WORLD BANK COMPARATIVE STUDIES

The Political Economy of Agricultural Pricing Policy

Trade, Exchange Rate, and Agricultural Pricing Policies in Egypt

Volume I The Country Study

Jean-Jacques Dethier



The Political Economy of Agricultural Pricing Policy

Trade, Exchange Rate, and Agricultural Pricing Policies in Egypt

Volume I The Country Study

Jean-Jacques Dethier

WORLD BANK COMPARATIVE STUDIES



The World Bank Washington, D.C.

Copyright (** 1989) The International Bank for Reconstruction and Development / THE WORLD BANK 1818 H Street, N.W. Washington, D.C. 2043.3

All rights reserved Manufactured in the United States of America First printing April 1989

World Bank Comparative Studies are undertaken to increase the Bank's capacity to offer sound and relevant policy recommendations to its member countries. Each series of studies, of which The Political Economy of Agricultural Pricing Policy is one, comprises several empirical, multicountry reviews of key economic policies and their effects on the development of the countries in which they were implemented. A synthesis report on each series will compare the findings of the studies of individual countries to identify common patterns in the relation between policy and outcome—and thus to increase understanding of development and economic policy.

The series The Political Economy of Agricultural Pricing Policy, under the direction of Anne O. Krueger, Maurice Schiff, and Alberto Valdés, was undertaken to examine the reasons underlying pricing policy, to quantify the systematic and extensive intervention of developing countries in the pricing of agricultural commodities during 1960-85, and to understand the effects of such intervention over time. Each of the eighteen country studies uses a common methodology to measure the effect of sectoral and economywide price intervention on agricultural incentives and food prices, as well as their effects on output, consumption, trade, intersectoral transfers, government budgets, and income distribution. The political and economic forces behind price intervention are analyzed, as are the efforts at reform of pricing policy and their consequences.

The findings, interpretations, and conclusions in this series are entirely those of the authors and should not be attributed in any manner to the World Bank, to its affiliated organizations, or to members of its Board of Executive Directors or the countries they represent.

The material in this publication is copyrighted. Requests for permission to reproduce portions of it should be sent to Director, Publications Department at the address shown in the copyright notice above. The World Bank encourages dissemination of its work and will normally give permission promptly and, when the reproduction is for noncommercial purposes, without asking a fee. Permission to photocopy portions for classroom use is not required, though notification of such use having been made will be appreciated.

The complete backlist of World Bank publications is shown in the annual Index of Publications, which contains an alphabetical title list and indexes of subjects, authors, and countries and regions; it is of value principally to libraries and institutional purchasers. The latest edition is available free of charge from Publications Sales Unit, Department F, The World Bank, 1818 H Street, N.W., Washington, D.C. 20433, U.S.A., or from Publications, The World Bank, 66, avenue d'Iena, 75116 Paris, France.

Jean-Jacques Dethier is an economist in the Agriculture and Rural Development Department of the World Bank.

Library of Congress Cataloging-in-Publication Data

```
Dethier, Jean-Jacques, 1952-
Trade, exchange rate, and agricultural pricing policies in Egypt /
Jean-Jacques Dethier.
p. cm.
Bibliography: p.
Contents: v. 1. The country study -- v. 2. Appendixes, data and methodology.
ISBN 0-8213-1222-7 (v. 1). -- ISBN 0-8213-1223-5 (v. 2)
1. Agricultural prices--Government policy--Egypt. 2. Food prices--Government policy--Egypt. 3. Egypt--Commercial policy. 4. Foreign exchange problem--Egypt. I. Title.
HD2123.Z775D48 1989
338.1'862--dc20
```

ABSTRACT

This study examines twenty-five years of government intervention in agricultural price policy in Egypt. The study focuses on Egypt's five main crops: cotton, rice, wheat, maize, and sugarcane. It shows that, during the period 1960-85, the price regime has discriminated strongly against agriculture. The net effect of all types of intervention, both sectoral and economy-wide, was to reduce the prices received by producers of those five crops. Urban consumers, on the other hand, and particularly those in the lowest income groups, benefited from this intervention.

