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The Political Economy of Agricultural Pricing Policy

Trade, Exchange Rate, and Agricultural Pricing Policies in the Dominican Republic

Volume I The Country Study

Duty D. Greene and Terry L. Roe



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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.

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Abstract

Although agriculture is still an important part of the economy of the Dominican Republic, the sector's share of gross domestic product (GDP) and of total exports decreased substantially during the period 1966-85. These changes can be attributed in large part to the government's import-substitution/industrialization policies and to its intervention in the country's coffee, rice, and sugar markets.

For most of the period, direct government intervention in prices tended to benefit sugar and rice producers while implicitly taxing coffee growers. But if indirect intervention (in the form of an overvalued currency and industrial protection) is taken into account, one finds that producers of all three crops suffered losses. These disincentives to production were part of the reason why agriculture's share of total exports fell from 76 percent to 55 percent during the period. This drop was accompanied by reductions in the foreign exchange earnings of the three crops.

It seems clear that sugar and rice growers benefitted from direct government intervention in producer prices because of their political influence, and that this political influence, in turn, was the result of geographic concentration. Coffee growers carried less weight politically because of their geographic dispersion and the generally smaller size of their farms.

The concentration of political influence among urban labor-surplus households and import-competing enterprises served to protect the domestic industrial sector from foreign competition and to overvalue the country's currency. Consequently, the consumer prices of rice, coffee, and sugar were kept low in relative terms. The low prices of these commodities tended to subsidize the consumption of low-income rural and urban consumers relative to others in the economy.

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Chapter I

AN OVERVIEW OF THE DOMINICAN REPUBLIC'S ECONOMY

Significant changes have occurred in the political economy of the Dominican Republic since the end of Trujillo's dictatorial rule in 1961 and the Civil War of 1965. This analysis of agricultural pricing policies in the Dominican Republic spans the successive democratically elected governments of Joaquin Balaguer (1966-78), Antonio Guzman (1978-82), and Salvador Jorge (1982-86). The primary purpose of this analysis is to provide a better understanding of the role that agriculture and, in particular, agricultural pricing policies since 1982, have played in achieving the objective of economic growth.

The Dominican Republic, a country of approximately 48,700 square kilometers, occupies the eastern two-thirds of Hispaniola, the second largest island in the Caribbean Sea. This island, whose western third is occupied by Haiti, lies three to five degrees south of the Tropic of Cancer, approximately 500 miles southeast of Florida and 400 miles north of Venezuela. Hispaniola is separated from Puerto Rico to the east by the Mona Passage and from Cuba to the west by the Windward Passage. These two sea passages are the principal Caribbean water routes east of the Panama Canal.

The Dominican Republic has relied on international trade, and especially on exports of sugar to the United States, for a significant share of its economic growth. The largest share of the sugarcane produced in the country is grown on the lowland coastal plains located primarily in the southeastern part of the country. The western part is quite mountainous, and the numerous mountain ranges throughout the country mean

great variety in topography, climate, soil, and land use. The Cordillera Central is the highest mountain range in the country, with altitudes of approximately 2,000 meters (6,560 feet), although there are peaks considerably higher. Duarte Peak, the highest mountain in the country and in the Caribbean, is 3,175 meters (10,414 feet). The Cordillera Septentrional to the north and the Sierras de Neiba and de Bahoruco to the south are lower mountain ranges that generally crest at elevations of around 1,200 meters (4,000 feet).

The major lowland regions of the country consist of long valleys which extend in a northwesterly direction. The Cibao Valley (el Valle del Cibao) is the most extensive and fertile agricultural area of the country. This valley covers approximately 5,100 square kilometers (2,000 square miles) or 10.0 percent of the national territory. The eastern part of this valley, known as the Vega Real, includes the country's richest and deepest agricultural land. The San Juan and Neiba valleys in the southwest are also fertile but very arid. The Caribbean Coastal Plain, covering approximately 2,800 square kilometers in the eastern part of the country, is the center of the country's sugar and cattle industries.

In addition to the major lowland valleys and coastal regions, there are numerous smaller valleys and basins, particularly in the Cordillera Central, which are used for grazing, forestry, farm parcels, and transitional agriculture. This type of agriculture is based primarily on slash and burn (swidden) procedures on small plots of land.

