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MARKETING AND ECONOMIC DEVELOPMENT:
A BRAZILIAN CASE STUDY, 1930-1970

By

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Marketing and Economic Development: A Brazilian
Case Study, 1930-1970

1. Introduction

The dynamics of agricultural marketing during the development process have received little attention in developing countries. True, several recent works have explored the efficiency of contemporary marketing systems.¹ But economic-historical analysis of marketing structures and the forces molding them are much rarer.² The obstacles to such research are formidable. Data on the distribution sector are among the poorest in developing countries, and they get worse as one moves back in time. Compounding the problem, middlemen have not attracted many chroniclers of their activities.

This study of rice marketing over forty years in Brazil's Center-South therefore joins a small literature.³ The Center-South, where

¹Among the most interesting are: Uma J. Lele's Food Grain Marketing in India: Private Performance and Public Policy (Ithaca: Cornell University Press, 1971); William O. Jones, "Measuring the Effectiveness of Agricultural Marketing in Contributing to Economic Development: Some African Examples," Food Research Institute Studies, IX, 3, (1970) pp. 175-96; M. O. Farruk, The Structure and Performance of the Rice Marketing System in East Pakistan, Cornell International Agricultural Development Bulletin No. 23, 1972. Particularly notable are the monographs in the "Marketing in Developing Communities Series" published under the auspices of Michigan State University's Latin American Studies Center. One concerns Brazil: Market Processes in the Recife Area of Northeast Brazil (East Lansing: 1969) by Charles Slater, Harold Riley, et al. These studies are dynamic in the sense that they attempt to simulate future demands for marketing services, but they are not historical.

²One such work is Cheng Siok-Hwa, The Rice Industry of Burma, 1852-1940 (Singapore: 1968).

³It is interesting that John R. Moore argued recently that in the U.S., too, research has tended to concentrate on static efficiency to the detriment of marketing change. "The Causes and Consequences of Major Changes in the Organization of Agricultural Marketing," American Journal of Agricultural Economics, August, 1966 (Part II), pp. 148-49, 158, 160.

economic growth and structural transformation have been extremely rapid, provides unusual opportunities for this type of research. In 1930, the region was fairly poor and predominantly rural. By 1970, a modern economic structure, urban and industrial in base, had been firmly implanted. Along the way substantial demands for marketing services were generated, while the factors shaping the marketing system were undergoing profound modifications.

As Brazil's main traditional staple and one of its most important growth crops, rice is a logical choice for this study. By the late 1960's Brazilians consumed each year forty to forty-five kilograms of rice per capita,⁴ sixteen times the U.S. level and one-third of China's world-leading figure.⁵ In the fifty years after Brazil achieved self-sufficiency during World War I, per capita consumption of the grain tripled,⁶ and total production expanded eightfold, outdistancing the agricultural sector as a whole.⁷

This paper, then, analyzes marketing change for a traditional but dynamic crop in a region undergoing rapid development. Without undue distortion of reality, I have divided the period into three "stages."⁸

⁴According to estimates made by Paul I. Mandell, The Rise of the Modern Brazilian Rice Industry: Demand Expansion in a Dynamic Economy, mimeo, 1971, Tables 14 and 15 (no page number).

⁵The Getúlio Vargas Foundation, Projections of Supply and Demand for Agricultural Products of Brazil (Rio de Janeiro, 1967), p. 50.

⁶Paul I. Mandell, loc. cit.

⁷Werner Baer, Industrialization and Economic Development in Brazil (Homewood: 1965), p. 257 and Anuário Estatístico do Brasil, 1970.

⁸The pitfalls of the "stage" methodology are well-known. However, the principal exogenous forces acting upon the marketing system in Brazil have moved in spurts. Approximation of the dynamics of the system by the comparative statics of stages analysis appears valid.

Stage I, 1930-1950, might justly be called the age of centralization and oligopsony. It was dominated by the railroad and coastal shipping, by the merchant-moneylender system and by inflated marketing margins. Moving past 1950, road investment shifts into high gear and the Bank of Brazil expands its program of rural credit at a rapid pace. By the early 1960's, we have fully reached stage II, dominated by the truck and by the flexibility, decentralization and increased competition which it made possible. Regional oligopsonies are no longer viable, as new market entrants and bank credit eliminated the bases of their power. Inevitably, marketing margins fell.

A new stage seemed well on the way by 1970 as modern merchandising methods--advertised brand names sold in pre-packaged portions--were increasingly in evidence. This seems to foretell increasing attention to consumer tastes, to sales efforts and product quality.

Information on marketing, particularly before 1965, is difficult to find. Hence, a good deal of my material is based on personal interviews undertaken in 1963, 1965-67 and 1970. The interviews were structured, but informal.⁹ In all, I interviewed over 60 firms in São Paulo, Rio Grande do Sul, Minas Gerais, Goiás, and Paraná (a list appears in the appendix). I spoke with bankers in these areas and received the cooperation of many informed public officials, especially in São Paulo, Rio Grande do Sul and Rio de Janeiro. A sample of "oldtimers" was interviewed concerning the earlier years of the period.

⁹In 1963 I used an extensive formal questionnaire, but a little experience showed I could learn far more by not asking detailed questions about the individual firm's operations.

Whenever possible, I checked the accuracy of interviews with other sources, and I used interview information only when there is a consensus among those answering.

2. Stage I: 1930-1950

1. Background. Rice production has expanded continually into new lands. From areas near the coast in São Paulo, Minas Gerais and Rio Grande do Sul, the crop spread into the interior of these states in the 1920's and 1930's. The Minas Triangle and Goiás came to the fore in the 1940's and 1950's, while today Maranhão and Pará in the far north are Brazil's latest rice frontiers (see Table 1).

TABLE 1: Per Cent of Total Brazilian Rice Production

	<u>São Paulo</u>	<u>Rio Grande do Sul</u>	<u>Minas Gerais</u>	<u>Minas Triangle</u>	<u>Goiás</u>	<u>Rest of Brazil</u>
1919	42	14	21	3	4	19
1927/31 average	35	23	20	n.a.	6	16
1939	31	22	18	3	6	23
1949	27	20	18	7	9	26
1959	20	18	17	n.a.	12	33
1968	12	19	16	n.a.	19	34

Sources: Brazil, 1937; Recenseamento Geral do Brasil, 1920: Agricultura; Anuário Estatístico do Brasil, various numbers.