The negative effects of intervention on the prices received by agricultural producers were particularly strong between 1960 and 1973. During that period, the government of Egypt was determined to transfer resources out of agriculture as a way of helping to pay for industrialization and military expenditures. Agricultural exports as a share of all exports fell rapidly from the 80 percent figure chalked up in 1960. Despite the reduced importance of agricultural exports, though, Egypt still dominates the world market for extra long staple cotton.

After 1973, when world prices of farm commodities surged upward and the country became a net importer of food, the Egyptian government became increasingly concerned with stabilizing domestic prices and adopted a more flexible agricultural price policy. Implicit taxation of agricultural producers through exchange rate and trade policies fell from an average of 29 percent during the 1960-72 period to an average 12 percent between 1973 and 1980. Meanwhile, agricultural input subsidies (especially for fertilizer) increased sharply.

Notwithstanding this more benign approach to agricultural producer prices, government intervention has, on balance, largely favored consumers. Consumer subsidies during the 1973-85 period boosted incomes of urban and landless rural workers but had a sharply negative impact on the macroeconomy.

The study reports the effects of agricultural price intervention on output, consumption, income levels, the government's budget and foreign exchange earnings.

ACKNOWLEDGMENTS

This report has gained from the contribution of several people to whom I am most grateful. First and foremost, I would like to thank the project directors, Anne O. Krueger, Maurice Schiff, and Alberto Valdes, for their encouragements and constructive criticism. I am also grateful for the helpful comments made by several of my colleagues, authors of other country studies, during the course of this research project.

I have received extremely valuable comments from several people who have been most forthcoming in sharing with me their great knowledge of Egyptian agriculture. Joachim von Braun has provided me liberally with data from his IFPRI work and has commented on an earlier draft of this report. Bent Hansen has kindly provided me with exchange rate data and has made detailed comments on an earlier draft, which have improved the present version. G. Edward Schuh, at various stages of this project, has given me very insightful comments that were incorporated in this report. Grant Scobie, to whom I owe my participation in this research project, has made a significant contribution to chapters 7 through 9 and has given me very detailed and useful comments on an earlier draft. Finally, in Cairo, Hassan Khedr has provided me with data and commented on an earlier draft.

Research assistance was provided by Kathy Funk. She has made a contribution at all stages of the project, searching for data and sources, producing the tables, and checking and cross-checking the figures. Appendices N and O have been written jointly. This study would not have been possible without her collaboration. Phillip Sawicki and Paul Wolman have edited the final manuscript with great skills. Celina Bermudez, the project administrator, and Anne Muhtasib have coordinated the production of this report with extreme efficiency and kindness.

None of these persons are responsible for possible remaining errors, which are solely mine.

Washington, D.C., December 1988

INTRODUCTION

This report is the final product of the Egypt case study in the Comparative Study of the Political Economy of Agricultural Pricing Policies in Developing Countries, a research project (RPO 673-64) directed by Anne O. Krueger, Maurice Schiff, and Alberto Valdes and financed by the World Bank. The project, which uses a common methodology to analyze eighteen countries, was initiated in May 1985.

The Egypt case study examines twenty-five years of pricing policies in agriculture, covering the period 1960-85. During this period, the price regime has discriminated strongly against agriculture. The study proceeds mostly by analyzing the objectives and implications of government intervention on five major crops, cotton, rice, wheat, maize, and sugarcane.

The study is organized in three parts. The first part of the study examines the economic history of price intervention, both at the sectoral and at the economy-wide level, affecting agriculture. After an introductory essay (chapter 1) outlining political, macroeconomic, and sectoral developments, the objectives and instruments of agricultural policy during the period 1960-85 are examined (chapter 2). Then the study examines the incidence of intervention on relative prices and values added (chapter 3).

