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INTERNAL MIGRATION IN BRAZIL, 1890-1970

The purpose of this preliminary paper is to provide a first approximative summary of the evidence on movements of population across state boundaries in Brazil and of the relative contribution of the migratory process to population growth in each of these states. On the basis of this first broad aperçu, a later paper will attempt a more systematic and thoroughgoing analysis of these same questions.

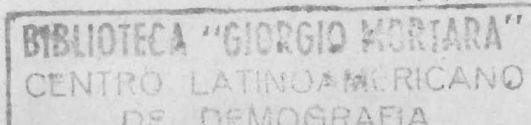
To set the stage for this substantive overview, it may be profitable to first review the nature and quality of existing data on internal migration in Brazil. Except for local surveys and non-representative partial registers, the only sources of information which permit inferences on volume of interstate migration flow are those taken from the censuses of population. Nation-wide surveys were carried out in the years 1872, 1890, 1900, 1920, 1940, 1950, 1960 and 1970. But, it was only in 1940 that a question on the state of birth of the resident population in each state was first included in the census questionnaires.

To reconstruct migratory movements without benefit of this basic information in earlier periods is extremely hazardous. Moreover, the census information for 1960 and 1970 is still unavailable on a nation-wide basis and hence the only satisfactory information on migration at our disposal as of the moment is taken from the 1940 and 1950 censuses. For the remaining periods, inferences as to migratory flow have to be regarded with considerable caution. Within the limits of available data then, the following discussion will attempt to portray main trends in migratory flow during various periods.

Internal Migration 1890-1940

As noted earlier, four comprehensive population censuses were carried out between 1890 and 1940. Of these, however, the 1900 and 1920 surveys are practically useless, the first because of demonstrable under-enumeration

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and the second because of over-enumeration.^{1/} Consequently, our only relatively-secure reference points for this early period are constituted by the 1890 and 1940 censuses. According to adjusted figures for these dates, the total population of Brazil increased from 14,333,900 to 41,252,900 or, by 26,919,000 during the fifty year span; this corresponds to an increase of 188 per cent over the 1890 population.

How was this growth distributed throughout the various states? Table 1 shows that during the 1890-1940 period, two physiographic regions had a rate of population increase much in excess of the nation as a whole - the South and Center-west; two others had a rate of increase considerably smaller than that of Brazil, namely, the East and Northeast, while the Northern region grew at a slightly quicker pace than did the entire country. (Cf. figure 1 for location of regions and states.)

Such differentials in rates of growth are attributable to a combination of the following factors; differences in volume of in and out migration, in volume of immigration and emigration, and in the dimensions of the birth and death rates. Without adequate information relating to either natural increase or migratory movements, it is difficult to factor out the relative contribution of each of these components to population growth in any given region or state. Consequently, the size of migratory movements in the years preceding the 1940 census will never be known in anything resembling exact quantitative terms.

Nevertheless, gross approximations can be made, providing that we are willing to make a few preliminary assumptions. That is, if we assume that natural increase and net foreign immigration did not vary significantly from region to region or, that such differences are less important in the overall configuration than are internal movements of population, then it can be affirmed that deviations from the average national increase are attributable to net movements of population. Obviously, the aforementioned assumption is quite crude since it is manifest that differences do exist between regions and between states with regards to both natural increase and immigration.

^{1/} For a justification of this statement, cf. IBGE - Conselho Nacional de Estatística - Contribuições Para o Estudo da Demografia do Brasil, Rio de Janeiro 1961, pp. 9-21.