From the other states Rio Grande do Sul stands apart in its relatively advanced production and marketing techniques. There, unlike the rest of Brazil, rice is produced on irrigated lands, selected seed

varieties are used, and mechanization is increasingly in evidence.¹⁰ Only in Rio Grande do Sul have cooperatives made much headway in rice, and only there is grading sufficiently standardized to meet the demands of the world market.

However, most Brazilians prefer the upland varieties from São Paulo, Goiás, and Minas Gerais. Because of its lower price, grain length for grain length, Rio Grande rice is consumed in greater proportions by lower income people.

2. Marketing channels and activities. In these early years, rice moved by rail, coastal shipping and flat boats. These modes of transportation tend to concentrate on trading activities at intermediate transportation breaks--larger ports and rail centers.¹¹ And so it was in this case, where rice marketing was partitioned into regional systems centering in Pôrto Alegre and São Paulo City.

Pôrto Alegre, Rio Grande do Sul's principal port and main rail center, channelled the state's large surpluses to Rio de Janeiro, and less importantly to São Paulo, the poorer states of the north and to foreign markets. Farmers in Rio Grande do Sul sold mostly in the interior, to local mills or middlemen, or to buyers representing the

¹⁰ See, for example, Instituto Riograndense do Arroz, O Arroz no Mundo, O Arroz no Brasil, O Arroz no Rio Grande do Sul (Pôrto Alegre: 1969), pp. 17-18, 23-33. Rice was a profitable crop in Rio Grande do Sul requiring fairly large capital investments to be fully exploited. Prominent landowning families were attracted to it early in the century, and rice became the "coffee" of the South. See Fortunato Pimentel, Aspectos Gerais da Cultura do Arroz no Rio Grande do Sul (Pôrto Alegre: 1949), pp. 20, 64.

¹¹ On the centralization of marketing in the U.S., during the railroad age, see Geoffry Shephard, Marketing Farm Products, 3rd ed. (Ames: 1961), pp. 38-40.

¹² Data on destination of shipment is found in Associação Comercial do Pôrto Alegre, Boletim, various numbers.

larger mills in Pôrto Alegre. Although some sold in Pôrto Alegre directly or on consignment, this was uncommon. Not only was the farmer often committed to sell to the mill which had financed him, but he was sometimes swindled in the consignment transaction.¹³

Most mills were too small to integrate the farm assembly, milling and export functions under one management. Rather, they bought from farmers and used commission brokers to sell either to "exportadores"--firms specialized in placing rice with buyers in other states--or with the larger, integrated mills.

Even the larger mills did not sell directly in other parts of Brazil. They relied instead on independent commission brokers in these areas to find buyers. Complementing this localism, employees of firms with home offices in other states were extremely rare in the Pôrto Alegre market and not found in the interior. Rio Grande do Sul was the preserve of the "gaúcho," and this probably reinforced regional oligopsony.

São Paulo was the rail hub through which produce from São Paulo State, Goiás and much of Minas Gerais had to pass on its way to the rest of Brazil. The city had been an important milling center when rice farming was concentrated not far from the capital. But as the crop moved inland, milling went with it. By the 1940's a clear separation had appeared between the São Paulo "cerealista" (wholesale cereals, including beans, specialist), a pure middleman, and the "maquinista," or miller, who operated in the producing zones.¹⁴

¹³ Observador Economico e Financeiro, L (Marco de 1940), p. 113.

¹⁴ I know of only one exception to this, Labate-Sciatigno, founded in 1943 and disbanded in 1963. It was a large cerealista in São Paulo

As a rule, the mills did not sell directly in São Paulo. They dealt instead with buyers from the larger cerealistas or sold on consignment in the capital. As with the Rio Grande mills, even the largest São Paulo cerealistas were quite restricted in their operations. They sold in other markets through commission brokers or on consignment, and they did not operate in producing areas outside the São Paulo region.

Marketing channels in the major cities were further fragmented by the atomistic structure of food retailing.¹⁵ Rice reached consumers mainly through very small grocery stores. Since these stores bought in small quantities and usually required credit, full-line grocery wholesalers most economically served their needs. Hence, cerealistas and the brokers representing the larger Rio Grande mills sold in Rio and São Paulo mainly to full-line grocery wholesalers--or to each other. Direct sales to retailers by these specialists were rare.

Thus market channels in Stage I were roundabout, involving a large number of handling and transactions activities between producer and consumer. Firms were usually quite specialized, and horizontal integration across regions was minute. As in Brazilian political and cultural life, localism was dominant. The inference is that marketing costs were fairly high.

3. Market operation. It was through markets rather than decisions internal to firms that the level of most marketing activities and prices

¹⁵This paragraph relies heavily upon interviews with Wanderley Bocchi, President of the Retail Trade Association in São Paulo (1963), Pedrinho Labate, a commission broker who pioneered in direct sales to retailers (1963, 1970), and Phillippe Allain, a Director of Supermercados Peg Pag (1963, 1970), which operates in São Paulo and Rio de Janeiro.

were determined. The people I interviewed were nearly one in the view that markets did not function very well. They maintained that oligopsony was the rule in the interior assembly markets. Relief through spatial arbitrage was quite limited by the inadequate communications system and the meager market information available to farmers. Since roads were poor in the interior, the sporadic entry of new buyers which might have reduced the power of local oligopsony, was not very effective either.

Nothing contributed more to non-competitive market behavior than the merchant-moneylender system of financing rice cultivation. The rural credit and banking network were poorly developed.¹⁶ Rather than lend to farmers with the administrative costs this would have entailed, banks, even the (official) Bank of Brazil, preferred to finance the mills.¹⁷ The mills, adding an indeterminable amount of their own funds, then financed the farmers. A normal condition of the loan was commitment to sell to the mill soon after the harvest, sometimes at pre-contracted and heavily discounted prices. Where funds were more plentiful, direct interest charges seemed to be "reasonable,"¹⁸ and the mill paid the mar-

¹⁶As late as 1954 experts estimated that 10% of total outside financing for farmers came from the Bank of Brazil, 8% from other banks, 20% from private lenders and 62% from merchants. Klein and Saks, O Problema de Alimentação no Brasil (Rio de Janeiro: 1954), p. 75.

¹⁷According to conversations with officials of the Bank of Brazil's central office in Rio de Janeiro and with the Director of the Bank's Porto Alegre branch (June and August, 1963, respectively).