The second part of the study analyzes the effects of price

intervention on agricultural output (chapter 4), on rural and urban incomes (chapter 5), on consumption (chapter 6), on foreign exchange earnings (chapter 7), on the government budget (chapter 8), and on resource flows in and out of agriculture (chapter 9).

The third part of the study examines the determinants of agricultural pricing policies. The influence of world prices and the relationship between government intervention and price variability are analyzed (chapter 10). In the conclusions, a political-economic interpretation of twenty-five years of price interventions is given, and recent reform attempts are examined (chapter 11). Finally, background material such as time series data, calculations, and more detailed description of economic policies and institutions are given in the appendices.

TABLE OF CONTENTS

LIST OF TABLES	ix xii
ACKNOWLEDGEMENTS	xiii
INTRODUCTION	xv
PART I. ECONOMIC HISTORY OF AGRICULTURAL PRICING POLICIES	3
Chapter 1. ORIGINS OF AGRICULTURAL PRICING POLICIES IN EGYPT	1
Economic and Political Evolution, 1960 to 1985	1
Economic Performance, 1960-85	12
Structural Changes in Agriculture	15
Social Change and the Role of the State in Agriculture	25
Chapter 2. OBJECTIVES AND INSTRUMENTS OF PRICING POLICIES AFFECTING AGRICULTURE	37
Objectives of Agricultural Policy	37
Policy Instruments	45
Sector-Specific Intervention	49
Consumer Food Subsidies and Rationing	62
Economy-wide Intervention Affecting Agriculture	64
Implementation of Agricultural Price Policy	65
Implementation of Cotton Price Policy Implementation of Cereals Price Policy Implementation of Sugar Price Policy	70 71 72

Chapter 3. MEASUREMENT OF THE INCIDENCE OF SECTOR-SPECIFIC	
AND ECONOMY-WIDE INTERVENTION ON PRICES	74
Incidence of Price Intervention on Relative Prices	75
Incidence of Direct Price Intervention	75
Incidence of Indirect Price Intervention	80
Incidence of Total Price Intervention	81
Incidence of Price Intervention on Relative Values Added	87
Conclusions	93
PART II. THE EFFECTS OF AGRICULTURAL PRICING POLICIES	
Chapter 4. EFFECTS OF PRICE INTERVENTION ON AGRICULTURAL OUTPUT	110
A Model of Output Effects of Price Intervention	113
Implications of Model Results	123
Final Comments	126
Chapter 5. INCOME EFFECTS OF PRICE INTERVENTION	131
Income Effects for Rural Households	131
Analysis of the Results for Landless Households Analysis of the Results for Farm Households The Influence of the Protection Policy for	136 142
Livestock Products on Farm Incomes	148
Income Effects for Urban Households	151
Chapter 6. CONSUMPTION EFFECTS OF PRICE INTERVENTION	158
Effects on Aggregate Consumption	158
Distributional Impact of the Food Subsidy System	164

Chapter 7. EFFECTS OF PRICE INTERVENTION ON FOREIGN EXCHANGE EARNINGS	171
Effects of Changes in Prices of Agricultural Products	171
Analysis of Results	180 182 184
Effects of Changes in Agricultural Input Prices	185
Chapter 8. EFFECTS OF PRICE INTERVENTION ON THE GOVERNMENT BUDGET	191
Budgetary Effects of Pricing Policy for Export Crops	191
Cotton Pricing Policy	191 197
Budgetary Effects of Pricing Policy for Import Substitutes	200
Wheat Pricing Policy	200 205 207
Chapter 9. TRANSFER OF RESOURCES BETWEEN AGRICULTURE AND THE REST OF THE ECONOMY	209
Price Policy and Transfer of Resources	209
Bias in Public Policy Against Agriculture	218
Government Investment and Recurrent Expenditures in Agriculture Resource Transfers in and out of Agriculture Public Investment and Expenditure Bias	219 220 223
Remarks on General Equilibrium Effects	227

