TEXTO PARA DISCUSSÃO

Nº16

Brazilian size distribution of income and Governmental Policies

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I. Introduction

The results of the 1970 Brazilian census have shown an increasing concentration of income during the sixties. Since then, poverty and income distribution have been the object of an intense theoretical debate. This debate centres on the causes of this phenomenon and on the effects of rapid growth on poverty levels.

This paper uses recently published data that bring new light to the study of poverty during the sixties. Section II shows that the rapid economic growth during the last years of that period did not benefit the poor, since most of the income growth went to the not poor. Furthermore, the analysis of income distribution and poverty is extended up to 1976. An increasing concentration of income continued to be a characteristic of the Brazilian economy until 1974, when this trend was reversed. This reversal conforms with the peak and decline of the "Brazilian wage policy".

Section III analyses who benefits from governmental expenditures on education. It shows that the university students are the most important beneficiaries. The poor are the least favoured, since they are unable to go up on the educational ladder and seldom reach university level.

Therefore, it is suggested that free public education at higher levels is a policy that subsidizes the rich at the expense of the poor.

Section IV studies Brazilian wage policy between 1964 and 1978. For the urban sector, two periods are clearly distinct. The first stretches from 1964 to 1974, when the real minimum wage declines. The second covers between 1974 and 1978, when it increases. There is a direct correspondence between the variation of the minimum wage and the direct link between lower wages and governmental policy.

This section uses newly published data do analyse changes of poverty levels during the sixties and extend the analysis of income distribution until 1976. A special tabulation of the 1960 and 1970 census and the National Household Surveys (PNAD) of 1972 and 1976 are the data base for the study. Serious statistical problems had to be faced because we were dealing with different sources of data. Therefore, the validity of the conclusion was assured by an analysis based on broad trends.

II.l. The Poverty Gap (1960-1970)

In a 1977 paper, G. Fields[1] estimated that, although the overall income concentration index

[1] "Who Benefits from economic Development?": Comment, *American Economic Review*, March 1980, G. Fields, "Who Benefits from Economic Development?": Reply, *American Economic Review*, March 1980. For an excellent survey see

increased between 1960 and 1970, the real income of the poor increased by 63% while that of the not poor grew by 28%[2]. Based on these results, he concluded that "The Rich in Brazil did not benefit during the 1960's at the expense of the poor"[3], and also "The poverty gap in Brazil was reduced by 41 percent between 1960 and 1970"[4]. These conclusions were based on an estimation procedure which was recently shown to be logically wrong[5], but his assertions gave place to much confusion. Newly published data can now be used to settle the issue.

Fields defined the poor as those in the economically active population who earned less than Cr$ 2.10 per month in 1960. Table I shows the 1960 and 1970 Brazilian income distribution, by monthly income intervals. The total number of poor in Brazil declined 0,8%, e.g., from 8,455,300 persons in 1960 to 8,377,600 persons in 1970. In 1960, the poor represented 37,4% of economically active population, and 29.1% in 1970.

The reduction the absolute number of poor people comes directly from the reduction in the number of persons who received no income at all. This group had 3,595,00 persons (or 15.9% of the total) in 1960 and 2,973,000 (or 10.0%) in 1970. If we take only those in the economically active population who did receive an income, the number of poor increased from 4,850,000 in 1960 to 5,504,000 in 1970 (or 13.5%).

Therefore, we may conclude that the total number of poor was either constant. between 1960 and 1970 (if zero-income earners are classified as poor) or increased by about 13 percent (if this group is excluded)[6].

Now, let us compare the rate of growth of the mean real income of the poor as opposed to that of the not poor. Let us first take G. Fields definition of the poor (including those who receive no income). Brazilian mean income in 1960 was US$ 513, and in 1970 US$ 679 (both in 1960 US$). The rate of growth of mean real income in the decade is 32%. In 1960, mean income was Cr$ 5.52. Thus, 1970 mean real income in 1960 Cr$ in (5.52) (1.32) = Cr$ 7.31. We can now add these information to those in Table I to get the ratio of the mean real income of the poor and the not poor in 1960 and 1970.

L. Bacha and L. Taylor. "Brazilian Income Distribution on the 1960's. Facts, Models, Results and the Controversy", *Journal of Development Economics*, April 1978.

[2] See G. Fields, 1977, p. 575.

[3] Op. Cit., p. 575.

[4] Op. Cit., p. 578.

[5] See M. S. Ahluwalia et all, 1980, pp. 242-245.

[6] The exclusion of this group is suggested by A. Fishlow because it is composed mainly of women and children who live in the rural sector and do not perceive monetary income. They are probably members of not poor families – See A. Fishlow, 180, p. 250.

Table I

Brazilian Size Distribution of income of the Economically Active Population
1960 - 1970 (in 1960 Cr$)

Income Brackets (1960 Cr$)		1960			1970		
		Population number[1]	%	Income[2] %	Population number	%	Income %
Zero income earners less than		3,595.3	15.9	-	2,873.0	10.0	-
	2.1	4,850.0	21.5	5.1	5,504.6	19.1	3.6
2.1	-3.3	3,115.2	13.8	12.2	5,136.5	17.8	7.1
3.3	-4.5	2,357.4	10.5	8.3	2,911.6	10.1	5.9
4.5	-6.0	2,972.7	13.2	13.5	4,480.1	15.5	11.6
6.0	-10.0	3,207.7	14.2	21.1	3,343.9	11.6	13.4
10.0	-20.0	1,751.5	7.8	20.3	2,862.6	9.9	19.9
20.0	-50.0	593.4	2.6	15.3	1,327.6	4.6	20.0
50.0	and more	121.7	0.5	9.4	448.4	1.6	18.5
Total		22,564.8	100.0	100.0	28,843.1	100.0	100.0

Source: Indicadores Sociais – FIBGE, Rio de Janeiro, 1979. p. 198.
[1] In 1000 of people.
[2] Deflated by the cost of living index of Fundação Getúlio Vargas.

Let us call

$Y_i^j =$ total income of group i at year j
$i = p, n$ where p stands for the poor
n stands for the non-poor
$j = 60, 70$ where 60 stands for 1960
70 stands for 1970

$Y_i^{-j} =$ mean real income of group i at year j
$i = p, n$
$j = 60, 70$

$p^j =$ total population at year j
$j = 60, 70$

Then, we write:

$$Y_p^{60} = 5.52p^{60}0.051$$

$$Y_n^{60} = 5.52p^{60}0.949$$

Thus,

$$\frac{Y_n^{60}}{Y_p^{60}} = \frac{0.949}{0.051} = 18.61$$

This says that total income of the not-poor was 18.61 times that of the poor in 1960.

For 1970 we have:

$$Y_p^{70} = 7.31p^{70}0.036$$

$$Y_n^{70} = 7.31p^{70}0.964$$

and

$$\frac{Y_n^{70}}{Y_p^{70}} = \frac{0.964}{0.036} = 26.78$$

Thus, between 1960 and 1970 total income of the not poor increased much faster than that of the poor. The relation of the rates was 18.61 in 1960 and 26.78 in 1970.

