s. All of these marked different stages of development and reflected the diversity of economic organization in socialist agriculture. In particular, the productive efficiency of socialist agriculture has concerned economists.

The few events mentioned above only scratch the surface of problems embodied in socialist agriculture. Studies of the general economy and agricultural economy in socialist countries have been undertaken for the last three decades. Most studies have focused on agrarian policies and performance in a particular country or region. A quantitative, comparative analysis of differences and the sources of differences in agricultural productivity among socialist countries has not been available.

It is, therefore, the objective of this study to examine and compare the different aspects of agricultural productivity and the sources of its growth in nine socialist countries: Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Romania, Yugoslavia, the Soviet Union, and China. While this study is not designed to provide detailed discussion of agrarian policies in these countries, it does analyze socialist agriculture in a quantitative and systematic manner. The

growth, trends, and prospects of agricultural productivity in socialist countries do merit special attention. The implications of agricultural productivity are critical to these countries. It affects not only the food supply situation (which urban and industrial development in these countries depended on heavily), it also imposes great stability problems on the political structure in countries such as Hungary, Yugoslavia, and China. It would also be extremely beneficial for the West to be able to understand, evaluate, and project, the future of the lucrative export market of agricultural commodities to these socialist countries, which undoubtedly ties closely to their agricultural productivity.

Research Objectives

One of the objectives of this study is to examine the technical efficiency of socialist agriculture. It will address the issue of performance in socialist agriculture from a direct and technical perspective through the analysis of productivity.

This study seeks to answer the following questions that relate to the agricultural sectors in the nine selected socialist countries:

1. How efficient is socialist agricultural production?
2. What are the technical relationships in socialist agriculture?
3. Are input-output ratios the same as in non-socialist agriculture?
4. Are there common characteristics or patterns of agricultural production and agricultural productivity among socialist countries?
5. What are the differences, if any, between the more-centralized countries and the less-centralized countries?
6. Over the last three decades, what are the trends of productivity changes in these countries?
7. How much is technical change contributing to agricultural output growth in these countries?

Besides comparing the differences among the countries' technical efficiency and productivity, it is also important to be able to identify the sources of the differences within and among these socialist countries. Also, in spite of the fact that agricultural growth rates in these countries are not totally disappointing, it has long been argued that farmers (and other agricultural factors) in socialist countries are less productive than their counterparts in western countries. Therefore, included in the objective of this study is to search for an answer to the following two questions:

8. What are the sources of differences of productivity growth among socialist countries?
9. What are the sources of differences of productivity growth between socialist and non-socialist countries?

Organization of This Book

This study may not be able to provide final answers to all the questions listed above, but all of the questions are addressed in this study. Previous research efforts concerning the structure and policies in agricultural sectors in socialist countries have not provided comprehensive analysis of productivity changes. This study carries the analysis of productivity changes a small, but significant step forward by constructing and comparing several kinds of agricultural productivity measures within and among socialist countries.

The analysis begins in Chapter I with an overview of the characteristics of socialist agriculture. The policy and economic settings that circumscribe the agricultural sector in the nine selected socialist countries are also included in the discussion. The pattern of agricultural growth presented in this chapter serves special purposes in this study.

The theoretical model developed in Chapter II outlines the possible sources of productivity changes and differences between efficiency and technical change. It also provides the methodology and procedures for the construction of productivity indices. The problems and advantages of the index number and production function approaches are summarized in this chapter. In the discussion of total factor productivity, the widely used arithmetic index and Solow's geometric index are considered, together with a brief illustration of the use of the Divisia index.

The primary objective of Chapter III is to estimate an agricultural metaproduction function for the nine socialist countries. The purposes, definition, and estimation problems