viii

PART III. THE POLITICAL ECONOMY OF AGRICULTURAL PRICING POLI	CIES
Chapter 10. DETERMINANTS OF PRICE INTERVENTION	231
Government Intervention and World Prices	231
Determinants of Wheat Price Policy Determinants of Cotton Price Policy Determinants of Rice Price Policy Determinants of Maize Price Policy Determinants of Sugarcane Price Policy	232 235 236 236 237
Government Intervention and Price Variability	238
Price Fluctuations Fluctuations in Output and Consumption Levels	238 242
Chapter 11. CONCLUSIONS	246
A Political-Economic Interpretation	246
The Political Economy of Direct Intervention Consumer Subsidies and the Political Economy	248
of Indirect Intervention	254
Recent Reform Attempts	260
DEFEDENCEC	266

LIST OF TABLES

	Urban and Rural Population, 1960-85	5
	Employment in Agriculture and Harvested Area, 1960-85	5
1-3.	Gross Domestic Product and its Components,	
	in Real Terms, 1960-84	7
	Agricultural Production, Imports and Exports, 1960-84	18
	Changes in Agricultural Production during the 1970s	19
	Changes in Agricultural Policy Objectives, 1960-85	39
2-2.	Government Intervention in Markets for Five Major	
	Agricultural Commodities	48
	Fixed Producer Prices of Procurement Crops	50
	Procurement Quotas for Rice and Wheat, 1965-85	51
2-5.	Annual Percentage Change in Costs of Production and	
	Farmgate Prices, 1965-85	52
2-6.	Direct Subsidies Related to Agricultural and Food	
	Policy, in millions of £E, 1974-85	55
2-7.	Fertilizer: Domestic Price, Border Price, and Nominal	-
	Protection Rate, in £E/ton, 1966-85	59
2-8.	Nominal and Real Wage Rates in Agriculture,	
	in £E/day, 1969-85	60
3-1.	Nominal Protection Rates for Producer Prices, Direct	
2 0	Intervention, 1960-85	77
3-2.	Nominal Protection Rates for Consumer Prices, Direct	
	Intervention, 1960-85	78
3-3.	Nominal Protection Rates for Producer and	
2 4	Consumer Prices, Indirect Intervention, 1960-85	83
3-4.	Nominal Protection Rates for Producer Prices, Total	0.4
2 -	Intervention, 1960-85	84
3-5.	Nominal Protection Rates for Consumer Prices, Total	0.5
2 6	Intervention, 1960-85	85
3-6.	Effective Protection Rates, Direct and Total	0.0
2 5	Intervention, 1964-85	90
3-7.	Average Rates of Protection for Producers, by period,	0.5
2 0	Nominal and Effective Rates	95
3-8.	Average Rates of Nominal Protection for Consumers,	96
2 0	by Period	
	Nominal and Effective Protection Rates, 1964-85	99
4-1.	Long-Run Supply Elasticities and Coefficients of	110
4 2	Adjustments	118
4-2.	Effects of Direct Price Intervention on Output	110
1 2	in the Short Run, 1965-85	119
4-3.	Effects of Direct Price Intervention on Output	120
1 1	in the Long Run, 1965-85	120
4-4.	Effect of Total Price Intervention on Output	101
1 E	in the Short Run, 1965-85	121
4-5.	Effect of Total Price Intervention on Output	122
1_6	in the Long Run, 1965-85	122
	Short-Run Output Effects, Period Averages	126
4-/.	Indices of Agricultural Production and Yield, 1974-85	128