Table 1

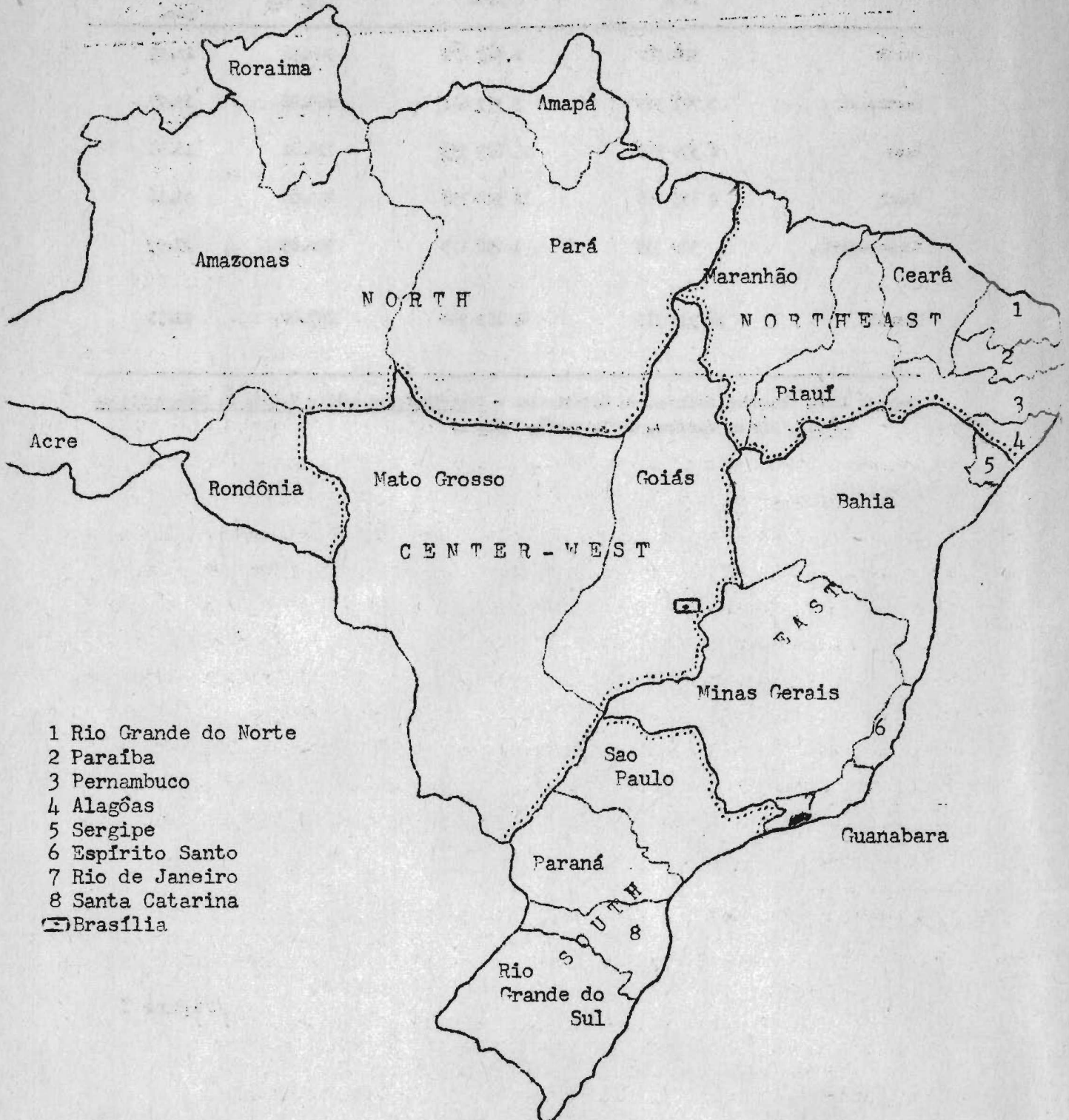
POPULATION OF VARIOUS BRAZILIAN REGIONS IN 1890 AND 1940 AND RELATIVE INCREASE
OF POPULATION BETWEEN THESE TWO DATES

Region	Population		100 $\frac{1940 \text{ Pop}}{1890 \text{ Pop}}$	Average annual rate of growth per 1 000 pop.
	1890	1940		
North	476 370	1 469 872	308.56	22.95
Northeast	3 771 319	9 973 642	264.46	19.77
East	6 950 359	15 625 953	224.82	16.45
South	2 815 468	12 924 798	459.06	31.16
Center-West	320 399	1 258 679	392.85	27.93
Brazil	14 333 915	41 252 944	287.80	21.51

Source: IBGE, Conselho Nacional de Estatística - Contribuições para o Estudo da Demografia do Brasil, Rio de Janeiro, 1961, p. 18, Table 1.