Let us see what happened to the mean real income of the two groups. As seen here above, there are two definitions of the poor. If we include no income earners, as Fields does, we get:

$$\bar{Y}_n^{60} = \frac{Y_n^{60}}{14{,}119{,}500}$$

$$\bar{Y}_p^{60} = \frac{Y_p^{60}}{8{,}445{,}300}$$

Then, for 1960,

$$\frac{\bar{Y}_n^{60}}{\bar{Y}_p^{60}} = \frac{Y_n^{60}}{Y_p^{60}} \frac{8{,}455{,}300}{14{,}119{,}500} = 18.61(0.60) = 11.13$$

and, for 1970

$$\frac{\bar{Y}_n^{70}}{\bar{Y}_p^{70}} = \frac{Y_n^{70}}{Y_p^{70}} \frac{8{,}377{,}600}{20{,}465{,}500} = 26.78(0.41) = 10.96$$

So, between, 1960 and 1970 the ratio of the mean real income of the poor and the not poor declined by 1.5%. This means that, using Fields definition of the poor, the mean real income of the two groups grew basically at the same rate. This refutes G. Fields estimate of poor persons mean real income growth rate as being 2.25 times that of the not poor[7].

If we accept A. Fishlow's conjectures and include zero income earners in the not poor group, the results indicate the situation to be even worse. In this case**,**

$$\frac{\bar{Y}_n^{60}}{\bar{Y}_p^{60}} = \frac{Y_n^{60}}{Y_p^{60}} \frac{4{,}850{,}000}{17{,}714{,}800} = (18.61)(0.273) = 5.09$$

and, for 1970

$$\frac{\bar{Y}_n^{70}}{\bar{Y}_p^{70}} = \frac{Y_n^{70}}{Y_p^{70}} \frac{5{,}504{,}600}{23{,}338{,}500} = (26.78)(0.236) = 6.32$$

The ratio of the not poor to the poor mean real income goes from 5.09 in 1960 to 6.32 in 1970, which represents an increase of 25.9%.

These results can be expressed in terms of the rate of growth of mean real income. Taking the mean real income in 1960 and 1970 and multiplying by the economically active population, we find total income. The mean real income of the two groups for each year is respectively obtained multiplying total income by the percent incomes of the poor and not poor, and dividing by the total number of poor and not poor persons. Table II shows these calculations.

If we in include those who receive no income at all among the poor, this group's mean real income growth rate will be 21.3% during the sixties, compared to 18.6% for the not poor. Excluding zero-income earners from the poor group, the not poor mean real income growth rate was about six times that of the poor (30.6% as compared to 5.3%). Actually, using this criterion, the poor benefited very little, if at all, with Brazilian economic growth in the sixties.

[7] He estimated the two rates to be 63% and 28% respectively, G. Vields, 1977, p. 575.

Table II

Mean Real Income and Rates of Growth of the Poor and Not Poor Persons 1960-1970

	1960	1970	Growth Rate (%)
1. Including zero incoming earners in the poor group			
Mean real income of the poor	0.75	0.91	21.3
Mean real income of the not poor	8.37	9.93	18.6
2. Excluding zero income earners from the poor group			
Mean real income of the poor	1.31	1.38	5.3
Mean real income of the not poor	6.67	8.71	30.6

Source: calculated from Table I - see text.

In summary, this section indicated that:

1. When we include zero-income earners among the poor, there is a small decline in the number of people in the economically active population classified in this group.

2. This decline results from a reduction of zero-income earners during the sixties. When we exclude these persons, the population of the poor group increases 13%.

3. The not poor total income increased much faster than that of the poor. As a result, the relative income gap between poor and not poor persons increased by 44%.

4. The ratio of the not poor and poor groups mean real income remain constant when we include zero-income earners among the poor and increases.by 26% when we exclude these persons.

5. As a consequence of the arguments above, we may conclude that Brazilian economic development favoured the not poor much more than it favoured the poor, increasing the income gap between these two groups during the decade.

II. Brazilian Size Distribution of Income (1970-1976)

We shall leave aside the dispute on poverty levels in the sixties and turn to an analysis of the trend in the size distribution of income in the seventies. This section will consider the evolution of income distribution in Brazil between 1970 and 1976. Before we present the results, some considerations have to be made regarding the analytical problems derived from the comparison of different sources of data.

The first problem relates to the coverage of the censuses and the National Household Surveys. The second comes from the underreporting of income data obtained through questionnaire questions either by the census or by the household surveys. Therefore, published data on Brazilian size distribution of income for different years are not strictly comparable.

Among income distribution analysts it is a widely accepted fact that questionnaire questions tend to result in underreporting of income[8]. Underreporting is the result of two counterbalancing forces. First, there is a tendency among nonmonetary income earners to underestimate their received income. Also in low income groups a family's production for its own consumption is not always included on reported income. Its exclusion produces an upward bias on measured inequality.

Furthermore, capital income in general, and ascribable rents on owner-occupied houses in particular, tend to be underreported. As opposed to the above, these earnings are concentrated on the higher income intervals of the distribution and its exclusion results on a downward bias on measured inequality.

The degree of underreporting is clearly apparent if we compare total reported income in the Brazilian census and National Household Surveys (PNAD) with National Accounts information for the same years. This comparison shows that the degree of underreporting varies from a maximum of 44% in 1970 to a minimum of 28% in 1976 (Table III). This shows that underreporting varies within a wide range.

Table III

Estimated Degree of Income underreporting 1970, 1972, 1976 (in billions of current Cr$)

	1970	1972	1976
Census/Survey	93.2	164	916
National Accounts	166	290	1270
Discrepancy (%)	44	43	28

Source: G. Pfefferman and R. Webb - Op. Cit. p. 16.

The analyst faces the problem of how to impute the differences among the various income levels. There is no "a priori" reason to believe that the net result of underreporting implies a bias upwards or downwards. This means that any adjustment for underreporting requires very arbitrary assumptions regarding the amount of income to be impute d to the various groups.

On the other hand, newly published comparisons of income and expenditure surveys of 1972 and 1974, made by the Brazilian Statistical Institute (FIBGE) shows that the inclusion of nonmonetary income in the data results on little or no change on relative distribution, being much more important to alleviate absolute poverty[9]. This new information suggests that the imputation of underreported income has little effect on income distribution indicators. If absolute poverty is not the

[8] See for exemple Oscar Altimir, "Estimaciones de la Distribution del Ingresso en México" - Draft - 1979; I. Navarrete. "La Distribuicion del Ingresso en México: Tendências e Perspectivas", in *El Perfil de México en 1980*, Siglo XXI Editores, 1970; J. Bergson – "Income Distribution and Poverty in Mexico" - World Bank Staff Working Paper nº 395 - June 1980; G. P. Pfefferman and R. Webb, "The Distribution of Income in Brazil" - World Bank Staff Working Paper nº 356 - September 1979.

[9] Indicadores Sociais, 1979, p. 189-190 and "Errata", Tables 20 and 21, p. 7.

issue under analysis, but relative income, unadjusted data, instead of arbitrarily adjusted data, is the safest source of information to base the analysis. This is the reason why we will use unadjusted data. Small differences should not be given to much weight. They could be the result of bad data and not of real phenomena.

As regards to the different coverages of the 1970 census, the 1972 PNAD and the 1976 PNAD, we must say that the census covers the whole country. The 1972 PNAD excludes the estates of Amazonas, Pará, Maranhão, Goiás and Mato Grosso. This is PNAD-Region VII. The 1976 PNAD excludes the rural areas of the above mentioned States.

Table IV shows a comparison of originally published data with Brazilian size income distribution excluding PNAD region VII for 1970, 19,72 and 1976. Panel A shows the unadjusted data and Panel B results from the exclusion of PNAD Region VII from data on Panel A, for three years. The adjustments resulted in very small changes on originally published data. Obviously, the differences are higher for 1970 than 1972 and 1976. But even for this year, the original Gini coefficient is 1.8% higher, the Theil index is 1.9% higher and mean real income 1.4% smaller than the corresponding statistics based on adjusted data.