5-1	. Effect of Agricultural Pricing Policies on the	
	Real Income of Landless Households, 1960-85	137
5-2	. Instantaneous Income Effect for Rural Landholding	
	Households, by Farm Size, 1964-85	138
5_3	. Short-Run Income Effect for Rural Landholding	
5-5	Households, by Farm Size, 1964-85	139
E /	. Long-Run Income Effect for Rural Landholding	100
3-4	Households, by Farm Size, 1964-85	140
	. Effect of Agricultural Pricing Policies on the	140
5-5		141
	Real Incomes of Farm Households, Period Averages	141
5-6	. Ratio of Area planted by Crop to Total Area,	1.40
	by Farm Size, 1976	143
	. Value Added Generated by Farms of a Given Size	146
5-8	. Components of the Total Welfare Loss of	
	Producers, 1965-80	150
5-9	. Distributional Effect on the Real Income of Urban	
	Households, Low-Income Households, 1960-85	153
5-1	O. Distributional Effect on the Real Income of Urban	
	Households, Middle-Income Households, 1960-85	154
5-1	1. Distributional Effect on the Real Income of Urban	
J 1	Households, High-Income Households, 1960-85	155
5_1	2. Distributional Effect on the Real Income of Urban	133
2-1	Households, Average-Income Households, 1960-85	156
c 1		160
	. Short-Run Demand Elasticities	100
6-2	. Short-Run Effect of Total Price Intervention on	
	Consumption, 1965-85	162
6-3	. Effects of Total Price Intervention on Consumption,	
	Period Averages	163
6 - 4	. Inequality in Consumption Expenditures, Urban and	
	Rural Households, Gini Coefficients,	
	1964/65 and 1974/75	165
6-5	. On-farm Consumption of Farm Products, by Farm Size,	
	1981/82	168
6-6	. Production, Sales and Consumption of Cereals,	
	by Farm Size, 1981/82	170
7 _ 1	. Cotton: Foreign Exchange Effects of Removal of Total	1,0
, 1	Price Intervention, 1965-85	175
7 2	. Rice: Foreign Exchange Effects of Removal of Total	1/5
1-2		170
7 7	Price Intervention, 1965-85	176
1-3	. Wheat: Foreign Exchange Effects of Removal of Total	
_	Price Intervention, 1965-85	177
7-4	. Maize: Foreign Exchange Effects of Removal of Total	
	Price Intervention, 1965-85	178
7-5	. Sugarcane: Foreign Exchange Effects of Removal of	
	Total Price Intervention, 1965-85	179
7-6	. Foreign Exchange Effects of Total Price	
	Intervention, in Percent of Exports, 1965-85	181
7-7	. Subsidies on Agricultural Inputs, 1965-84	187
8-1	. Taxes and Subsidies on Cotton, in £E/ton, 1960-85	192
8-2	Effects of Cotton Price Policy on the Budget, 1960-85	194
8-3	Taxes and Subsidies on Rice, in £E/ton, 1960-85	
0-3	Effects of Rice Price Policy on the Budget, 1960-85	198
0-4	. Bilects of Rice Filte Policy on the Budget, 1960-85	199

8-5.	Taxes and Subsidies on Wheat, in £E/ton, 1965-85	201
8-6.	Effects of Wheat Price Policy on the Budget: Subsidy	
	Cost of Domestic Purchases, 1965-85	202
8-7.	Effects of Wheat Price Policy on the Budget: Subsidy	
	Cost of Purchases of Imported Wheat, 1960-85	204
8-8.	Government Expenditures on Imported Maize, 1974-85	206
8-9.	Budgetary Effects of Sugar Price Policy, 1970-81	208
	Price Policy Related Transfers from Agriculture,	
	Output Markets, in Nominal Terms, 1960-85	211
9-2.	Price Policy Related Transfers from Agriculture, Input	
	and Output Markets, in Nominal Terms, 1960-85	212
9-3.	Price Policy Related Transfers from Agriculture,	
	Output Markets, in Real Terms, 1960-85	215
9-4.	Price Policy Related Transfers from Agriculture, Input	
	and Output Markets, in Real Terms, 1960-85	216
9-5.	Price Policy Related Transfers from Agriculture,	
	as a Percentage of GDP, 1960-85	217
9-6.	Government Investment and Current Expenditures	
	in Agriculture, £E million, 1960-85	219
9-7.	Resource Transfers due to Investment and Price Policy	
	in Nominal Terms, in £E million, 1960-85	221
9-8.	Resource Transfers due to Investment and Price Policy	
, ,,	in Real terms, in £E million, 1960-85	222
9-9.	GDP, Gross Investment and Government Expenditures	
, , ,	in Agriculture, in £E million, 1960-85	224
9-10	Bias in Expenditures on Agriculture, 1965-85	225
	Logarithmic Regressions for Price Intervention	233
	Measures of Variability of Real Producer and	200
20 2	Consumer Prices of Five Crops	240
10-3	Fluctuations in Output and Consumption Per Capita	244
10-2	. I ractactons in output and consumption ret capita	714