Figure 1

MAP OF BRAZIL SHOWING TERRITORIES, STATES AND
REGIONS. PRIOR TO 1960



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Nevertheless, if we concentrate our attention on those states and regions which deviate significantly in terms of total growth from national averages, some insight can be gained into internal movements of population.^{2/} Thus, it would appear from table 2 that, in terms of percentage increase, the states of Espírito Santo, São Paulo, Paraná, Mato Grosso and Santa Catarina absorbed an inordinate amount of migrants in relation to their base population during the 1890-1940 period.

By the same token, the states of Sergipe, Alagoas, Bahia, Rio de Janeiro and Minas Gerais would have been most affected by the loss of native population during this half century. It should be remembered, however, that the figures in table 2 refer to an increase which is calculated with reference to the state's population base rather than to absolute totals.^{3/} Absolute figures therefore might very well indicate that the percentage increase in some of the fastest or slowest growing states are less significant than absolute changes in an intermediate state.

More systematic information on the net resultant of internal movements prior to 1940 can be obtained through examination of the state-of-birth, state-of-residence information compiled in the 1940 census. For this purpose, it should be made clear that a migrant is to be defined throughout the subsequent presentation as a person born in one state but present in another state at the time of the census enumeration. If we consider net balance (i.e. - the difference between the number of migrants born in state X and living in all other states and the number born in all other states but living in state X) then it can be seen from table 3 that the Distrito Federal (now Guanabara State) holds the most favourable position. Indeed, it had absorbed a net balance of 551,300 migrants prior to the 1940 census. In terms of positive balance, the Distrito Federal was followed closely by the state of São Paulo and more distantly by the 'frontier' states of Paraná, Goiás and Mato Grosso.

^{2/} By formulating various assumptions as to the dimensions of each of the population growth sectors, it might be possible to arrive at more precise figures. Such a task, however, represents a major undertaking and one which transcends the limits of the present paper.

^{3/} Thus, for instance, a state with only 25,000 inhabitants in 1950 would be more affected by population increase of 25,000 than one experiencing an increase of 75,000 over a population base of 100,000. This is particularly exemplified in the case of Espírito Santo.

Table 2
 RELATIVE GROWTH OF BRAZILIAN STATES DURING 1890-1940
 PERIOD, BY RANK IN RATE OF GROWTH

State	Percentage Growth	Average annual rate of Growth per 1 000 pop.
Espirito Santo	451.56	34.98
Sao Paulo	419.19	33.72
Paraná	395.52	32.75
Mato Grosso	365.67	31.46
Santa Catarina	315.25	29.08
Rio Grande do Sul	270.01	26.69
Goiás	263.14	26.31
Distrito Federal	237.54	24.80
Paraná	211.06	23.11
Piauí	205.52	22.74
Amazonas	201.16	22.45
Pará	187.60	21.50
Maranhão	186.68	21.43
Rio Grande do Norte	168.28	21.40
Pernambuco	190.94	19.50
Ceará	159.53	19.39
Minas Gerais	113.67	15.40
Rio de Janeiro	110.72	15.12
Bahia	104.09	14.47
Alagoas	86.00	12.57
Sergipe	74.42	11.26
Brasil	187.80	21.51

Source: IBGE, Conselho Nacional de Estatística, Contribuições para o Estudo da Demografia do Brasil, Rio de Janeiro, 1961, p. 19.

