Income Disparities Among the Groups of Farmers
Special Reference to Brazil

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I Introduction

Equity standards have not been given a great attention by Brazilian Agricultural Policy makers. Recently, when the economy has reached growth pattern that characterized the Brazilian Miracle, equity issues were given attention mainly by academic community.

With the rapid growth of the Brazilian economy the academic community came up to agree with the fact that the growth of the national economy is resulting in further concentration of wealth (LANGONI, 1973).

Brazilian Government showed sensitivity to this fact and sponsored various studies shown some interesting causes of the increase in the country's income disparities, that had not been taken into consideration reorienting the country's general economic and agricultural policies.

Little attention has been given to the equity problems even after it was recognized that economic growth worsens the income disparity. This brings up the problem of economic development process that is fundamentally related to the interaction between the agricultural sector and the industrial sector. Many early development plans placed primary emphasis upon the industry, largely ignoring agriculture, accepting the preconception that the "redundant labor" in agricultural sector could be drawn upon both for the industrial work force and for producing the food to maintain it. However, too often the needed food supplies were not implemented in agriculture (FEI and RANI, 1964).

The basic problem is that low productivity in agriculture can limit economic growth. Industrialization and agricultural development plans must be made together. Agriculture is the source of manpower for industrial expansion, it is the source of essential supplies for maintaining a growing industrial population and of exports to be traded for industrial goods, and it is the chief potential source of savings for nonagricultural investment (HEADY, 1969).

The present paper is addressed to the equity patterns among farmers in Brazil. Rather than going deeply into any specific problems, the paper attempts to characterize some general features, trying to find some bearings on the policy tools commonly used by the Brazilian authorities.

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II Brief Overview of the Agricultural Sector Performance of Brazil

The historical evaluation of the Brazilian economy, and indeed of the society as a whole, has frequently been described in terms of a series of commodity cycles, each emanating from a specific export produtc boom. With the exception of a gold and diamond boom during the 18th century, these cycles have been associated with agricultural exports.

These cyclical export booms have been responsible of the major changes of the Brazilian economy, influencing such basic socio-economic characteristics as the size and degree of decentralization of administration, the location of industrial activities, land tenure, income disparities, the distribution of wealth, the racial composition of the population, and attitudes toward savings and consumption. Within the rural sector itself each of the cycles inevitably had an impact on the composition of output and distribution of wealth and income.

Since the end of World War II, Brazil's gross domestic product has grown rapidly. The average rate of growth was around 7 percent per annum in real terms. Agricultural sector in this period has expanded at an average annual rate of about 4.5 percent and its share of gross domestic product was reduced from around 27 percent to 12 percent. Agricultural exports, including processed farm products, have had significant portion, accounting for two-third to three-fourth of total exports during last three decades.

Aggregate agricultural performance in this period has been good, and the sector has played its development role by contributing foodstuffs, savings, raw materials, labor and foreign exchange to the secondary and tertiary sectors. However, there have been large variations through time in the relative performances of the major agricultural product group and among the several major regions of the country.

III Main Agricultural Policies

This section cares the following policy tools: agricultural credit, special subsidy program for wheat, the coffee program, the beef program, some input subsidies, agricultural land and settlement program, taxation, and research and extension.

3.1. Agricultural Credit

The subsidized credit has been a primary tool of Brazilian agricultural policy in order to compensate the sector for the discriminatory impact of other policies (eg., control of food prices, surcharge on agricultural products, industrialization based on import substitution sometime resulting in increased agricultural input costs, etc.) and to stimulate agricultural investment and output. Total amount of this credit has reached at level of around 70 to 100 percent of the value of agricultural production.
The interest rate on agricultural credit in relation to inflation rate is relatively low. This means that the agricultural sector is subsidized by this credit. Ordinary agricultural production and investment credits were charged nominal interest rate of 13 to 21 percent with lower rates available through many of the special programs. These rates compared with general price inflation of around 40 percent per year in 1976 - 1978, 77 percent in 1979, and nearly 100 percent in 1980 and 1981. The distribution of credit is very much skewed by crop groups. According to 1975 to 1977 estimates of Central Bank and Bank of Brazil, about one-fifth of the value of all crop-specific production loan went to soybean producers. About 80 percent of the total production credit went for six crops, soybeans, wheat, rice, corn, coffee, and sugarcane. These six crops account for about 60 percent of the gross value of total crop production. Especially, domestic consumption crops, black beans and cassava account for about 17 percent of the value of crop production, received only 4 percent of crop-specific production credit. The major export crops, soybeans, coffee, sugarcane, cotton, and cocoa, received around 50 percent of total agricultural production credit. These divergencies can be explained by on average, smaller size and more remote locations of bean and cassava growers as compared to the grain and export crops producers. It also reflects the general impact on incentives to use modern inputs. The distribution of credit among regions is also skewed. Thus, in 1977, the Northeast received only 12 percent of crop credits. At the same time, the Southern States received 46 percent of total crop credit, reflecting the heavy concentration of wheat and soybeans. Lower income groups have higher number of loan contracts but less in quantity of the credit. On the other hand, the larger income group received more than half of agricultural credit from a small number of loan contracts. Giving large amount of subsidized