The average annual temperature in the Dominican lowlands is around 78° F., with little seasonal variation. The maximum temperature in the lowlands seldom exceeds 90° F., primarily because of the constant trade winds. Frosts, however, are common in the mountain ranges above 1,080 meters (3,600 feet), where the average annual temperature is around 60° F.

The country's mean annual rainfall varies substantially over the different regions. Approximately two-thirds of the annual rainfall occurs between May and November; however, the occurrence of the rainy season varies with the region. On the northern coast and in the Cibao Valley the rainy season begins in October, but in the south it begins in May. The annual mean rainfall for the entire country is 1428 millimeters (57.1 inches).

The region of heaviest rainfall is along the northern coastal plain from Puerto Plata to the Peninsula of Samana and in the higher elevations of the southern sierras of Neiba and Baoruco. The mean annual rainfall in the Vega Real is around 2,000 mm (80 inches), while in the northwest and along the southwest coast it is only 700 mm (28 inches). For most of the eastern part of the country, where the majority of the sugarcane is grown, the mean annual rainfall is around 14,000 mm (56 inches). These annual rainfall averages tend to obscure the effects of hurricanes and flooding, on the one hand, and prolonged droughts, on the other, which have had devastating effects on Dominican agricultural production in some years.

The topography has been the major determinant in the placement of major roads and population settlements. The two major population centers are Santo Domingo and Santiago. Santo Domingo, the capital, had approximately 1.3 million people in 1981; Santiago had approximately 300,000. The population in these two cities comprised approximately 28.6 percent of the total Dominican population in 1981, estimated to have been about 5.6 million.

The population growth of Santo Domingo and Santiago has coincided with the continuing development of the ports of Santo Domingo, Puerto Plata, and, more recently, Haina. In 1978, in order to relieve congestion

in the harbor of Santo Domingo, the Dominican government endorsed an estimated US\$4.7 million project--of which the major share was financed with a loan from the Inter-American Development Bank (IDB)--to develop the port of Haina as the principal commercial seaport. Most of the Dominican industrial processing plants which depend on imported raw materials, including the oil refinery (Refineria Dominicana de Petroleo), are located at Haina. The ports of La Romana and Cabo Rojo have served as important export centers for sugar and bauxite, respectively. La Romana, San Pedro de Macoris, Santiago, and Puerto Plata have become the country's major Export Processing Zones (EPZs). These EPZs are free-trade areas where imports of raw materials and exports of finished products are exempt from Dominican taxes and foreign exchange rate restrictions.

Because of the financial incentives provided by the 1984 Caribbean Basin Initiative (CBI), to export to the United States, increasing financial support was given to the development of EPZs on the northern coast of the Dominican Republic, which has also shown dramatic development in the last five years as a tourist area.

As shown in Table 1A, the total population of the Dominican Republic grew from approximately 3.04 million people in 1960 to an estimated 6.23 million in 1985. These numbers represent an average annual growth rate of 2.9 percent over the 25-year period. During this same period the urban population is estimated to have increased from 0.92 million to 3.43 million, while the rural population grew from 2.12 million to 2.80 million. These changes represent an average annual growth rate in the urban areas of approximately 5.4 percent and in the rural areas of only 1.1 percent. Obviously, given these differential population growth rates, a substantial amount of migration from the rural to the urban areas has occurred. The proportion of the population living in urban areas increased from an estimated 30 percent in 1960 to 55 percent in 1985.

As shown in Table 1A, the urban population has become increasingly concentrated. The number of cities in which the most concentrated 75 percent of the population lives decreased from 15 to an estimated 13 in 1985. Moreover, as shown in Table 1B, the National District, which includes Santo Domingo, contained approximately 27.5 percent of the population but only 3 percent of the country's land area in 1981. As a result of population growth, arable land per rural inhabitant decreased from an estimated 0.5 hectares in 1960 to only 0.4 hectares in 1985. This estimate, based on the definition of arable land given in FAO production yearbooks, does not include pasture lands. The annual population estimates are based on IMF/IFS data, which are slightly smaller than the figures given in the 1981 census of the Dominican National Statistics Office (ONE).