Table 3

NET BALANCE OF POPULATION MOVEMENTS BETWEEN
STATES AS OF 1940

Region	Natives of State present in other states	Natives of other states present in state	Net Balance	Rank in terms of positive balance
Acre	22 783	9 852	+12 931	11
Amazonas	52 781	24 289	+28 492	10
Pará	76 402	41 017	+35 385	9
Maranhão	131 019	77 194	+53 825	6
Piauí	66 646	114 416	-47 770	14
Ceará	89 618	205 661	-116 043	19
Rio Grande do Norte	63 512	73 521	-10 009	12
Paraíba	104 183	158 755	-54 572	15
Pernambuco	131 410	244 665	-113 255	18
Alagoas	60 147	134 920	-74 773	16
Sergipe	33 737	75 818	-42 111	13
Bahia	105 888	339 851	-233 963	20
Minas Gerais	195 792	829 521	-633 729	21
Espirito Santo	106 070	67 459	+38 611	8
Rio de Janeiro	202 989	432 428	-229 439	
Distrito Federal	633 686	82 386	+551 300	1
São Paulo	726 492	231 330	+495 162	2
Paraná	214 256	62 658	+151 598	3
Sta. Catarina	107 851	61 451	+46 400	7
Rio Grande do Sul	38 358	131 132	-92 774	17
Mato Grosso	70 509	16 192	+54 317	5
Goiás	155 480	281 364	+119 466	4
Brasil*	3 450 964	3 450 964	-	-

Source: IBGE, Conselho Nacional de Estatística - Contribuições para o Estudo da Demografia do Brasil, Rio de Janeiro, 1961, p. 375, Table IV.

* Total includes migrants to and from the Serra dos Aimorés.

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At the other extreme, Minas Gerais lost the greatest number of inhabitants through the migrant interchange - 633,700. Although to a lesser extent than Minas Gerais, the states of Bahia, Ceará, Pernambuco and Rio Grande do Sul also had lost substantial segments of their population through the migration process prior to 1940.

So far, the discussion has centered on the size of population movements without reference to predominant directions of migration streams. A first approximation to this question is furnished by table 4 which shows the net loss or gain of population made through migration by Brazil's various physiogeographic regions. According to these figures, the Eastern region experienced the heaviest loss of population, most of this loss being in the form of migrations to the Southern states. The East also sent a substantial number of migrants to Goiás and Mato Grosso but this was more than compensated by the positive balance of movements to the East originating from the North and Northeast.

By contrast, the Northeast, though giving off less net migrants than the East, had a substantial negative balance with respect to all four other regions. The North lost migrants in the exchange with the East, South and Center-West but this was more than made up by a large positive inflow from the Northeastern region. Amongst Brazilian regions, the South had experienced the largest net gain in the migrant exchange which occurred prior to 1940; the great majority of these came from the Eastern states. The Center-West, however, was the only region to absorb a positive influx from all other regions, although this flow was relatively small by comparison to net movements to the South.

A second and more detailed approach to the study of migration streams and their preferred direction is presented in table 5. Therein, all migratory streams from one state to another which involved more than 30,000 lifetime migrants are shown. These streams include almost three-fifths of all migrants born in one state and present in another state as of the 1940 census. Of the twenty-one principal streams cited in this table, six mention Minas Gerais as the origin of the stream. By contrast, São Paulo is the recipient or destination of four principal streams, while the Distrito Federal, Paraná and Pernambuco each receive two important

/migration streams.

migration streams. It can be also noted that the three principal streams (Minas Gerais to São Paulo, Rio de Janeiro to Distrito Federal and Bahia to São Paulo) together include better than one-fifth of all net migrants enumerated in 1940.