credit to small group of Brazilian farmers has a significant impact on the income distribution in the agricultural sector. Where credit is used to improve productivity and lower production costs, the market forces pass some or all the gains on to the consumer in lower prices, the recipient of credit clearly benefits to the detriment of nonrecipients who suffer the same decrease in price but without equal access to cost-reducing inputs and advanced technology. The more price inelastic demand for the product, the greater would be the fall in the product price. This provokes the greater pressure of low price on the group of farmer who did not receive credit. Further, those farmers who produce the basic foodstuffs such as beans, cassava, will suffer more since they face more inelastic demand as compared to export crop producers.

If access to credit is unevenly distributed or demand elasticities markedly different, recipients are enabled to bid inputs away from nonrecipients, thus changing the pattern of agriculture input utilization. The more price-elastic demand for the product, the less will be the impact of expanded output on product price and, hence, the greater the incentive of the farmer to bid up the price of needed factor inputs away from crops with inelastic demand. In general, export crops and those commodities best protected by the government program enjoy a higher demand elasticity and are thus most likely to bid up factor prices. Consequently, small farmers, producers of the less price-elastic products will suffer from high input prices.

Recently an added effort was made to extend credit to the many small farmers in the more remote areas of the country who had theretofore not enjoyed effective access to institutional credit. The credit policy has been able to help agriculture execute its function in supporting economic growth. Inspite of its beneficial effects, this policy has caused great disparity among the groups of farmers in the agricultural sector.

2. The Special Case Wheat Subsidy

Wheat is not ideally suited to the edafo-climatic conditions in Brazil, and the technolgy of production is rather demanding. Consequently, significant producer subsidies have been required in times of low world wheat prices. On the consumer side, a substancial consumer subsidy on wheat consumption in recent years has led to significantly increased demand, which, combined

with several years of poor harvest, has resulted in expanded wheat imports. Thus, in spite of increase acreage planted to wheat, imports still provide more than one-half of consumption needs.

A major obstacle to self-sufficiency in wheat production is the increasing use of wheat products stimulated by low retail wheat prices.

As a consequence, imports still supplied an average 60 percent of domestic consumption during the second half of the 1970s. The distortion of the cost of wheat and wheat products to consumers in turn affects competitive product demand. Low wheat prices resulted in 55 percent growth of per capita wheat consumption during the 1970s. This included some diversion to livestock feed. Consequently, traditional food (and feed) sources, such as corn and cassava, became more expensive flour sources than wheat. Corn and cassava are traditionally small-farmer crops. Thus, to the extent that substitution by wheat has led to reduced demand and lower prices for these crops, small-farmer incomes have been adversely effected by the consumer subsidy.

The Coffee Program

Coffee growers would have favored a larger share of the world market, but not at the expense of domestic price declines. For them, the best policy would have been a high domestic price, unlimited purchases of coffee by the government at such high prices and aggressive sales abroad even if this entailed a lower external price. This course of action, of course, would have ended in a further expansion of coffee production in Brazil, an even larger accumulation of stocks and a large cost to the government in supporting the domestic price. World market share of Brazilian coffee exports came from 44 percent in the 1950s down to 33 percent in 1966. In order to keep the domestic price high, the decisive program to eradicate aproximately 500 million trees during 1966 - 1970 by subsidy program was executed. The areas where coffee was eradicated were encouraged to produce other export grain crop. Diversity resulted in labor problem since coffee is highly labor intensive crop. In fact this program caused the unemployment in the coffee production areas even though the government pressured for coffee growers not to substitute coffee for the extensive cattle raising. Laborers unemployed due to the coffee eradication program put pressure on the small farmer group that needs off farm employment or on

farm employment resulting in rural migration to cities in search of new jobs and creating large number of migrating farm laborers leaving their small farm activities.