The total number of persons 15 and older who are economically active in the country increased from an estimated 800,000 (26.3 percent of the total population) in 1960 to 1.91 million (30.7 percent of the population) in 1985 (Table 1A). These data represent an average annual growth rate of 3.5 percent during the 25-year period. The literacy rate for the entire country was 66.0 percent in 1960 and 70.0 percent in 1985. The modest increase in the literacy rate from 1960 to 1985 suggests that the problem of illiteracy and restricted educational opportunities have not yet been solved, especially in the rural sector, where literacy rates currently may be as low as 40.0 percent.

The rate of unemployment in 1981 was estimated to have been around 21.0 percent in urban areas and 23.0 percent in rural areas. In addition, Table 1C indicates that the estimated underemployment in 1983 was around 55.7 percent.

TABLE 1A: GENERAL DEMOGRAPHIC DATA FOR THE DOMINICAN REPUBLIC, 1960-85

YEAR	POPULATION				
	TOTAL (MILLIONS)	URBAN		RURAL (MILLIONS)	URBAN AS % OF TOTAL
		TOTAL (MILLIONS)	CONCEN- TRATION		
(1)	(2)	(3)	(4)	(5)	
1960	3.04	0.92	15	2.12	30.20
1970	4.00	1.62	14	2.39	40.30
1980	5.43	2.77	14	2.66	51.00
1985	6.23	3.43	13	2.80	55.00

* 1985 Estimated.

(1) IMF Statistics and National Statistics Office (ONE).

(2) National Statistics Office (ONE). Population Census, 1970, 1980.

(3) Computed from data provided by National Statistics Office (ONE) as number of cities in the Dominican Republic in which the most concentrated 75% of the urban population lives.

(4) Column (1) divided by Column (2).

(5) Column (2) divided by Column (1).

YEAR	LABOR FORCE TOTAL (MILLIONS)	EDUCATION ADULT LITERACY (PERCENT)	ARABLE PERMANEN CROPLAND (1000 HA)	ARABLE LAND PER PERSON (HAS/P)	ARABLE LAND RURAL PERSON (HAS/P)
	(6)	(7)	(8)	(9)	(10)
1960	0.80	65.8	1000	0.33	0.47
1970	1.16	66.4	1135	0.28	0.47
1980	1.62	68.6	1050	0.19	0.39
1985	1.91	70.0	1100	0.18	0.39

* 1985 Estimated.

(6) Number of people economically active. National Office of Planning (ONAPLAN), 1983.

(7) Percent of total adult population (15 years old and above) that are literate. National Statistics Office (ONE).

(8) FAO Production Statistics Yearbooks (various years). These data include only land in annual and permanent crops.

(9) Arable land per person (column 8 divided by column 1).

(10) Arable land per rural person (column 8 divided by column 4)

TABLE 1B: POPULATION OF THE DOMINICAN REPUBLIC BY REGION, 1981

REGION	POPULATION (MILLION PERSONS)	PERCENT	1978-1981 POPULATION GROWTH RATE (%)
-----	-----	-----	-----
SOUTHEAST	2.69	47.60	4.3
NATIONAL DISTRICT ^{1/}	1.55	27.50	5.5
REMAINING AREA	1.14	20.10	2.6
CIBAO ^{1/}	2.24	39.70	1.9
SOUTHWEST	0.72	12.70	2.8
TOTAL	5.65		

1/ Santo Domingo had an estimated 1.31 million people or 23.3% of the population in 1981; while the second city, Santiago (in the Cibao), had an estimated 0.28 million people or 4.4% of the population. 1981 Census Data, National Office of Statistics (ONE).