¹⁸By 1940, rates of about 15% per annum were typical in Rio Grande do Sul, while inflation reached 10%. Observador Economico e Financeiro, L (Marco de 1940), p. 112. Competition also kept rates charged by mills down in Colombia. See Phillippe P. Leurquia, "Rice in Colombia: A Case Study of Agricultural Development," Food Research Institute Studies, VII, 2, 1967, p. 255.

ket price at the time of loan liquidation. But here, it was maintained, oligopsonists often forced exaggerated declines in prices during the harvest months when farmers had to sell.

This picture implies that margins, already high from roundabout market channels, were further inflated by oligopsony profits. The inefficiencies of Stage I cannot be fully documented. Since the most complete data of the period cover Rio Grande do Sul, I will first test the oligopsony-merchant-moneylender model for that region during the 1930's. Then I will present evidence of the model's validity for the Minas Triangle and southern Goiás.

4. Oligopsony in Rio Grande do Sul. In the 1920's one firm, Arrozeira Brasileira¹⁹ as it was later called, dominated the rice trade in Rio Grande do Sul. At the peak of its power in the mid and late 1920's Arrozeira's shipments from Rio Grande do Sul reached 36,000 tons annually,²⁰ 40-50% of the states' total exports. Arrozeira received its big advantage from association with an Italian firm (Genoa), Flugoni e Previ, which also operated La Arrozera Argentina in Buenos Aires. The Italians supplied the state's largest mill in Pôrto Alegre and arranged ample credit through the Banco Francês e Italiâno. Arrozeira's ability to finance farmers on a large scale gained it a certain competitive edge.

Taking advantage of its market power, Arrozeira is supposed to have pressured annual price declines and increases in Pôrto Alegre.²¹ In this manner, purchases in the interior markets tied to Pôrto Alegre could be

¹⁹All information on the early years of Arrozeira Brasileira was obtained from Hugo and Fernando Kessler, former directors of the firm, in an interview, July, 1970.

²⁰This, according to Hugo and Fernando Kessler. I encountered published export data by firm beginning only in 1934.

²¹All informants except the Kesslers concurred in this belief. Reference to such maneuvers is also made in Alvaro Ornellas de Souza, Alguns Aspectos da Economia Arrozeira no Rio Grande do Sul (Pôrto Alegre, IRGA: 1959), p. 2.

made at non-competitively low prices. Later, sales from stocks would fetch prices more consonant with real supply and demand conditions.

Unfortunately, monthly farm price data have been collected in the state only since 1966, while recorded prices for the Pôrto Alegre market begin in 1930, after Arrozeira's market position was beginning to fade. Even so, concentration ratios through most of the 1930's were relatively high (see Table 2), and tied financing by the mills continued its sway. Did prices in the 1930's show evidence of the non-competitive behavior which was supposedly rampant a decade earlier?

TABLE 2: Concentration Ratios of Total Rice Exports from Rio Grande do Sul, Selected Years

	<u>Top One</u>	<u>Top 4</u>	<u>Top 8</u>
1934	21% (Arrozeira)	45%	65%
1935	26 (Arrozeira)	55	77
1936	15	41	64
1938	12 (Arrozeira)	38	58
1939	10	34	56
1946	9 (Arrozeira)	28	47
1949	8	22	38
1959	7	18	28
1960	7	19	32

Notes: Figures based on port embarkations. After 1960, they no longer represent an accurate picture, since overland shipment by truck became the dominant form of transportation. Data prior to 1934 were unavailable.

Sources: Sindicato Arrozeira do Rio Grande do Sul, A Cultura do Arroz no Rio Grande do Sul (Pôrto Alegre: 1935); Associação Comercial do Pôrto Alegre, Boletim, various numbers.

To clarify this, I calculated seasonal indices of rice prices on the Pôrto Alegre Commodity Exchange for several sub-periods, 1930-1968 (see Table 3). If the market behaved in the manner described above, we

would expect to observe two things. Seasonal price increases after the harvest months should be larger during the thirties than in subsequent periods. And they were. Furthermore, the price increases should occur more abruptly, as the oligopsony begins to push them upwards. The 1930-1939 index jumps nearly 7% from August to September, coinciding with the end of the main selling season. In the three months after August, the seasonal increases 12.4% and is practically stable after that. The contrast with the behavior in other years is striking.

Statistically, the differences in seasonals between the different periods are not usually significant. The culprit is year-to-year instability in the magnitude and timing of price changes over the season, suggesting that a fair degree of uncertainty accompanied the operation of the oligopsony.

When we look instead at rises from the seasonal trough during the harvest months to the peak in the off-season--allowing the exact timing to vary from year to year--the contrasts are more obvious and statistically significant (see Table 4). The median rise of 35.6% from trough to peak during the thirties is never approached in later years. Seasonals in Rio Grande do Sul changed after 1939 and in the direction predicted by the oligopsony model.

Additional evidence can be brought to bear. The São Paulo market in the 1930's was fairly competitive. Besides the Rio Grande mills, many from the São Paulo region sold there on consignment. The São Paulo cerealistas added another powerful force. Therefore, if the oligopsony model is correct, price behavior in São Paulo should differ non-trivially from Pôrto Alegre.

TABLE 3: Seasonal Price Indices of Short Grain Rice
("Japonês Especial") Pôrto Alegre

	<u>1930-39</u>	<u>1940-49</u>	<u>1952-58</u>	<u>1964-68</u>
April	94.8	99.6	101.5	98.0
May	94.8	99.0	99.7	95.6
June	92.5	98.1	98.6	96.0
July	94.0	98.0	100.3	97.4
August	94.4	97.7	100.5	99.5
September	100.7	97.6	100.1	102.6
October	102.8	99.6	97.0	103.6
November	106.1	100.6	98.5	100.4
December	105.3	101.3	99.8	99.5
January	107.7	103.6	101.1	101.7
February	104.9	103.2	103.4	104.6
March	102.0	101.9	99.3	101.4
Trough to Peak Rise	16.4%	6.1%	4.9%	4.8%
Average:				
April- August	94.1	98.5	100.1	97.3
Sept- March	104.2	101.1	99.9	102.0
Increase	10.7%	2.6%	0	4.8%

Sources of original data: 1930-1949, IRGA, Anuário Estatístico do Arroz, no. 5 (Pôrto Alegre: 1950); 1952-1968, Bôlsa de Mercadorias, Pôrto Alegre.