3.4. Beef Cattle Program

Price control is set on beef at the retail level. In addition, high export target was set in beef. So, the control of foreign exchange rate has had very strong influences on this sector. On the producer side, this group received special credit for the long term loan with low interest rate. Thus, this credit turned out the heavy subsidy for this group. The condition of the primary factor for access to this credit is ability to mortgage, usually, farm land. Thus, this credit has been strongly linked to large beef cattle farmers. At present this special program of credit has become stagnant, although the land factor for the eligibility of credit has been elimitated.

3.5. Some Input Subsidies

The import-substitution industrialization policies have influenced the use and costs of modern inputs. The tariffs levied on imported chemicals, farm machinery, and tractors are substantial and significantly increase input cost to farmers seeking to adopt modern production practices. This negative effect is offset, however, for those farmers who have access to subsidized credit. This is well illustrated by considering fertilizer and tractor credit. Fertilizers are heavily utilized in Brazilian agriculture, its consumption reaching around 3.4 million metric tons of nutrients in 1979. The distribution of consumption is very much various among different crops. Thus almost 75 percent of total fertilizer used during 1975 - 1977 went to six crops. These were soybeans, wheat, sugarcane, coffee, rice and corn. Demand for fertilizer thus comes primarily from the farmers who produce export crops, although growing use by other producers is evident over the period.

With respect to machinery, especially tractor again the users are mainly in large farmers. Tractors, as well as other agricultural machinery, are financed with long term credits. With nominal interest rates lagging well behind the inflation rate, the implict subsidy has grown in importance over time.

3.6. Agricultural Land and Settlement Program

Land policy has suffered great variation in Brazil. There are still large agricultural frontier lands which are not incorporated into the agricultural production. In some region there are 3 inhabitants/Km^2 and in average 14 inhabitants/Km^2. On the other extreme there are region where land tenancy system puts heavy pressure on farmers without land. In these regions there are constant claims for necessity of agrarian reform. Through the historical consequences of land tenure system, Brazilian society has not favored the group of small farmers. As already pointed out, the factor of land property has been prerequisite for participating in the other benefits such as credit, especially subsdized credit. The availability of subsidized credit pushes up the price of land regardless of the latter's utility as a productive input, because the ownership of land is in most cases necessary to qualify for credit. Thus, when credit is as higly subsidized as it is in Brazil, some proportion of the credit can be expected to be applied, either directly or through the release of the borrower's own financial resources, to the purchase of land simply to establish eligibility for still more subsidized credit and to benefit from the speculative land price increases thus generated.

Recently, the Government policies try to correct this problem by the primarily following 4 programs: (i) land settlement scheme for the frontier areas and helping to get land title for landless small farmers, (ii) elimitation of the legal land ownership for access to agricultural credits, (iii) special land ocupancy (squatter) right - if farmer occupies and cultivates the public land for more than 5 years, he can get land title, (iv) land tax programs aimed to force the efficient utilization of land for the agricultural production.

3.7. Taxation

The industrialized region, Southern and Central Southern States have adopted a lower tax rate on moving agricultural commodities as compared to North and North East States that are less industrialized and lacking alternative source of income have taxed circulation of products. Because of the sizeable revenues generated by its strong industrial base, the Southeast, particularly, São Paulo state is able to set lower tax rate on farm goods than the economically weaker states of the North East where most small farmers are located. This tax influenced the small farmers who produce the domestic food-stuffs.

3.8. Research and Extension

Policies intended to improve technology have had important impacts on Brazilian agriculture. The Brazilian research and extension expenditures have increased last 10 years. According to National Research Council and National Agricultural Research Corporation (EMBRAPA) data 1977 - 1978, the main research expenditures still are in the export crops which occupy more than 60 percent of total research expenditure as compared to basic food-stuffs such as cassava, beans which are shared less than 8 percent of the total expenditures, even though the government has done great effort to increase the productivity of the latter products since the half of the last decade. These basic foodstuffs have traditionally low yields. So, there is good chance to improve yields of these crops. For example, the more intensive use of improved seeds in crops like corn and beans constitutes a potentially important source of growth. The low rate of use improved seeds and the low levels of national yields in both crops suggest the existence of a wide margin for improvement. Research and extension to develop and disseminate improved seed should thus be given high priority. The new research system has built basic foods commodities center such as cassava and bean. This is respectable signal to increase the yields much faster since these basic food crops have not received heavy research investment traditionally. Consequently, the producers of these crops, especially, those small farmers, will be benefited by this policy result.