TABLE 1C: ESTIMATED RATE OF UNEMPLOYMENT IN THE DOMINICAN REPUBLIC, 1980-1983

TYPE	1980 SURVEY URBAN	1980 SURVEY RURAL	1981 CENSUS URBAN	1981 CENSUS RURAL	1983 SURVEY SANTO DOMINGO
----	-----	-----	-----	-----	-----
RATE OF UNEMPLOYMENT	19.00	26.10	18.80	22.80	21.40
MALES	16.20	14.00	17.50	20.90	19.10
FEMALES	24.50	53.00	21.00	29.00	25.30
GROSS RATE OF PARTICIPATION	44.60	58.60	47.20	47.30	55.70
MALES	62.70	77.60	63.80	67.20	74.50
FEMALES	28.60	38.00	32.40	24.70	39.30

SOURCE: Santana, Isadora (1985).

Overall Performance of the Dominican Economy

The size and performance of the Dominican economy for the period 1960-84 are reflected in the national account figures presented in Table 2A. They show the annual GDP in current DR pesos increased from DR\$732.1 million in 1960 to an estimated DR\$10,108.4 million in 1984. Annual real GDP (in millions of constant 1980 DR pesos) increased from DR\$2,077.2 in 1960 to an estimated DR\$6,688.7 in 1984. These numbers represent an average annual growth rate in real GDP of 5.1 percent during the period. Real GDP per capita, as shown in Column 3, increased from DR\$683.3 to an estimated DR\$1,092.9 over this same period, representing an average annual growth rate of 2.0 percent.

The sum of annual public and private investment as a percentage of GDP averaged around 19.0 percent, ranging from a low of 9.0 percent in 1961 and 1965 to a high of 26.7 percent in 1980. Annual gross national savings ranged from 7.0 percent of GDP in 1965 to 22.4 percent in 1975. According to these figures, annual investment was higher than national savings in every year except for 1960-62. The annual value of imports of goods and services averaged approximately 24.0 percent of GDP, while exports averaged about 20.0 percent. Imports as a share of GDP during the 1960-84 period were at a low of 14.0 percent in 1961 and at a high of 33.6 percent in 1980. Exports were at a low of 15.0 percent in 1965 and a high of 28.0 percent in 1975 and 1984. The significant increases in the annual value of imports in 1974-75 and 1979-80 can be attributed largely to increases in oil prices, while the increases in the value of exports in 1974-75 and 1981 can be explained largely by increases in world sugar prices.

Table 2B indicates the composition of Dominican GDP (measured in current DR pesos) by economic sector in the period 1966-68, 1974-76, and 1982-84. The data of the first period indicate the following percentage

TABLE 2A: NATIONAL ACCOUNTS STATISTICS FOR THE DOMINICAN REPUBLIC,
1960-1984*

(MILLIONS DR\$)

YEAR	CURRENT GDP	REAL GDP (1980=100)	REAL GDP PER CAPITA (1980=100)	PERCENT SHARE IN GDP OF			
				INVESTMENT	SAVINGS	IMPORTS	EXPORTS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1960	732.1	2077.2	683.3	13.0	19.0	16.0	24.0
1961	694.1	2030.7	650.9	9.0	17.0	14.0	22.0
1962	879.7	2376.3	740.3	12.0	12.0	21.0	21.0
1963	1009.0	2555.3	772.0	16.0	13.0	22.0	20.0
1964	1123.3	2659.8	683.8	18.0	13.0	24.0	18.0
1965	954.4	2370.5	683.1	9.0	7.0	17.0	15.0
1966	1059.5	2658.2	734.3	14.7	8.0	21.7	15.2
1967	1114.6	2747.1	736.5	14.4	8.6	21.5	16.8
1968	1162.2	2752.0	716.7	14.3	7.8	22.9	17.2
1969	1325.4	3054.2	773.2	16.8	10.5	22.4	17.2
1970	1485.5	3378.9	842.6	19.1	12.2	24.5	17.2
1971	1666.3	3746.3	896.2	17.9	10.1	24.6	17.5
1972	1987.4	4135.5	961.7	19.7	17.3	22.2	20.7
1973	2344.8	4669.1	1054.0	22.1	17.9	24.1	21.9
1974	2925.7	4949.3	1085.4	23.3	15.1	31.3	24.9
1975	3599.2	5206.2	1107.7	24.5	22.4	28.1	28.0
1976	3951.5	5556.8	1148.1	22.3	18.2	25.4	21.3
1977	4587.1	5833.2	1171.3	21.8	18.0	24.2	20.0
1978	4728.4	5958.2	1163.7	23.9	17.3	24.4	17.5
1979	5498.8	6228.2	1179.6	25.4	19.0	27.0	20.6
1980	6174.1	6174.1	1134.9	26.7	13.3	33.6	20.6
1981	6784.6	6415.4	1147.7	25.1	16.4	29.5	22.3
1982	7462.0	6511.3	1134.4	22.1	12.8	23.9	15.3
1983	8041.4	6817.6	1138.2	22.2	15.6	24.7	19.1
1984	10108.4	6688.7	1092.9	21.5	17.7	31.2	28.0