This means that very little will be lost if we use unadjusted instead of adjusted data, when these are not available. Therefore, we will make no adjustments.

The following analysis is composed of two different parts. The first one comprises a comparison between the evolution of the poor and rich groups income shares. The poor are defined as the 40% poorest of the distribution. The rich, as the 10% richest.

For our purposes, the period 1970-1976 will be divided into two sub-periods: 1970-1972 and 1972-1976. From 1970 to 1972, the tendency towards the concentration of income, which characterized the sixties, was clearly reinforced. The income shares of the poorest 40% declined from 10.4% to 7.5%, a reduction of 38.7%. The poorest 20% of the population has its income share reduced even more drastically (59.1%). The richest 10% increased its participation by14.4%. In 1972, this group received 52.6% of total income generated in the country (Table IV, Panel B).

The mean real income increased by 47% in the period but this growth was concentrated in the highest income intervals. The mean real income of the poorest 40% of the population grew 6.8% (from Cr$ 74.00 in 1970 to Cr$ 79.00 in 1972) as opposed to an increase of 67.9% of the upper 10% of the distribution (from Cr$ l,319.00 to Cr$ 2,214.00). If we take the lowest 20% of the distribution, the picture is still worse. The mean real income of this group declined from Cr$ 49.00 in 1970 to Cr$ 46.00 in 1972 (a decline of 6.5%).

Table IV

Panel A

Brazilian size distribution of Income 1970/1976

Decils	1970				1972[1]				1976[2]			
	% of Income		Mean Income		% of Income		Mean Income		% of Income		Mean Income	
	In the Decil	Accum.	In the Decil	Accum.	In the Decil	Accum.	In the Decil	Accum.	In the Decil	Accum.	In the Decil	Accum.
10	1.2	1.2	35	35	0.7	0.7	29	29	1.0	1.0	53	53
10	2.2	3.4	64	50	1.5	2.2	62	46	2.2	3.2	116	85
10	2.9	6.3	81	60	2.1	4.3	89	60	2.7	5.9	143	104
10	3.7	10.0	104	71	3.2	7.5	137	79	3.2	9.1	173	121
10	4.9	14.9	137	84	3.8	11.3	159	95	4.4	13.5	236	144
10	6.0	20.9	171	99	5.5	16.8	230	118	5.1	18.6	273	166
10	7.3	28.2	205	114	6.6	23.4	276	140	6.7	25.3	359	193
10	9.9	38.1	279	135	9.4	32.8	395	172	9.8	35.1	527	235
10	15.2	53.3	429	167	14.6	47.4	615	221	14.5	49.6	781	296
10^{+}	46.7	100.0	1,319	283	52.6	100.0	2,214	421	50.4	100.0	2,705	537
5^{+}	34.1	-	1,929	-	39.8	-	3,345	-	17.9	-	4,965	-
1^{+}	14.7	-	4,147		19.1	-	8,016	-	11.4	-	9,326	-

Indicators	1970	1972	1976
Mean Income (in Cr$ 1970)	283	421	537
Gini Coefficient	0.562	0.622	0.589
Theil Index	0.666	0.865	0.763

Source: Indicadores Sociais, 1979 p. 196

Notes: 1- Excludes PNAD Region VII – North and the States of Mato Grosso and Goiás.

2- Excludes Rural areas of PNAD region VII.

Table IV

Panel B

Brazilian size distribution of Income – Regions I to VI[1] 1970/1976

Decils	1970				1972				1976			
	% of Income		Mean Income		% of Income		Mean Income		% of Income		Mean Income	
	In the Decil	Accum.	In the Decil	Accum.	In the Decil	Accum.	In the Decil	Accum.	In the Decil	Accum.	In the Decil	Accum.
10	1.2	1.2	33	33	0.7	0.7	29	29	1.0	1.0	53	53
10	2.3	3.5	65	49	1.6	2.2	62	46	2.2	3.2	116	85
10	2.6	6.1	76	58	2.1	4.3	89	60	2.7	5.9	143	104
10	4.3	10.4	124	74	3.2	7.5	137	79	3.2	9.1	173	121
10	4.9	15.3	139	87	3.8	11.3	159	95	4.4	13.5	236	144
10	5.6	20.9	160	100	5.5	16.8	230	118	5.1	18.6	273	166
10	7.7	28.6	222	117	6.6	23.4	276	140	6.7	25.2	359	193
10	9.6	38.2	276	137	9.4	32.8	395	172	9.8	35.0	527	235
10	15.8	54.0	452	171	14.6	47.4	615	221	14.5	49.5	781	296
10^{+}	46.0	100.0	1,319	287	52.6	100.0	2,214	421	50.4	100.0	2,710	537
5^{+}	33.9	-	1,943	-	39.8	-	3,345	-	37.9	-	4,076	-

Indicators	1970	1972	1976
Mean Income (in Cr$ 1970)	287	421	537
Gini Coefficient	0.552	0.622	0.590
Theil Index	0.653	0.865	0.766

Source: Indicadores Sociais, 1979 p. 197

Notes: 1- Excludes PNAD Region VII.

2- Excludes Rural areas of PNAD regions VII.

The overall concentration indices also increased in the period. The Gini coefficient grew 12.7% (from 0.552 to 0.622) and the Theil index changed from 0.653 to 0.865 (an increase of 32.5%).

So, the period 1970-1972 is characterized by rapid growth of mean real income and very unequal growth distribution. The poor benefited very little if at all, and the very poor (the 20% poorest) had their situation worsened. On the other hand, the income of the richest 10% increased much faster than the average. This evolution followed the tendency observed in the sixties (see section II.1). This confirms that the rapid economic growth of the late sixties and early seventies (the "Brazilian Economic Miracle") was quite perverse for the poor[10]. The benefits of rapid growth were basically concentrated in the hands of the rich.

The tendency towards income concentration was completely reversed in the sub period 1972-1976. The mean real income growth rate decreased. The share of the poorest 40% of the population increased by 20%, from 7.5% in 1972 to 9.1% in 1976. Mean real income of this group grew from Cr$ 70.00 in 1972 to Cr$ 121.00 in 1976 which represents an increase of 53.2%. The very poor increased their share on total income by 45% and this group's mean real income grew by 84.8%. Furthermore, the mean real income of the richest 10% grew less than the average.

The Gini coefficient declined from 0.622 in 1972 to 0.590 in 1976 (5.1%) and Theil index was reduced by 11.5%.

Therefore, during the period 1960-1976 rapid growth and income concentration were highly correlated. Rapid growth favoured the rich at the expense of- the poor, while slow growth favoured the poor.

Before we go through the analysis of government programs, which could affect income distribution, let us see what happened to the income of some special groups in the period 1970-1976.

The income inequality reduction in Brazil was due to several factors. We selected some we find most important. First of all, there was a reduction of the income gap between the rural and the urban populations. Agriculture improved as compared to Industry and Services. The population with no education and with primary and high school educational levels had its income differential reduced (table V).