IV Farm Groups and Income Disparities

Very few Brazilian studies concerning equity questions related to agricultural sector classify the farmers using the following criteria: (i) production organization and capital-labor relationships with emphasis on the situation of land ownership (PEREZ, 1975), (ii) farm income classification based on the production factors (land, capital, labor) and technology (GRAWUNDER, 1976).

Four groups of farmers are defined with the combination of the above criteria considering the group of products: (a) Small disadvantaged subsistence farmers, small tenant farmers share croppers and squatters. A sizeable portion of this group is found in the Northeast. Farmers of this group are also found in some small part of other poor area of the country, Central-East and South;

(b) Small to medium size commercial farms located in the near of urban centres. A high percentage of the farmers in this group are owner operators; (c) Large scale livestock enterprise; (d) Large commercial entreprise primarily oriented to export crops (coffee, cotton, sugarcane, cocoa and, more recently soybeans).

Historically, the first group has been given a little attention from the Government. A few ideas are commonly offered to better this groups situation: resettlement of these small farmers on new lands; creation of agribusiness to absorb surplus labors; development of new alternative crops that could generate more income and migration into industrial sector.

Of these four alternatives, the last one is the most natural procedure used historically. All alternatives have high costs. Migration to urban centre has showed the increase of the slums in the borders of the major cities, that force high pressure on labor market with increase of rate of unemployment and criminality in this area.

Family labor in second group would also reach the cities. Being closer to the city they have easier access to schools. Once they get education, they do not return to the farms.

Being more exposed to the changes in the market, the farmers in this group ought to respond to training program which would better their capability of adjustment to the signals of the markets. Further, closer to cities, the lower transport costs of the products should enhance their comparative advantages.

Recently Brazilian government criated a program of horticultural cities to make use of the location advantages of this farm population around the capital cities. Only a few of the state capitals, however, have this program as yet.

The third group is a small one (in terms of farmer population), though the farmers included in it occupy about half of country's pasture. Taking the cattle raising activity in isolation the farmers in the group have recently been left to natural market force without any special favorable policy measures. With an inflation rate of 100 percent, beef cattle have experienced stable or even decreasing nominal prices. The belief that the situation could be improved with investments in meat marketing system, has led government to subsidize slaughter houses (cold storage, etc.). Such a policy has proved to have benefited better the large meat marketing firms. These are also the owners of significant part of the Beef cattle herd in the country. The integration of the cattle raising operations with the slaughting houses compensates for the low revenues of the producing phase of the proccess.

The distortions caused by the policies related to the beef marketing sector are numerous. They are beyond the scope of the present paper despite their very interesting equity effects.

Cattle farmers are not among the low income groups in Brazil. This paper does not dwell in considerations about ways and policies to improve their income.

The farmers in the forth group have the highest income. Their expenditures on modern inputs account for more than 60 percent of their total costs. They depend heavily on agricultural credits. The enfasis of the government is going to export and this indicates that this group will tend to get the most benefit from the present agricultural policies.

V Concluding Comments

Agricultural sector has made significant contribution to the overall economic growth and development of Brazil. However, the distribution of income and equity has not been significantly improved in relative terms, even through in absolute terms there may be some improvement.

Among the more common policy orientation used by Brazilian society over its history, it is fair to say that equity considerations were not among the most important ones. Even though agricultural policies did not take into consideration the equity dimension, they did affect strongly the equity standards of the rural society. The rural poor left without the society's attention in the form of better education, health care, and social security, have historically tended to migrate to the urban area. In these new areas, they got more access to such amenities, even though they were not directed especially to the poor classes of the population. These migration patterns of rural poor in Brazil reflected their rationality and the way they expose their problem to the whole society.

The dimension of the country and the diversity of conditions showed no natural ways out of the rural poverty problem which is free of creating other problem for the Brazilian agricultural sector.

If the Brazilian society does not change its agricultural economic policies, this income disparities are likely to keep increasing.