Notes: Seasonals are means of the ratio of prices to twelve month centered moving averages. Short grain rice was 80-90% of Rio Grande do Sul's output in the 1930's and 1940's. 1950-51 and 1959-63 had to be omitted because of the absence of trading in many months.

Comparison of Table 5 with Table 3 will show that the seasonal was perhaps half again as large in Pôrto Alegre. In contrast with the nearly 7% rise in Pôrto Alegre (August-September), the end of the selling season in São Paulo brings a 3% increase in the seasonal. Again, averages obscure matters. Much clearer is Table 6, which shows that when timing is allowed to vary, the trough to peak rises were almost twice as large in Pôrto Alegre and exceeded those in São Paulo in every year. Clearly the markets behaved differently in the manner predicted by the oligopsony model. One can only speculate that farm prices would show even more pronounced evidence of non-competitive movement.

TABLE 4: Short Grain Rice: Percentage Increase in Seasonal Price Index from Trough Month, April-August to Peak Month, September-March

	1930-39		1940-48		1952-57
1931	17.4	1940	18.0	1952	7.5
1932	40.6	1941	21.3	1953	21.2
1933	51.9	1942	11.4	1954	6.0
1934	22.0	1943	6.7	1955	4.7
1935	18.4	1944	10.6	1956	33.6
1936	44.3	1945	6.0	1957	8.6
1937	38.8	1946	7.6	Median = 8	
				Mean = 13	
1938	20.8	1947	12.4	1964	5.2
1939	35.6	1948	21.5	1965	14.9
Median = 35.6		Median = 11.4		1966	38.7
Mean = 32.2		Mean = 12.8		1967	17.6
				Median = 16.3	
				Mean = 19.1	

Notes: Differences are significant at 1% level between 1930-39 and other periods, except 1964-67, significance was 10%. Mann-Whitney U Test was used.

TABLE 5: Average Seasonal Price Index 1932-39,
Long Grain Rice ("Agulha") São Paulo
Cereals Exchange

February	96.3
March	94.0
April	94.8
May	98.5
June	98.1
July	101.2
August	101.8
September	102.0
October	103.2
November	104.4
December	102.9
January	102.8
Trough to Peak	11.1%
Harvest - February - June	96.3
Inter-Harvest - July-January	102.6
Increase:	6.5%

Sources of Primary Data: Bôlsa de Cereais de São Paulo.
Data begin in July, 1931.

Notes: "Agulha," a long grain rice, was the only variety traded regularly on the São Paulo Cereals Exchange.

TABLE 6: Percentage Increase in Seasonal Price Indices
from Trough Month During Harvest to Peak Month
in Inter-Harvest

	<u>São Paulo</u>	<u>Pôrto Alegre</u>
1932	19.6	40.6
1933	24.8	51.9
1934	10.9	22.0
1935	1.8	18.4
1936	37.0	44.3
1937	11.9	38.8
1938	7.8	20.8
1939	34.1	35.6
Median =	15.8%	28.8%
Mean =	18.5%	34.0%

5. Oligopsony in the Minas Triangle and Southern Goiás. Another important, if less well documented, case of merchant-moneylender oligopsony accompanied the spurt of rice production in the Minas Triangle and Southern Goiás.²² Merchants and published accounts agree that in the 1940's and early 1950's perhaps two to four mills dominated the market in a manner similar to Rio Grande do Sul.²³

Oligopsony was facilitated by a severe transportation bottleneck which often cut this market loose from São Paulo during the harvest months, permitting very large spatial price differentials.²⁴ It is not surprising that São Paulo prices of this region's long grain rice show little evidence of the behavior encountered in Porto Alegre.²⁵ Seasonals in farm prices were likely much larger.

6. Oligopsony is temporary. The market power required for grossly non-competitive behavior was temporary. The fall in the concentration ratio in Rio Grande do Sul has already been noted. New entry was more rapid in the Minas Triangle area. By 1953, following two years of intense expansion, 127 mills were operating in the Triangle four assembly centers.²⁶ Already in 1957, a group of experts described the Triangle

²²The main published source on this oligopsony is, Joint Brazil-United States Economic Development Commission, "Warehousing and Other Factors Influencing Food Production in Certain Sections of the States of Minas Gerais and Goiás" in Brazilian Technical Studies (Washington: 1955). I supplemented this information with interviews in the area and São Paulo.

²³Ibid., p. 421. Twenty per cent by 1950-51 does not appear too high a market share for the two largest firms in the Triangle-Southern Goiás region. See G. W. Smith, Marketing and Economic Development: A Brazilian Case Study, unpublished Ph.D. dissertation, Harvard University, 1965, pp. 192-203.

²⁴See ibid., p. 197.

²⁵Ibid., p. 194.

²⁶Joint Brazil-United States Economic Development Commission, op. cit., p. 427.

as very competitive, yielding no more than normal profits.²⁷ And by 1963, the two largest mills had seen their annual volume fall from 500,000 sacks each but a decade earlier to 100,000-150,000,²⁸ as the number of mills doubled.²⁹

The predominance of a few firms was rooted in early entry with large financial resources. To maintain their market shares as production expanded, the largest mills would have required the protection of strong barriers to entry and/or significant scale economies. Neither was important at that time. As a result, the superior management and capital sums required for larger scale operations more than likely found higher returns in other areas. This is probably the reason too why larger economic groups tied to agricultural products have never been attracted to rice.³⁰

None of this implies that non-competitive profits were eliminated by new entry. Anemic credit, poor market information and inferior transportation-communication links still suggest that non-competitive profits were not trivial. But entry guaranteed that large scale oligopsony could not persist indefinitely. Interestingly, rice markets in several

²⁷"Situação dos Cereais no Triângulo Mineiro e Sul do Goiás," (unpublished report of the Grupo Técnico de São Paulo to the Conselho Nacional de Alimentação, July, 1957).

²⁸According to an interview October, 1963 with the head of one of the firms, corroborated by other merchants in the region.

²⁹According to the agency director of IBGE in Uberlândia in October, 1963.

³⁰I know of only two exceptions to this. Matarazzo owned a large mill in São Paulo early in the century, and Bunge-Born (Moinhos Santista, SANBRA, etc.) operated Brasilarroz in Porto Alegre from 1935 until sometime in the 1950's. Neither grew exceptionally large. On Matarazzo see Secretaria da Agricultura, Comercio e Obras Publicas do Estado de São Paulo, Boletim da Directoria de Industria e Comercio, Setembro, 1912, p. 408.

other developing countries seem fairly competitive for the same reason.³¹

3. Stage II: 1951-1967

In these years Brazil actively pursued an import-substitution industrialization strategy backed by massive investments in the economic infrastructure. The country's real growth averaged 6%, led by industry's 7.2%,³² while urban population exploded at the rate of 5% per year.³³ All this brought profound changes in the conditions shaping the marketing system.