The large mean real income increase of the employees as compared to that of employers and liberals contributed to decrease income inequality. On the other hand, within inequality increased for all groups except for that composed of people with high educational level. The Gini coefficient increase was highest for the rural population, Agriculture and the uneducated persons. For the group

[10] A. Fishlow, 1972; C. G. Langoni, 1973; E. Bacha and L. Taylor, 1978.

with university education, the increase of 99.2% in mean real income was accompanied by a reduction of 15.0% in inequality within the group as measured by the Gini coefficient and 18.9% if we use Theil index. These results contrasts with those obtained in the sixties when the urban income inequality grew faster than the rural inequality, and the less educated groups contributed less to income inequality (Table V).

Now we shall examine specific government programs designed to affect the pattern of income distribution. We will concentrate the analysis on the government educational expenditures, the wage policies for the urban and rural sectors, and the Brazilian governmental housing policy. These are some of the most important instruments used to change income inequality in the country.

III. Distributional Effects of Governmental Expenditures on Education

Common sense indicates that education and high income are strongly correlated variables. No one would doubt that the income of Brazilian is, at least to some degree, correlated with their educational levels. It would be a powerful policy to raise the income of poor, reducing inequality. This section analyses public expenditures on education and its effects on Brazilian income distribution.

Brazilian public expenditure on education has been increasing in real terms since 1960. It was Cr$ 3.9 billion in 1960, Cr$ 11.5 billion in 1970 and Cr$ 18.9 billion in 1974 (in 1974 Cr$). The ratio of public expenditures on education to Gross Domestic Product (GDP) increased in these 14 years from 1.6% to 2.8% (Table VI).

The analysis of who benefits with these public expenditures must take into consideration some institutional aspects. The structure of the Brazilian educational system is composed of three successive stages. The first one, the primary school, comprises four years of regular study. The second one, high school, takes the next seven years. When these eleven years of formal education end, the student is apt to proceed his studies at the University level.

Brazilian administrative structure is constituted by three different spheres. Federal, State and local governments, each with its own source of funds as shown in Table VI. The States are the most important source of public financing to education, being responsible for about 50% or more of the total. The Federal sphere takes the second place and the municipal sphere the last.

We can infer, from the data registered in Table VII, that there is a relative specialization, in the sense that local governments, are in charge of primary courses, State governments mainly in charge of high school, while federal government provides most of the necessary funds for university expenditures.

Table V

Distribution of Income and Changes in Inequality for Specific Groups of the Economically Active Population with Income
Brazil 1970/1976

Groups	1970			1976			% Change		
	Mean Real Income	Gini Coefficient	Theil Index	Mean Real Income	Gini Coefficient	Theil Index	Mean Real Income	Gini Coefficient	Theil Index
Area									
Urban	371	0.532	0.556	691	0.596	0.726	75.5	9.6	30.6
Rural	134	0.410	0.368	277	0.499	0.599	82.8	21.7	62.8
Sex									
Male	307	0.562	0.668	623	0.581	0.733	182.9	3.4	9.7
Female	188	0.528	0.536	303	0.550	0.672	61.2	4.0	25.9
Sector									
Primary	137	0.474	0.446	295	9.510	0.660	81.8	22.9	46.9
Secondary	361	0.473	0.517	613	0.537	0.658	62.1	12.3	24.0
Tertiary	385	0.547	0.602	653	0.605	0.768	70.6	10.4	27.2
Age									
10 to 17 years old	83	0.386	0.253	137	0.373	0.405	66.3	8.4	60.9
18 to 24 years old	181	0.493	0.325	313	0.431	0.434	73.5	6.5	33.5
25 to 39 years old	322	0.517	0.594	634	0.592	0.669	96.6	2.1	10.4
40 to 54 years old	374	0.572	0.688	753	0.606	0.762	101.1	5.8	10.2
55 years old and more	308	0.609	0.835	647	0.639	0.900	110.4	4.8	7.4
Education									
No education	112	0.364	0.256	218	0.432	0.454	94.6	32.0	77.3
Primary education	329	0.439	0.390	416	0.511	0.622	26.4	16.4	59.5
High School	683	0.453	0.396	783	0.525	0.561	14.6	15.9	41.7
University education	2,098	0.374	0.244	4,000	0.318	0.199	99.2	-15.0	-18.9
Occupation									
Employee	297	0.517	0.563	480	0.531	0.706	53.9	7.5	30.7
Employer	1,271	0.522	0.496	2,172	0.529	0.399	70.7	1.8	2.6
Self employed	211	0.530	0.627	489	0.583	0.722	132.7	10.0	15.0

Source: Indicadores Sociais, 1979, p. 204 e 206.

Table VI

Public Expenditures on Education – 1960-1974
Billion 1974 Cr$

Budgetary level	1960	1965	1967	1970	1960	Percentage of total expenditures 1960	1974
Total	3.9	6.9	8.0	11.5	18.9	100	95
Federal	1.3	2.5	2.3	3.1	4.3	33	22
States	2.3	3.8	5.0	7.1	12.5	59	66
Municipal	0.3	0.4	0.7	1.3	2.1	8	11
FNDE[1]	-	-	-	-	0.8	-	4
Mobral[2]	-	-	-	-	0.1	-	1
GDP	240.6	312.2	-	454.5	219.5		
Expenditures on Education/GDP	1.6	2.2	-	2.6	2.8		

Source: Brazil – Human Resources Special Report – The World Bank, 1977, p. 141.
Notes: 1. National Fund for Educational Development
2. Brazilian Literacy Program

About one half of the total public financing was destined to primary education, one fourth to one third to high schools, and the rest to universities. During the period under analysis there was an increase in the participation of high school expenses in the total budget. The participation of primary schools declined. This is, no doubt, the distinguishing feature of the period.

The other important characteristic shown in Table VII is the tendency of Federal Government financing to be directed to the Universities at the expense of the other two educational levels.

Combining Tables VI and VII, we find total expenditures by educational level in 1965, 1967, 1970 and 1974. The numbers for 1974 were obtained based on the assumption that the structure of expenditures for this year remained the same as for 1970.

During the period 1965-1974, primary education received the greatest part of the public funds destined to education, followed by high schools and universities (Table VIII).

Let us now turn to the question of who benefited with these public expenditures. This will be done in three steps. First we will analyse evolution of total enrolments by educational level. Second, we will show the amount of public money spent by student at each level and, finally, the distribution of enrolments by family income class.

Table VII

Distribution of Public Expenditures by Governmental and Educational Levels
1965-1967-1970 (percentage)

Governmental and Educational levels	1965	1967	1970
Federal*	100	100	100
Primary	20	10	11
High School	26	23	19
University	54	67	70
State	100	100	100
Primary	67	63	51
High School	23	28	39
University	10	9	10
Municipal	100	100	100
Primary	100	100	100
High School	-	-	-
University	-	-	-
Total	100	100	100
Primary	52	53	48
High School	22	24	29
University	26	24	23

Source: Alberto Mello e Souza – *Financiamento da Educação e Acesso à Escola no Brasil* IPEA, 1970, p. 64.
(*) Only the expenditures made by the Ministry of Education are considered.

Table VIII

Total Public Expenditure by Educational level Brazil
1965 - 1967 - 1970 – 1974 (Billion 1974 Cr$)

	Educational Levels		
Year	Primary	High School	University
1965	3.59	1.52	1.79
1967	4.24	1.92	1.92
1970	5.52	3.34	2.65
1974	9.07	5.48	4.35

Source: Tables VI and VII

There is a direct correspondence between the declining share of public expenditures on primary education and total enrolments at this educational level. Total enrolments increased from 18,921,200 students in 1970 to 23,167,200 students in 1976 (Table IX).