LIST OF FIGURES

3-1. Cotton, Relative Producer Prices, 1960-85	101
3-2. Cotton, Relative Consumer Prices, 1960-85	101
3-3. Rice, Relative Producer Prices, 1960-85	102
3-4. Rice, Relative Consumer Prices, 1960-85	102
3-5. Wheat, Relative Consumer Frices, 1960-85	103
	103
3-6. Wheat, Relative Consumer Prices, 1960-85	
3-7. Maize, Relative Producer Prices, 1960-85	104
3-8. Maize, Relative Consumer Prices, 1960-85	104
3-9. Sugarcane, Relative Producer Prices, 1960-85	105
3-10. Sugar, Relative Consumer Prices, 1960-85	105
3-11. Nominal Protection Rates: Direct and Total	
Intervention on Producer Prices, 1960-85, Cotton	106
3-12. Nominal Protection Rates: Direct and Total	
Intervention on Consumer Prices, 1960-85, Cotton	106
3-13. Nominal Protection Rates: Direct and Total	
Intervention on Producer Prices, 1960-85, Rice	107
3-14. Nominal Protection Rates: Direct and Total	_ ,
Intervention on Consumer Prices, 1960-85, Rice	107
3-15. Nominal Protection Rates: Direct and Total	107
Intervention on Producer Prices, 1960-85, Wheat	108
3-16. Nominal Protection Rates: Direct and Total	100
	100
Intervention on Consumer Prices, 1960-85, Wheat	108
3-17. Nominal Protection Rates: Direct and Total	
Intervention on Producer Prices, 1960-85, Maize	109
3-18. Nominal Protection Rates: Direct and Total	
Intervention on Consumer Prices, 1960-85, Maize	109
3-19. Nominal Protection Rates: Direct and Total	
Intervention on Producer Prices, 1960-85, Sugarcane	110
3-20. Nominal Protection Rates: Direct and Total	
Intervention on Consumer Prices, 1960-85, Sugar	110
7-1. The World Market for Cotton	182
7-2. The Market for Fertilizer in Egypt	188
2. THE HATNES FOR LEGESTITUES IN HARPEN	100

Chapter 1

ORIGINS OF AGRICULTURAL PRICING POLICIES IN EGYPT

During the twenty five year period covered by this study, major political and economic changes have taken place in Egypt. Policies, institutions and ideology have shaped economic trends. Agricultural pricing policies must be understood in the broad context of these structural changes which are described in this first chapter.

ECONOMIC AND POLITICAL EVOLUTION, 1960-85

The geography and demography of Egypt delineate its basic economic problem. Although the total area of the country is 386,000 square miles (a little over 1 million square kilometers), less than 4 percent of this land is habitable or even usable. In fact, without the Nile, which flows through the country for about a thousand miles without a single tributary, Egypt would be little more than part of the Sahara. This fertile river, a cradle of civilizations, has provided populations with food and facilitated commerce for thousands of years. Still, 98 percent of Egypt's population remains packed into an area of 15,000 square miles along the Nile and in the Nile Delta.

Egypt occupies the northeastern corner of Africa, extending south from the thirty-second parallel to below the Tropic of Cancer. It is a Mediterranean country; an Arab country, bordered by Libya to the West and by the Sudan to the South; and a Middle Eastern