1. Transportation. The burgeoning demand during this period³⁴ for more and better transportation was satisfied by vast road programs. The road network more than tripled, 1952-1968, to 940,000 kms., while its quality improved enormously. In Sao Paulo State alone, paved roads grew from a mere 64 kms. in 1944 to 13,300 by 1968.³⁵

³¹See, for example, in India, Uma J. Lele, op. cit., pp. 63-83; Colombia, Phillippe P. Leurquia, op. cit., pp. 255, 259. For a contrary conclusion on Chile, see Carlos Fletschner, Structural Patterns in the Marketing of Selected Agricultural Products in Chile: the Position of Small and Large Growers (Land Tenure Center Research Paper, University of Wisconsin: 1971), pp. 20-63.

³²Calculated from indices in Conjuntura Econômica, XXV, 9, 1971, p. 98.

³³Source of primary data, IBGE, Anuário Estatístico do Brasil, various numbers.

³⁴Transportation conditions reached bottleneck proportions in the early 1950's, which led to a great flurry of investment in the next 15 years. On the bottlenecks see, Joint Brazil-United States Economic Development Commission, The Development of Brazil (Washington: 1953), p. 90.

³⁵Sources: Anuário Estatístico do Brasil, various numbers; Conjuntura Econômica, Julho de 1965, pp. 73-75.

By the early 1960's the truck was able largely to supplant the train and coastal shipping in the transportation of rice. The switch brought several important changes. Competition intensified considerably. Many trucker-middlemen appeared who bought from farmers and sold to the mills in the larger assembly centers. They most certainly increased the selling alternatives open to producers.

The truck, by making unnecessary the transportation breaks in Pôrto Alegre and São Paulo, also decentralized marketing channels. Increasingly the mills shipped to the major consuming centers portal to portal. This spelled the demise of the exporter ("exportador") in Pôrto Alegre and cut substantially into the business of the São Paulo cerealista. The central market function of both cities evaporated rather quickly, witness the abrupt decline in their organized spot markets.³⁶

Raw truck rates were generally higher. But such had been the deterioration in the services provided by rail and coastal shipping that when pilferage, spoilage and delays were added to higher handling costs, the truck usually came out cheaper except for very large lots and very long hauls.

On all counts--heightened competition, fewer transactions breaks and usually cheaper transportation--the truck should have reduced marketing margins.

2. Credit. Policymakers dimly realized that their development effort could be frustrated by poor performance in agriculture. Among the measures taken to side-step this potential bottleneck, the Bank of

³⁶ By 1963, total transactions in rice on the São Paulo Cereals Exchange had fallen to 6,250 tons from their 39,000 ton peak in the mid-1950's. By 1970, business was so low that the Exchange refused to divulge its size. Data on the Pôrto Alegre Commodity Exchange are not available. As early as 1963, the author was told by several in the trade that the Exchange ought to shut down, so little was its turnover.

Brazil expanded its loans for cultivation expenses.³⁷ Rice was among the main beneficiaries, as the share of the crop financed by the Bank in all of Brazil rose from 5% in 1950 to 42% in 1963 to more than 50% by the late 1960's. In Rio Grande do Sul, the Bank was financing over 90% of the crop by the early 1960's.³⁸ This program was supplemented by funds from state banks in many areas (e.g. Minas Gerais and São Paulo).

A drastic decline in the merchant-moneylender system followed. In 1963, every miller I interviewed in Rio Grande do Sul, São Paulo and the Minas Triangle claimed that he had greatly curtailed his loans to farmers. By 1970, I found none who engaged in this practice on a significant scale.³⁹ The alternative of bank financing must have increased the competitive position of many farmers.

3. Other developments. Roads and bank credit were the most powerful shocks to the marketing system. There were others.

a. Chain stores, particularly in Rio de Janeiro, enjoyed continual expansion. Increasingly, the chains supplied themselves directly from the mills or brokers representing them.⁴⁰

b. In São Paulo, the street fair had become the principal retail

³⁷ See Gordon W. Smith, "Brazilian Agricultural Policy: 1950-1967" in Howard S. Ellis (ed.), The Economy of Brazil (Berkeley: 1969), pp. 239-241.

³⁸ Sources: CREA, Banco do Brasil; SEP; IRGA, Anuário Estatística do Arroz, various numbers.

³⁹ This information was corroborated by Bank of Brazil officials, warehouse officials, and other observers of the marketing scene.

⁴⁰ See Meyer Stilman, O Comércio Varejista e Os Supermercados na Cidade de São Paulo, Vol. II (São Paulo: 1962), pp. 274, 297.

source of rice by the early 1960's.⁴¹ Feirantes specialized in cereals often operated stalls in several locations simultaneously, and bought in large enough lots to make worthwhile direct purchase from cerealistas or brokers representing the mills.⁴²

c. Cooperatives took an ever larger share of production in Rio Grande do Sul, peaking at 50% of the crop in 1964 and 1965. By 1970, this share had been halved,⁴³ an example of the power of the turnover tax to distort market channels. This tax was due on each transaction and was collected at ever higher rates, reaching 6% in most states by the mid-sixties. But delivery of produce to cooperatives was exempt from the tax, whereas sales to the mills were not! A number of cooperatives were viable only with this exemption and closed down after a value added tax replaced the turnover tax in 1967.

The true economic value of more direct market channels and vertical integration is clouded by the turnover tax. However, the fundamental trends persisted after the tax' demise and seem to be rooted in real change. The decline in the central market transaction is permanent, while the chain store and supermarkets appear to be inevitable developments. The parallels with the United States are clear.⁴⁴

⁴¹According to my interviews, later corroborated by a sample survey. See Instituto de Economia Agrícola, Desenvolvimento da Agricultura Paulista (São Paulo: 1972), pp. 152-154.

⁴²Most millers, cerealistas and brokers I interviewed in 1963 indicated a big switch in their selling away from wholesalers and to retailers both in Rio and São Paulo.

⁴³Both figures according to the Federation of Rice Cooperatives of Rio Grande do Sul.

⁴⁴On decentralization in the United States and its causes, see John R. Moore, op. cit., pp. 150-52 and the works therein cited.