The enrolment growth was concentrated in high school and university levels. High school enrolments grew by 10.4% and University enrolments by 66.7%. At the primary level, total enrolments declined by 5.7% in these five years. The pattern of change is similar for rural and urban

areas. Striking as it may seem, this result is confirmed by the reduction in the number of years of regular study attained by seven to nine years old children. Of the total number of children at this age, 65.3% were in school in 1970 and only 57.6% in 1976. This decline was consistently observed for all regions of the country[11].

Table IX

Students, 5 years old and older Urban and Rural[1], 1970-1976

Educational Level and Place of residence[3]	1970		1976[2]	
Total	18921.2	(100)	23167.2	(100)
Primary Education	14053. 3	(74)	13250.2	(57)
High School	4308.5	(23)	8788.1	(38)
University	559.4	(3)	1128.9	(5)
Urban Area	13330.2	(100)	17632.2	(100)
Primary Education	8841.8	(66)	8669.2	(49)
High School	3944.1	(30)	7861.5	(45)
University	544.3	(4)	1101.5	(6)
Rural Areas	5591.0	(100)	5535.0	(100)
Primary Education	5211.0	(93)	4581.0	(83)
High School	364.4	(7)	926.6	(17)
University	15.1	(0.2)	22.4	(0.4)

Source: Indicadores Sociais, 1979, pp. 315-317.
Notes: 1. In 1,000 persons
2. Does not include the Rural Areas of PNAD – Region VII
3. The numbers in parenthesis are percentages

If we divide total expenditure by total number of students, each Brazilian student received Cr$ 610.00 from the government in 1970 (Table X). But when we take this ratio at each level of education we see that primary education was the least favoured by government financing, although it received the highest absolute amount. In 1970, each Brazilian primary student cost to the government Cr$ 390.00 in the average, while each University student cost Cr$ 4,500.00, or twelve times more than primary students. Therefore, university students ate the most favoured by governmental expenditures on education.

Finally, in order to find out who benefited the most with these public expenditures, let us see the distribution of the students by family income class and educational level. This is shown at Table XI.

[11] Indicadores Sociais, 1979, p. 312.

Table X

Public Expenditures by Student at Each Educational level
1970

Educational Level	Public Expenditures[1]	Nº of Students[2]	(1)/(2)
Primary School	5.5	14.1	0.39
High School	3.3	4.3	0.77
University	2.7	0.6	4.50
Total	11.5	19.0	0.61

Source: Tables VIII and IX
1. in billion Cr$
2. in 1,000,000 students

Table XI

Students 5 years old and older, by Educational level and family income class
1976 in 1,000 persons

Educational Level	Family income class (in minimum wages)						
	Total	Up to 1	1 to 2	2 to 3	3 to 5	5 to 10	More than 10 minimum wages
Total	23167.2	2172.0	4624.8	3465.2	4543.5	4838.8	3523.2
Primary Education	13250.2	1819.2	3536.9	2290.0	2589.3	1997.1	1017.7
High School	8788.1	347.7	1062.1	1131.2	1831.9	2500.8	1914.7
University	1128.1	5.1	25.8	44.0	122.3	340.9	590.8

Source: Indicadores Sociais, 1979, p. 317.

From the total of students whose families earned up to one minimum wage in 1976, 83.8% were in primary schools, 16.0% in high schools and 0.2% in universities. As family income increases, the percentage of students in high schools and universities grow, while that of primary school declines. For students whose families earned more than ten minimum wages, 18.9% were in primary schools, 54.3% in high schools and 16.8% in universities. Thus, as the student's family income class declines it becomes more and more difficult for them to go from primary school to high school, and to the university.

Now we can see which percentage of students at each educational level comes from each family income class. From the 13,250,200 students in primary schools in l976, 1,819,200 were members of families whose income was one minimum wage or less and 3,536,900 of families whose incomes were between one and two minimum wages in 1976. This corresponds to 40% of the total number of

primary level students. The number of students in this educational level whose families earned more than ten minimum wages was 1,017,700, or 7.7% of the total number of primary schools' students. The picture is completely reversed for the university level. From the 1,128,100 students in 1976, only 30,900 students or 2.7%, were members of families whose income was two minimum wages or less; 52.4% were of families who earned more than ten minimum wages in 1976.

Some conclusions may be inferred from these data. First, in a country like Brazil, where income is highly concentrated at the upper income intervals, and the number of poor people is very large, it is quite difficult for the poor to go up on the educational ladder. This means that if the educational policy is to be used to help the poor, public expenditure should be directed to The lower levels of the educational system. If on the contrary, the expenditure is concentrated in the upper levels (in the university), it will be completely ineffective in the alleviation of poverty.

This kind of policy will never reach the poor. This is exactly the case in Brazil since public expenditure by student at the university level is twelve times higher than that at the primary level.

Free university, as in Brazil, is a government subsidy which favours basically the higher income classes of the population. This conclusion is reinforced when the selection systems to enter the university is based on academic achievement. Since there is an obvious natural preference for free universities, candidates from rich families, who frequented better high schools, have a better chance to be selected, less qualified candidates being left with the option of going to expensive private universities, whose tuitions are an economic barrier against the poor[12].

Thus, although public expenditure on education has been increasing in real terms since 1960, the reduction in the budget share of primary education and the insistence in maintaining free public universities make it a very ineffective policy instrument to reduce poverty and inequality in Brazil.

IV. Brazilian wage Policy and Distribution of Income

The effects of wage policies on income distribution is an issue of intense dispute among economists. For some of them in a market oriented economy, wages are determined by the forces of supply and demand for labour, leaving no room for institutional arrangements. For others, the labour market does not work so freely, its most pervasive characteristic being that wages are fixed in contracts which are strongly influenced by social and juridical institutions. If this is so, wage determination is certainly influenced by the wage policy enforced by the central government.

[12] Exposição de Dados pela Coordenação da Assessoria Técnica e Pesquisa – Fundação Cesgranrio, 1978, Rio de Janeiro.

This section analyses Brazilian wage policy in the period 1964-1978 and its effect on income distribution. For reasons which will become clear later, we will divide the study into two parts, the first directed to the urban sector and the other to the rural sector.

IV.1. Urban Sector Wage Policy, 1964-1978

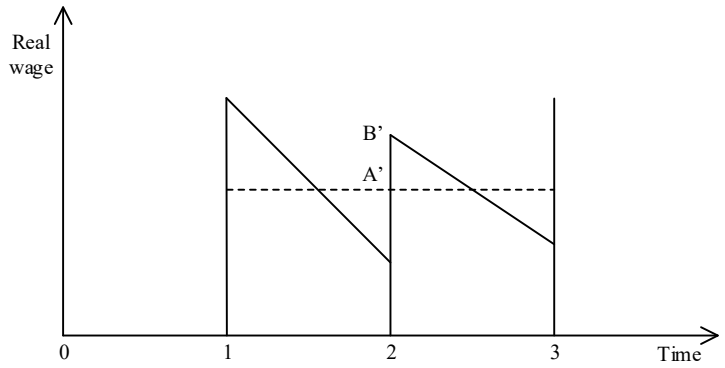
An urban sector wage policy, enforced by the central government, is one the oldest institutional mechanisms in the Brazilian economy. Its history goes back to 1940 when Vargas government enacted a minimum wage law for the urban workers. Between 1940 and 1964, minimum wage determination became the core of Brazilian wage policy, and minimum wage adjustments one of the most important political assets of Brazilian governments. Together with the minimum wage, a system of labour courts and worker unions was created and linked to the Ministry of Labour. Collective wage negotiations involving the labour unions for a given regional industrial group and the corresponding firms were also conducted regularly. The last word was reserved for the labour court.