* 1984 data are preliminary estimates.

(1) IMF/IFS Statistics Yearbook (1960-1965), Dominican Central Bank and 1986 IBRD Mission Estimates.

(2) *ibid.*

(3) Column (2) divided by total population.

(4) *op. cit.*, Footnote 1.

(5) Gross Domestic Savings (S=GDP-C), IMF/IFS (1960-66); Gross National Savings, Central Bank and 1986 IBRD Mission Estimates.

(6) *op. cit.*, Footnote 1.

(7) *ibid.*

TABLE 2B: GROSS DOMESTIC PRODUCT BY SECTOR AS A PERCENT OF GDP IN THE DOMINICAN REPUBLIC, 1966-68, 1974-76, AND 1982-84

(PERCENT OF GDP IN CURRENT PRICES)

	1966-1968	1974-1976	1982-1984
	-----	-----	-----
* TOTAL GDP	100.0	100.0	100.0
PRIMARY PRODUCTION	25.2	24.2	17.7

CROPS	16.3	15.6	10.1
LIVESTOCK	6.5	5.1	4.6
FORESTRY & FISHING	0.9	0.5	0.5
MINING	1.5	2.9	2.5
SECONDARY PRODUCTION	22.7	26.9	28.3

MANUFACTURING	17.0	19.5	19.2
CONSTRUCTION	4.5	6.8	8.1
ELECTRICITY	1.2	0.7	1.1
SERVICES	52.1	48.9	54.0

COMMERCE	16.2	16.9	16.5
TRANSPORT & COMMUNICATIONS	6.9	6.2	5.7
FINANCIAL SERVICES	1.5	2.5	4.6
HOUSING	7.2	6.9	9.4
PUBLIC ADMINISTRATION	12.1	6.5	6.6
OTHER SERVICES	8.2	9.9	11.3

* The average current GDPs for 1966-68, 1974-76, and 1982-84 periods were DR\$1112.2, DR\$3492.1, and DR\$8537.3 million, respectively.

Source: Central Bank, National Accounts and 1986 IBRD Mission Estimates.

composition: primary production, comprised of agriculture and mining, 25.2 percent; secondary production, comprised primarily of manufacturing and construction, 22.7 percent; and services, comprised primarily of commerce and public administration, 52.1 percent. By the 1982-84 period, primary production had decreased to 17.7 percent, secondary production had increased to 28.3 percent, and services had remained fairly constant at about 54.0 percent.

The Relative Importance of Agriculture to the Dominican Economy

The agricultural sector and, in particular, the sugar industry, have contributed significantly to the size and differential growth rates of the Dominican economy throughout the period of analysis. As shown in Table 2B, however, the proportion of agriculture in nominal GDP declined from an average of 23.7 percent in the 1966-68 period to 15.2 percent in 1982-84. These figures reflect only the direct contribution of agricultural production to GDP. Additional value added is generated by agriculture through its forward linkages in food processing, marketing, and exporting activities, which are included in the manufacturing and service categories. The average annual real growth rate of GDP from agricultural production was about 5.0 percent during the period from 1965-67 to 1982-84; those from mining (15.4 percent), construction (12.0 percent), and housing (8.2 percent) were substantially higher.

The data in Table 3A show the annual real GDP (in constant 1980 prices) of the total economy and the respective agricultural sectors from 1966 to 1984. The annual agricultural real GDP of crops, livestock, and other agricultural is shown graphically in Figure 3A.1. These data indicate the relative importance of crops vis-a-vis livestock. Approximately 25.0 percent of the total production value of Dominican