4. Trends in margins. What was the impact of these structural changes upon marketing performance? The information we have points to significant declines in margins through wholesale.

Marketing costs (abstracting from processing) can be divided into two components: (a) instantaneous margins over space and through market channels; (b) changes in prices over time after the farm commodity has entered the distribution system. The first component is measured approximately by the difference between farm and wholesale prices during the harvest months; the second, by the rise between the harvest months and the beginning of the new crop.

a. Trends in margins over space. We have reasonably accurate farm prices over the period only for Rio Grande do Sul and São Paulo. For those two states, I regressed the farm prices of rough rice on the wholesale prices of milled rice, both during the harvest months, and on a time trend. Assuming that the average quality of rice sold by farmers remained more or less constant, as it appears to have done, the trend will pick up changes in "instantaneous" margins.

The trend is significantly positive in both states (see Table 7). Its coefficient suggests that by 1968 farm prices were about 15% higher in both states than they would have been in 1952 for the mean wholesale price, 1952-68. In Rio Grande do Sul the constant is insignificant, so that the farmer's share of the wholesale price net of the turnover tax is an appropriate measure of margins. It rose from 52.3%, 1952-55, to 60.7% by 1964-68 (this does not take losses in milling into account).

Farm prices for Goiás are of more questionable accuracy, but their increase relative to prices in the São Paulo market is unmistakable (see

TABLE 7: Regressions to Determine
Trends in Margins

Rio Grande do Sul

$$FP_t = .41 + .43 (PPA_t) + 1.34(YR)$$

(.04) (.40)

$R^2 = .91$

FP = average farm price of rough rice, 50 kilos

PPA = average Pôrto Alegre Commodity Exchange price, April-September, of long, medium and short grain milled rice, weighted by the proportion of each grain length in state's total production

YR = Trend, 1952 = 1.

Rise in farm price due to trend = 14.2% of mean farm price, 1952-1968.

São Paulo

$$FP_t = -50.15 + .56(PSP_g) + 2.22 (YR)$$

(.04)

$R^2 = .92$

FP = average farm price, rough rice, April-September

PSP = average wholesale price, long grain rice ("agulha la"), April-September

YR = Trend, 1949 = 1.

Rise in farm prices due to trend = 16.7% of mean farm price 1949-68 and 14.9%, 1952-68.

Notes: Wholesale prices are net of the turnover and value added taxes paid on the wholesale transaction. All prices are deflated into 1953 CR \$ by Conjuntura Econômica price index no. 2.

Sources of data: Rio Grande do Sul, Bôlsa de Mercadorias, Instituto Rio Grandense do Arroz; São Paulo, wholesale - Prefeitura de São Paulo; farm - Instituto de Economia Rural.

Table 8). The sharp fall in apparent margins during the mid-1950's reflects the breaking of the transportation bottleneck and the end of the severe oligopsony in the Minas Triangle-Southern Goiás region.

TABLE 8: Rough Rice Price,* Goiás, as a Percentage of Average São Paulo Price of "Amarelão Especial,**" April-September

1950-52	39.0%
1954-56	51.8
1957-59	52.5
1960-63	56.1
1964-66	55.7
1967-68	61.0

**Net of turnover tax and value added tax on the wholesale transaction.

*Divided by .7 to adjust for loss of weight in milling.

Sources: Anuário Estatístico do Brasil, various numbers; Bôlsa de Cereais, São Paulo.

Thus the evidence points to important declines in price differentials between farm regions and the central market cities serving them. Margins between central markets are also of some interest. For short and long grain rice⁴⁵ I regressed annual average prices in Pôrto Alegre on those of the same grade in São Paulo and a time trend.⁴⁶ The results are not quite as conclusive (see Table 9). They suggest some decline in margins between the two cities, but in long grain rice the trend is

⁴⁵Trading in Rio Grande do Sul's medium grain rice was too irregular in São Paulo to be included.

⁴⁶Several years' observations had to be excluded because the markets were inactive much of the time.

TABLE 9: Regressions of Wholesale Prices of Rice:
Pôrto Alegre or São Paulo

<u>Short Grain</u> 1952-1969	("Japonês Especial" in both cities)
Price Pôrto Alegre = $-.25.55 + .90$ (price in São Paulo) (.07)	
+ 1.21 (Year) (.59)	$R^2 = .93$

Year = 1 in 1952

Rise in Pôrto Alegre price, 1952-68, due to trend, evaluated at the mean: 6.0%

<u>Long Grain</u> 1956-1968	("Amarelão Especial" in both cities)
Price Pôrto Alegre = $9.81 + .86$ (price in São Paulo) (.07)	
1.29 (Year) (1.34)	

Year = 1 in 1956

Notes: Prices in São Paulo are net of the turnover and value added taxes.

Prices are measured in 1953 Cr \$ for 60 kilos.

Sources: Pôrto Alegre, Bôlsa de Mercadorias; São Paulo, Bôlsa de Cereais. Deflator = Index No. 2. of Conjuntura Econômica.

not significant at the 5% level. With the short grain variety, Pôrto Alegre prices seem to have risen about 6% relative to the São Paulo market. The less dramatic reductions are not surprising, since marketing between the two cities was reasonably efficient in 1950. Such falls as occurred reflected lower effective transportation and transactions costs, but, of course, the truck had a more profound impact in the interior.

In the later years of Stage II, spatial margins between the principal farm centers and the larger urban markets were reasonably low. To

preserve space, I present only one of the large number of possible comparisons.⁴⁷ It is fairly typical.

TABLE 9: Margins in Long Grain Rice Through Wholesale, Assuming 70% Yield in Milling

Anápolis, Goiás to São Paulo

	Percentage of Wholesale Price Tax*	Truck Freight	Other Margin Components	Farm Price Wholesale Net of Tax and freight
1965	6	7	14	84
1966	6	6	12	86
1970	3	6	8	91.5

*Turnover tax in 1965, 1966. Value Added tax in 1970.

Months included: 1965 and 1966, March-May; 1970, June-July. Choice depended on availability of data.

Sources: Anápolis: 1965 and 1966, Instituto de Economia Rural, São Paulo, 1970, millers in Goiás. Prices are for rough rice yielding 2 whole grains for each broken. São Paulo: "Amarelão Especial," Bôlsa de Cereais. Truck Costs: 1965-1966, Boletim Informativo, Bôlsa de Cereais, São Paulo, 1970, millers in Anápolis.