The juridical structure just described is still in force today, but after 1964 the wage law was changed and its amplitude, of action enlarged. Instead of being responsible for the determination of the minimum wage, the government instituted a formula which was supposed to be used to adjust all wages in the economy. Thus, beginning in 1964, all wages are, at least in principle, institutionally determined. As we will see, the effectiveness of the formula varied depending on the position of the workers in the labour process.

Between 1965 and 1979, the wages were adjusted once a year based on a formula composed of two factors: the first made the adjusted wage equal to the average real wage of the last twelve months. The second added to this an index which was half the expected rate of inflation of the following 12 months[13]. This is graphically represented at Figure 1. As prices increase, real wages decline in the interval between adjustments. When the adjustment is made, the first factor increases real wages up to point A' in the figure. This is the average real wage of the previous twelve months. The second factor adds to it half the expected rate of inflation of the following period, B' in the figure. If the rate of inflation is expected to decline, the new real wage is smaller than that of the previous adjustment (like in the figure). The formula is quite ingenious and it is easy to prove that, if the rate of inflation is declining, the future rate of inflation has to be underestimated for the average real wages to be constant through time. But given the way the adjustments were made in Brazil, the result was very perverse to the country's distribution of income.

[13] Law 4.625, 7/13/1965 and decrees 15 and 17, August 1968.

Figure 1



The-period 1964-1974 were years of strong political repression. After the military coup of march 1964, unions were closed, the strikes were repressed by the military force and, as a result, the political position of workers was drastically weakened. This way, being unable to press their demands, workers could only accept the wage adjustments imposed by the government. On the other hand, government priority was to reduce the rate of inflation and a wage squeeze was a powerful instrument to attain this objective.

As described above, the wage adjustment formula had one factor which was entirely under the governments' control: the expected rate of inflation. Last year, the Ministry of Finance determined the expected rate of inflation which was to be used for wage adjustments in the next twelve months. This rate of inflation was always underestimated by a large factor and, as a result, the adjustment coefficient was always smaller than the future effective rate of inflation. This discrepancy in shown in Table XI. This policy had, as a direct consequence, that those wages whose adjustments followed the formula grew at rates much lower than the inflation rates. The real wage declined sharply. This can be clearly seen on the evolution of the real minimum wage. If we use as deflator the Getúlio Vargas Foundation Cost of Living Index there is a decline of 20% for the real minimum wage between 1964 and 1971. After this date, the real minimum wage starts to increase, but in 1978 it was still 14% lower than in 1963 (Table XII).

The picture is even worse when DIEESE'S index is used to deflate money wage. The real minimum declined close to 40% between 1963 and 1974 the year which, in this case, is a turning point.

The minimum wage is an extreme case in the sense that it is institutionally determined by the federal government. How effective was this policy on the determination of other wages in the economy? Bacha and Taylor[14] showed that the median wages in Brazilian manufacturing sector depended in a large extend on the minimum wage.

[14] Op. Cit., 1978.

Table XI

Expected and Actual Rates of Inflation, 1964-1974

Year	Expected rate of inflation	Actual Rate of cost of living index Dieese[1]	Inflation cost of living index FGV[2]
Jul64/Jul65	30	62.33	64.40
Jul65/Jan66	0	23.29	14.90
Jan66/Jul66	10	27.01	22.45
Jul66/Jul67	10	31.25	30.39
Jul67/Jul68	15	24.45	21.05
Jul68/Jul69	15	23.93	21.12
Jul69/Jul70	13	17.12	22.05
Jul70/Jul71	12	26.50	21.43
Jul71/Jul72	12	17.52	16.26
Jul72/Jul73	12	26.60	11.90
Jul73/Jul74	12	33.02	30.50

Source: 10 anos de Política Salarial – DIEESE, São Paulo, 1976, p. 28.
1. DIEESE - Labour Unions Statistical Institute
2. FGV - Getúlio Vargas Foundation.

Table XII

Monetary and real minimum wage, 1963-1978

Year	Monetary Average Minimum Wage	Index of Real Minimum Wage - Cost of Living FGV 1963 = 100	Index of Real Minimum Wage - Cost of Living DIEESE 1963 = 100
1963	22.75	100.0	100.0
1964	43.75	100.4	108.9
1965	67.50	93.4	101.6
1966	88.00	86.2	86.1
J367	110.25	82.8	81.5
1968	136.30	83.7	80.8
1969	160.20	80.4	26.8
1970	192.40	78.9	78.1
1971	231.60	79.0	75.8
1972	276.80	81.1	74.6
1973	323.60	84.2	69.2
1974	386.60	78.8	63.2
1975	525.20	82.9	65.5
1976	753.60	83.9	66.7
1977	1085.80	84.1	68.4
1978	1538.80	86.0	69.8

Source: Instituto Brasileiro de Economia/Fundação Getúlio Vargas
Sistema de Relações Trabalhistas no Brasil e sins Implicações Econômicas e Sociais, Rio de Janeiro, 1979, p. 164.

They made regression calculations using as the dependent variable a logarithmic transform of the median wage for manufacturing in Rio de Janeiro. The independent variables were transforms of the minimum wage in Rio, the cost of living index for this city and the Gross Domestic Product (GDP)

per capita for the country. They have shown that "after taking into account the independent effects of inflation and GDP growth on market wages... Subtracting one Cruzeiro from the minimum wage means subtracting between 48 and 66 Centavos from the median wages"[15]. This means a short-run elasticity of money market wages with respect to the official minimum between 48 and 66.

Their results show that "for each ten percent rise in the cost of living index (with constant minimum wages and nominal GDP per capita) the median wage increases by only 2.3%. This suggests that workers are hurt by inflation if the legal minimum wages are not properly readjusted[16]. Thus, the decline in the real minimum wages between 1964-1974 shown in Table XII resulted in a negative effect on the median wages of the manufacturing sector of the economy.

Movements of median wages do. not represent the behaviour of the entire wage distribution. They are much more representative of the lower end than of higher wages. Segmentation theories of the labour market suggest that lower wages are much more easily determined by institutional arrangements than higher wages. They support that there are two non-competing groups in the labour market, "managers" and "labourers".

Labourers wages are basically determined by the governmental wage policy while "managers" wages are determined not only by their skill but also, by the amount of residual income left over after workers are paid their wages. This part of managers wages is determined by hierarchical position in the firm and not by skill or productivity.

If this is so, wages of administrative personal in Brazilian industry should increase faster than those of the workers on the production line. Note that "managers" include some categories of workers whose wages are determined by the governments wage policy.

Table XIII shows the behaviour of administrative and production line workers' wages between 1963-1974. Two periods can be distinguished from the data. The first goes from 1963 to 1966 and shows the ratio of administrative to average industrial wages declining while production line wages grow faster than the average industrial wages. This coincides with the recession and low profits period following the 1964 military coup. After this adjustment period there came the "Brazilian Economic Miracle", with industrial production growing at a rate of more than 10% a year until 1974. This was also the period of rapid increase of administrative activity wages as compared to production line wages, as shown in table XIII. The ratio of administrative activities to production line wages increased by close to 30%, going from 1.85 in 1965 to 2.38 in 1974.

[15] Op. Cit., p. 288.
[16] Op. Cit., p. 289.

Table XIII

Average Production and Administrative Wages of Industrial Workers Brazil 1963-1974

Year	$\frac{Average\ production\ wages}{Average\ industrial\ wages}$ (1)	$\frac{Average\ administrative\ wages}{Average\ industrial\ wages}$ (2)	$(2)/(1)$
1963	85.9	169	1.96
1964	85.9	167	1.94
1965	86.1	159	1.85
1966	-	-	-
1967	82.4	174	2.11
1968	80.9	184	2.27
1969	80.8	180	2.23
1970	86.4	182	2.11
1971	-	-	-
1972	78.6	191	2.43
1973	79.3	197	2.48
1974	79.3	180	2.38

Source: IBRE - FGV - p. 171.

Therefore, we can conclude that the Brazilian manufacturing sector wage distribution became more concentrated between 1966 and 1974. There were two forces pressing on this direction. First, the wage squeeze resulting from the official wage policy which was quite effective in the determining of the lower end of the wage distribution. Second, the much higher increase in the wage of those on administrative positions, which resulted from the rapid growth of industrial production and profits in the period.

The most important issue of this analysis is the strong correlation between these results and those of section II. As is shown there, income concentration was an outstanding characteristic of the period 1960-1972. In the period 1972-1976, on the other hand, there was a tendency to de-concentration, which is in agreement with the relaxation of wage policy and lower industrial growth.

IV.2. Rural Sector Wage Policy

Although the minimum wage law for cities dates from 1940, only in 1963 it was extended to the rural sector of the economy. This was one of the results of the “Estatuto do Trabalhador Rural” (Rural Workers Statute). This section analyses the effect of this legislation on rural wages.

Table XIV

São Paulo Rural Wages of Resident Workers and Agricultural Terms of Trade (Resident Daily Workers), 1950-1978

Year	Rural Wages of Resident Workers			Agricultural Terms of trade
	Money wages[1]	Deflated wages[2]	Product wages[3]	
1950	0.022	92.8	75.5	129
1951	0.027	97.6	83.5	120
1952	0.031	100	87.9	122
1953	0.033	93.0	75.3	131
1954	0.039	84.4	64.8	133
1955	0.047	89.6	72.0	131
1956	0.055	87.7	73.3	121
1957	0.063	87.9	77.8	112
1958	0.070	86.1	87.2	94
1959	0.087	77.5	82.8	85.7
1960	0.114	79.0	77.4	98.0
1961	0.148	74.8	70.7	97.6
1962	0.223	74.3	64.5	111
1963	0.362	69.0	60.7	105
1964	0.764	76.4	63.9	115
1965	1.37	87.3	88.1	92.4
1966	1.78	81.0	80.7	98.8
1967	2.49	88.0	98.0	90.5
1968	3.29	91.0	106.0	84.8
1969	3.97	91.3	94.1	95.8
1970	5.14	100	100.0	100
1971	6.45	107	100.0	107
1972	8.38	118	101.0	119
1973	11.35	133	936.0	151
1974	15.85	141	103.0	148
1975	20.65	139	105.0	147
1976	27.85	133	86.7	175
1977	45.20	151	93.4	189
1978	52.40	136	97.6	167

Source: E. Bacha – Economic Growth, Rural and Urban Wages: The Case of Brazil – E. Bacha - Depto. de Economia, PUC/RJ, 1979, mimeo. Appendix.

Notes: 1) in Cr$ per day
2) money wages/implicit price deflation – 1970 = 100
3) money wages/prices received by São Paulo Agriculture – 1970 = 100

The behaviour of rural wages in São Paulo's agriculture between 1950 and 1978 is shown in Table XIV, where two real wage concepts are displayed. The first, called product wage, is the money wage divided by the producer price index of agricultural products in São Paulo. This is a cost concept and gives the real labour cost of capitalist farmers. The second is a purchasing power concept and is obtained through the division of money wages by the general price index. It gives the purchasing power of agricultural workers The table also shows the agricultural terms of trade in the period.

Except for short run fluctuations, the cost of labour for capitalist farmers in São Paulo was constant at Cr$ 76.00 until 1963. In 1969, simultaneously with the introduction of the minimum wage in agriculture, there was a jump on product wages, provoking an increase of 30% above its previous level. After this single movement, product wages stabilized at this new higher level until 1978. This jump is particularly significant when we note that it happened when agricultural terms of trade were declining[17].

This conclusion is reinforced by the behaviour of deflated wages and Agricultural Terms of Trade. The relevant regression is shown below[18]:

W = 42.94 + 0.37 (TT) + 32.38 (DU)
(3.659) (3.900) (5.826)
R2 = 0.94, D.W. = 1.71, F = 146.359

where:

W = deflated wages

TT = Agricultural terms of trade

DU = Dummy

Numbers in parenthesis are t statistics for the coefficients. The dummy takes value zero for 1950-1963 and one for 1970-1978. The period 1964-1969 is delated from the regression. The dummy coefficient is significant at 0.005% level and shows the effect of the Rural Workers Statute on deflated wages. This increase in deflated wages was obtained while terms of trade were declining (see Table XIV).

So, the extension of the Minimum Wage Law to the Rural Sector resulted in an increase in real wages in agriculture, both in terms of labour cost of capitalist farmers and in terms of purchasing

[17] The regression takes the product wages as the dependent variable and a Dummy variable as an independent variable which takes the value zero in 1950-1966 and one in 1967-1978.

$$W = 76.00 + 22.2\ DU$$
$$(1.7) \quad (2.7)$$
$$R^2 = 0{,}69M; d = 1.33; Se = 7.38$$

Numbers in parenthesis are standard errors of tire regression coefficient. See E. Bacha, 1979, p. 4.

[18] To take account of autocorrelation the Cochrane-Orcutt alternative technique was used in the estimations.

power of agricultural workers. This variation of the real wages explains the divergent behaviour of the concentration index in the Brazilian rural sector as opposed to that of the urban sector in the sixties. This section has established that:

1. Brazilian urban wage policy and the economic boom conditions prevailing after 1967, were very Important for the establishment of the observed income concentration of the period 1964-1974;
2. After 1975, with the end of the "Brazilian Economic Miracle" and the slackening of the wage policy there was a trend reversal in the overall concentration indexes for the country;
3. The rural sector wage policy was an important factor contributing to the increase of real wages of agricultural workers between 1964 and 1968. This, coupled with a considerable improvement of the relative position of domestic agriculture after 1969 resulted in a reduction of the average real income differential between the rural and urban sectors of the economy.

V. Brazilian Government Housing Program

Sections III and IV analysed the Brazilian government's expenditures on education and its wage policy, respectively. These are policies which have a direct effect on Brazilian population income and on its distribution. The last government program we will study here is of a different character. It affects the distribution of income only indirectly through its effects on the distribution of wealth in the country. This is the Brazilian Government Housing Program. As the distribution of income is directly affected by the distribution of wealth, and housing ownership is one of the. most pervasive forms of property, a policy directed to subsidize house acquisitions by the poor could have a strong effect on the wealth and income distribution in the country.

A rapid description of the program and its sources of funds are a prerequisite to understanding its functioning.

The Brazilian Housing program started in 1964 with the creation of the National Habitation Bank (BNH). It is a bank which is specialized in housing and infrastructure financing. In 1966, the bank became responsible for the administration of the Time-of-Service Guaranty Fund (FGTS), just created, and this became the bank most important source of funds[19].