Summarizing, available evidence supports the hypothesis that the truck, the decline in the merchant-moneylender system and the appearance of more direct marketing channels brought important reductions in marketing margins over space. Although it would be useful to decompose margin changes into their several components, the necessary data are unavailable.

⁴⁷Other sources include: CIBRAZEM, Pesquisa Básica Para Um Programa Global de Armazenagem Intermediária (Rio de Janeiro: 1969), pp. 192-206; Ministério de Planejamento, IPEA, Diagnóstico Preliminar de Comercialização (mimeo, 1966), pp. 17-24; P. de C. Junqueira, E. R. de Lins and A. A. Amaro, "Comercialização de Produtos Agrícolas no Estado de São Paulo," Agricultura em São Paulo, Jan/Feb, 1968, pp. 13-32.

b. Margins over time or the return to storage. The rewards to the storage function might also have been expected to fall. They did not. If anything, the seasonal price indices rose slightly more in the late 1950's and 1960's than in the years immediately preceding them (see Tables 3, 5 and 11). An explanation in terms of marketing structure would be premature, although decentralization may have brought with it higher information costs and greater risk. The 1960's saw accelerating inflation (1959-1964), painful stop-go stabilization programs (1963, 1964-1967), and several inopportune interventions in the rice market.

TABLE 11: Quarterly Seasonals Around Centered Moving Average

Long Grain Rice (Amarelão),
São Paulo Cereals Exchange,
Special Grade

	1946-52	1954-61	1964-68
March-May	99.5	98.9	94.6
June-August	96.4	94.8	96.7
September-November	99.8	100.8	104.6
December-February	104.3	105.5	104.1
Rise, March-August to September-February, 6 months	7.4%	6.6%	9.2%
Average Monthly Trough to Peak in Seasonal	13.0%	12.9%	14.1%

These external shocks probably dominated the scene.

In any case, the seasonal price rises are not large and usually yield an average real gross return to storage of less than 2% per month in the interharvest period. Judging by public warehouse rates, monthly storage costs during the 1960's were on the order of .5% of the value

of milled rice at wholesale.⁴⁸ This would leave 1-1.5% per month for risk premium, storage losses and interest on own working capital to the extent it was used.

4. Stage III (?): 1968-

Stage II brought reasonably competitive and efficient markets to the Center-South. But the traditional mills still sold an undifferentiated product in bulk form. Its profits were made mainly on its turnover and in speculation. Very little was invested in sales effort per se or in the quality of the product sold.

The proliferation in the late 1960's of supermarkets, creatures of a burgeoning middle class living in ever larger urban conglomerations, made possible a new type of product: high quality, pre-packaged rice, marketed under heavily advertised brand names. Arroz Brejeiro, the pioneer in this field, brought a new outlook. It maintained minimal stocks, preferring to buy its raw material the year round, mainly from middle-man assemblers. Brejeiro concentrated on sales. It advertised heavily in the mass media and successfully differentiated its product with the urban middle class. By 1970, its sales had far surpassed the levels attained by the largest of the traditional mills of the past.⁴⁹ Although Brejeiro has many imitators, none has yet ap-

⁴⁸ Based on six months' storage in CAGESP, the General Warehousing Company of São Paulo, net of all handling expenses.

⁴⁹ Estimates supplied by the manager of Brejeiro's Anápolis warehouse put total volume in 1970 at about 1,300,000 sacks of 60 kilos of milled rice, more than double Arroeira Brasileira's biggest years.

proached its sales volume.

The main attraction of brand names is their assurance of stable quality. But a significant price is paid. The largest firm collects an important rent on its brand name. For example, in July, 1970 it was charging 10-14% more at wholesale than its principal competitors for essentially the same product.⁵⁰ More important, all the principal brands seem overpriced. In July, 1970 top grade long grain rice sold in the São Paulo spot market at Cr \$ 50-51 per 60 kilo sack.⁵¹ Packaging in 5 kilo paper bags added perhaps Cr \$3 to the cost of the same product.⁵² Yet this same grade of rice was being sold in pre-packaged form at Cr \$66-75 by the largest mills. Only the middle and upper-middle classes in the larger cities seemed disposed to pay this price for security. Several firms have introduced cheaper, lower quality brands, and some supermarkets are moving to poorer neighborhoods. But as long as the brand name costs much more than the product in bulk form, a dualism in rice marketing, corresponding to Brazil's income distribution, is likely to continue for some time.

The economies of scale in media advertising are considerable, and they should make possible permanently larger firms than had previously been possible. This trend should be facilitated by the impressive expansion and improvement in interurban telephone communications since 1967, which has eased the problem of coordination and control within the firm.

⁵⁰ Prices supplied by Arroz Brejeiro and Arroz Delta.

⁵¹ "Amarelão Extra," Bôlsa de Cereais, São Paulo.

⁵² Data from Agro-Beneficiadora, Goiânia, Goiás.

5. Conclusions

The performance of the agricultural marketing system is a function primarily of inputs supplied by other sectors, of transportation, communications and credit facilities. It is not surprising, therefore, that most marketing changes examined in this paper have been straightforward adjustments to the almost inevitable improvements in the inputs which accompanied growth. This suggests an important generalization: marketing should, in the normal course of events, contribute positively to the development process. Growth should reduce marketing costs, which, in turn, should stimulate the food production necessary for further growth. The magnitude of these "automatic" cost reductions will vary from case to case, but with Brazilian rice they have been substantial.

Innovations originating from within the sector seem much less important at earlier stages of development. Several factors account for this. (1) The inventory of potential innovations is much smaller than in other sectors, e.g. manufacturing. (2) Some potential innovations short-circuit markets through vertical integration and direct contracts in order to assure sufficient quantities of constant and specific quality products. Large retailer chains and processors selling differentiated products, firms which can internalize the gains from product quality, have been leaders in this area. But they become important only with the higher living standards and urbanization of later growth stages, e.g. Brazil's "stage III."

(3) Finally, some profitable innovations are not undertaken because of the traditional and static outlook of the people running

marketing firms. Managerial and entrepreneurial ability are relatively scarce in poorer countries and are usually attracted to more challenging and prestigious fields than agricultural marketing.

APPENDIX

Merchants and Others Interviewed on Rice Marketing

*was in trade as early as 1930.

Firm	Type	Person(s) Interviewed	Date
<u>Pôrto Alegre</u>			
Arrozeira Brasileira	mill	Fernando and Hugo Kessler* (former directors)	8/63, 6/70
Mercantilarroz	mill	Arthur Schaeffer* (partners) Ataliba Wolf*	8/63, 6/70
--	Broker	Walter Schmidt*	8/63
Wolff-Kappel	mill	Nelson Kappel*	8/63
Floresta, S.A.	cerealista	Sr. Callefi* (head)	6/70
Glitz, S.A.	cerealista	Rudy Glitz (head)	8/63
Jose Berta, S.A.	mill	Álvaro Coelho Borges (head)	8/63
Instituto Rio Grandense do Arroz (IPCA)	public "Autarky"	Ary Herzog (Diretor Comercial) and others	8/63, 6/70
FEARROZ	Rice Coop Federation	Homero Pegas Guimarães (Diretor Presidente)	8/63, 6/70
--	Author of book on rice in RGS	Ary Burger	8/63
<u>São Paulo</u>			
--	retired cerealista	Fortunato di Lorenzo*	11/62
--	broker	Pedro Labate*	several times 63, 67, 70
Labate e Sciatigno	cerealista- mill	Jose Sciatigno* (partner)	10/63
Noroara, S.A.	cerealista	Pascal Labate* (head)	9/63
Irmãos Cury	mill	Cedinho Cury (head)	5/63, 9/63
Cia Triângulo de representações	broker	Celso Ferreira (head)	9/63, 7/70
--	broker	José Alves	9/63

Brasisul	broker	Vitor Facciola (head)	10/62
--	cerealista	Júlio Tucci	several times 62,63,66, 67, 70
Ogassawara e Cia	cerealista	Sr. Ogassawara (head)	7/63, 6/70
Marziona e Irmão	cerealista	the two Marziona partners	9/63
--	cerealista	Massao Matida	7/63, 6/70
Tocantins Representações	broker	head (lost name)	9/63
Representações Aragon	broker	head (lost name)	9/63
Arroz Brejeiro	mill-packager	head of São Paulo sales office	7/70
Arroz Delta	mill-packager	Ibrahim Hajjar (president)	6/70
Cooperativa Cotia	Brazil's largest coop	Fábia Iasuda (director)	4/63
--	President, Sindicato do Comercio Varejista	Wanderley Bocchi	10/63
Supermercados Peg-Pag	Supermarket chain	Phillippe Allain (director)	5/63, 7/70

Triangle Zone of Minas
Gerais

Vasconcellos e Cia	mill	Sr. Vasconcellos	all inter- views, 10/63
Produtor Vitoria	mill	Messias Pedreiro* (head)	
Benedito Nazário	mill	same	
Jayme Tanus e Cia	mill	same	
Velasco e Cia	cerealista	head	
Braz e Cia	cerealista	head	

Goiás

<u>Goiânia</u>			all interviews, 7/70
Produtor Vitoria	mill	David Messias Pedreiro (manager, partner)	
Agro-Beneficiadora	mill	Mak Soud (head)	
Cereais Ltda.			
Name Abrão Cia Ltda.,	mill	same (head)	

Anápolis

Arroz Delta	mill-packager	Janna Hajjar (partner)
Arroz Brejeiro	mill-packager	Sr. Cividanes (manager)
Combrasil	mill-packager	Sr. Euripides (head)

Many banks and warehousemen were interviewed in each area.

An additional 25 firms were interviewed in São Paulo, Paraná and the Minas Triangle concerning dry-beans marketing. Much of the information obtained in these is also applicable to rice.

PROGRAM OF DEVELOPMENT STUDIES

Discussion Papers

1. "Brazilian Agricultural Policy: 1950-1967" Gordon Smith
2. "On the Measurement of Import Substitution"
Samuel A. Morley and Gordon Smith
3. "International Monetary Rules and External Disequilibrium in
Developing Countries" Donald L. Huddle
4. "Real and Illusory Aspects of an Overvalued Exchange Rate:
The Pakistan Case" Ronald Soligo
5. "Import Substitution and Foreign Investment in Brazil"
. Samuel A. Morley and Gordon Smith
6. "Measurements of Static Welfare Losses, Horizontal and Vertical
Distribution Inequities, and Revenues in a Multiple Exchange Rate
System Donald L. Huddle
7. "National Policy Criteria in a World with International Migration"
. R. Albert Berry and Ronald Soligo
8. "The Role of Government in the Economic Development of
Turkey, 1933-63" James W. Land
9. "Income Distribution, Employment, and Growth in Labor
Redundant Economies" James W. Land and Ronald Soligo
10. "The Long-run Incidence of Government Spending on Education"
. Marian Krzyzaniak
11. "Interpreting Domestic Terms of Trade Changes in Pakistan"
. Ronald Soligo
12. "The Design of Regional Tax Incentives for Colombia"
. Charles E. McLure, Jr.
13. "Transformation of Polish Agriculture from 1920 on: A Historical
Perspective" Marian Krzyzaniak
14. "The Incidence of Taxation in Colombia" Charles E. McLure, Jr.
15. "The Effect of Changes in the Distribution of Income on Labor, Foreign
Investment and Growth in Brazil". . Samuel A. Morley and Gordon Smith
16. "Korean Rice, Taiwan Rice, and Japanese Agricultural Stagnation:
An Economic Consequence of Colonialism--A Comment". . . . Yhi-Min Ho
17. "The Incidence of Taxation in West Malaysia". . . Charles E. McLure, Jr.
18. "Vocational Improvement Centres: A Successful Nigerian
Experiment". Gaston V. Rimlinger and Carolyn Stremlau
19. "Government Expenditures, the Revenue Constraint and Wagner's Law:
The Case of Turkey". Marian Krzyzaniak
20. Revision of No. 10. "The Long-run Incidence of Government Spending on
Education". Marian Krzyzaniak and Ibrahim Eris
21. "On Solow's Method of Estimating the Residual".
. Yhi-Min Ho and Clive Bell

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22. "Models of Development Including Income Distribution"
. James W. Land and Ronald Soligo
23. "Disguised Unemployment in a Subsistence Economy"
. Jose Hamilton Gondim Silva
24. "A Proposal for Research on 'Distribution of Gains, Wealth and
Income from Economic and Political Development' " . James W. Land
25. "Optimal Wage and Education Policies with International Migration"
. R. Albert Berry and Ronald Soligo
26. "Marketing and Economic Development: A Brazilian Case Study, 1930-
1970" Gordon W. Smith