The FGTS is a kind of unemployment compensation fund which consists of the compulsory

[19] These resources correspond to close to 60 percent of the bank's Money. See Wanderley Almeida e J. Luis Chautard – *FGTS: Uma Política de Bem-Estar Social*, IPEA, Rio de Janeiro, 1976, p. 102.

payment by each employer of 8% of its payroll. The contributions are made on behalf of individual workers who can use them to finance unemployment periods, marriage expenses, retirement, and house acquisitions. The value of each worker fund corresponds approximately to one wage per year of work in real terms. To maintain the real value of the worker's funds, the contributions have to be adjusted by the rate of inflation (monetary correction) and earn a rate of interest which varies from 3 to 6 percent a year. BNH administers this fund in order to remunerate the worker's financial assets adequately. Between 1969 and 1972, the FGTS was responsible for more than 90 percent of BNH financial liabilities[20].

The reliance on the FGTS funds constitutes a budget constraint for the bank's operations. The bank is then forced to follow strict capitalist rules as regards to its rate of return.

The BNH operations are stipulated in a special currency, the "Unidade Padrão de Capital" which is adjusted by the rate of inflation. The bank has four different types of lending programs for housing acquisitions, called Popular, Economic, Medium and Superior markets. Each of these markets has its own lending limit, interest rate, amortizations period, and can be used by families of specific income classes. The market's characteristics are shown in Table XV.

As family income class grows, interest rate rises and the amortization period shortens. Thus, the objective to redistribute housing ownership in favour of the poor is implicit in the plan structure. The effectiveness of these programs in redistributing house ownership is, however, quite limited. The BNH budget constraint makes the income of Brazilian poor families not sufficient for them to pay BNH's instalments.

The magnitude of this problem can be seen through the comparison between the savings potential of various income class families and the maximum percentage of income a family has to commit on a BNH lending. As we see in Table XVI, the potential savings of families of the first two markets (Popular and Economic) is far behind the maximum commitment of income allowed by BNH. Thus, the savings potential of these families makes it very difficult for them to apply to BNH programs.

This and the BNH budget constraint made the housing program quite ineffective to redistribute house ownership. Thus, although, in 1969, 18.4% of all lending were directed to the popular market and 40.8% to the Economic market, in 1974 these percentages were 1.8% and 13.4% respectively (Table XVII). The opposite happened to the medium and superior markets. The first doubled its share of lending, while the second increased its participation from 17.2% of the total in 19 69 to 38.4% in 1974.

[20] Op. Cit., p. 106.

Table XV

Financing Conditions of BNH programs 1974

Conditions	Programs			
	Popular	Economic	Medium	Superior
Lending limits (in UPC)[1]	up to 200	200-400	400-900	900-2250
Family income class (in-UPC)[2]	up to 4.68	4.68-16.00	16.00-50.00	more than 50.00
Interest rate (% per year)	1 to 3	4 to 8	9 to 10	10 to 12
Amortization period (years)	25	25	25-15	15

Source: Wanderley Almeida and J. Luiz Chantard, 1976, p. 120.
1) in December 1974, 1 UPC = Cr$ 101.90;
2) in December 1974, 1 UPC = 3.70 minimum wages.

Table XVI

Potential Savings and Maximum Commitment of Income Allowed by BNH by Family Income Class São Paulo - 1972

Family income class (in UPC)	Type of market	Maximum commitment (%)	Savings potential (%)
up to 3.667	Popular	10	-28
3.667 - 7.334	Popular-Economic	19	4
7.334 - 22.002	Economic-Mediurn	27	17
22.002 - 29.337	Medium	28	23
29.337 - 36.671	Medium	29	28
36.671 - 40.005	Medium	30	29
40.005 - 51.339	Medium-Superior	32	28
51.339 - 58.674	Superior	33	32
58.674 - 66.008	Superior	34	33
66.008 - 73.342	Superior	34	39
80.676 - 80.676	Superior	35	37
121.015 -121.015	Superior	35	35
more than 121.015	Superior	35	45

Source: Wanderley Almeida et all, 1976, p. 130.

A similar picture also appears for the number of houses financed by each program (regardless of the value of each house). The share of the Popular market declined from 20.5% to 5.1% of the total between 1969 and 1974 while that of the superior market increased from 8.3% to 29.6% in the same period (Table XVIII).

Finally, an important point shown on tables XVII and XVIII is that the size of the Brazilian Housing Program remained constant between 1969 and 1974. Total lendings fluctuated around 40.00 UPC and total houses financed declined from 160,000 in 1969 to 148,000 houses in 1974.

Table XVII

Distribution of BNH lendings by markets 1969-1974 (in 1,000 UPC)

	Markets				
Year	Popular[1]	Economic	Medium	Superior	Total lendings
1969	7.323 (18.4)	16.283 (40.8)	9409 (23.6)	6863 (17.2)	39879 (100)
1970	9.835 (23.4)	17.898 (42.6)	8243 (19.6)	6066 (14.4)	42043 (100)
1971	2.618 (6.5)	19.299 (48.2)	10238 (25.6)	7872 (19.7)	40027 (100)
1972	1.857 (5.1)	13.898 (37.3)	13143 (35.8)	7782 (21.2)	36680 (100)
1973	1.924 (4.5)	9.492 (22.3)	18342 (43.0)	12876 (30.2)	42634 (100)
1974	679 (1.8)	5.178 (13.4)	17877 (46.4)	14774 (38.4)	38508 (100)

Source: Wanderley Almeida et all - Op. Cit. p. 126
1: Number in parenthesis are percentages.

Table XVIII

Percent Distribution of House
Financing by Markets 1969-1973

	Markets				
Year	Popular	Economic	Medium	Superior	Total
1969	20.5	45.9	25.3	8.3	159812
1970	21.7	41.3	39.5	7.4	157931
1971	9.7	36.1	39.1	15.1	128240
1972	6.0	25.8	43.7	24.6	121469
1973	5.1	22.7	42.6	29.6	148006

Source: Op. Cit., p. 128.

We conclude that, although the Brazilian housing policy started as a program to build houses for the poor, it rapidly turned into a program to finance houses for medium income and rich families. This was a direct result of the link between the National Habitation Bank and the FGTS. The bank lendings have to earn a sufficient rate of interest to remunerate the fund. The consequence was that the lending had to be concentrated in the medium and superior markets.

VI. Conclusions

This paper analyses the evolution of Brazilian income distribution in the sixties and seventies and the effects of some governmental policies on income redistribution and on the alleviation of poverty levels in the country.

We have shown that, from the four policies and programs studied, only the extension of the minimum wage to the rural sector resulted in income deconcentration. The urban sector wage policy was clearly "perverse" until 1974. After this year the official policy instituted higher wage adjustments than the increase of prices. As a result, low wages, which are directly linked to the governmental policy, grew faster than prices.

The real increase of the low wages together with the reduction of the rate of growth of industrial production and profits after 1973, resulted in a better distribution of income in 1976' as compared to 1972. The importance of the wage policy is emphasized in this paper.

The. other two programs, governmental expenditures on education and the Brazilian Housing Program favoured the rich more than the poor, and had very little or no effect on the alleviation of poverty levels.

Free university takes a large share of public expenditures on education. Thus it is a subsidy to the high income families whose members are the only able to reach this educational level.

Finally, the budget constraint implicit in the structure of. the housing program, combined with the low income level of the Brazilian poor, make the financing of house acquisition by the group impossible at least in a reasonable scale.