In short, although satisfactory data on migrations prior to 1940 are unavailable, the census information for that date permits reconstruction of important trends. It is of considerable interest that, as of 1940, 3.4 million individuals or, 8.5 per cent of Brazil's population were migrants, that is, they were enumerated in a state other than that of their birth. The Eastern region, particularly the states of Minas Gerais and Rio de Janeiro were the main suppliers of migrants while the states of São Paulo, Paraná, Goiás and the Distrito Federal represented the favourite destination of migrants.

Migrations, 1940-1950

To the present, we have been concerned solely with information on lifetime migrants, that is, on people who were born in one state and who migrated to another at some point before a given census date. These data thus provide no information as to the timing of a move and make it impossible to relate migratory flow to specific periods. However, since state-of-birth, state-of-residence data, cross tabulated by age and sex are available in both the 1940 and 1950 censuses, it becomes possible to estimate the number of intercensal migrants to each state during this decade. Here, we will first present information on intercensal movements and then, to form some basis of comparison with previous and succeeding periods, we will also examine resultant lifetime migration as of 1950.

a) Intercensal migration, 1940-1950

Materials shown in table 6 permit analysis of intercensal migration by regions as well as by states. Concentrating first on movements by regions, it can be seen that considerably better than two-fifths of all Brazilian migrants between 1940-1950 went to the Southern states and another three-tenths went to the Eastern region. The Northeast and Central-west regions each absorbed approximately one-tenth of all migrants while the North had the smallest inflow. As of 1950, intercensal migrants constituted 11.4 per cent of the Central-west region's population, 5.7 per cent of the South's, 4.1 of the North's, 3.7 per cent of the East's and 2.1 per cent of the Northeast's.

/Table 4

Table 4

NET BALANCE OF POPULATION MOVEMENTS BETWEEN REGIONS AS OF 1940

Gain or loss for region specified below in exchanges of population with each of the regions named on the left

	North	Northeast	East	South	Center-West
North	-	-96 287	+16 584	+2 975	+179
Northeast	+96 287	-	+129 514	+87 473	+53 234
East	-16 584	-129 514	-	+516 057	+114 251
South	-2 975	-87 473	-516 057	-	+6 119
Center-West	-179	-53 234	-114 251	-6 119	-
Total net gain or loss	+76 549	-366 508	-484 210	+600 386	+173 783

Source: IBGE, Conselho Nacional de Estatística - Contribuições para o Estudo da Demografia do Brasil, Rio de Janeiro, 1961, p. 368, Table VI.

Table 5
 PRINCIPAL INTER-STATE MIGRATION STREAMS AS OF 1940

State of Birth	State of Residence	Number of migrants
Minas Gerais	Sao Paulo	348 700
Rio de Janeiro	Distrito Federal	286 600
Bahia	Sao Paulo	153 300
Sao Paulo	Parana	115 300
Minas Gerais	Distrito Federal	114 200
Minas Gerais	Rio de Janeiro	99 400
Piauí	Maranhao	83 400
Rio Grande do Sul	Santa Catarina	76 400
Minas Gerais	Goiás	69 600
Pernambuco	Paraíba	61 800
Bahia	Minas Gerais	61 800
Rio de Janeiro	Sao Paulo	56 300
Paraíba	Pernambuco	54 600
Minas Gerais	Espírito Santo	54 100
Distrito Federal	Rio de Janeiro	51 600
Paraíba	Rio Grande do Norte	50 500
Pernambuco	Alagoas	48 600
Alagoas	Pernambuco	43 600
Minas Gerais	Paraná	40 500
Geará	Piauí	37 900
Pernambuco	Sao Paulo	31 500

Sources: IBGE, Conselho Nacional de Estatística: Contribuições para o Estudo da Demografia do Brasil, Rio de Janeiro, 1961. p. 381.

Table 6

ESTIMATED INTERCENSAL MIGRATION BETWEEN BRAZILIAN STATES; 1940-1950

States and regions	Number of migrants	Column B as % of all migrants in Brazil	Column B as % of region on state population
(A)	(B)	(C)	(D)
<u>North</u>	<u>74 122</u>	<u>3.4</u>	<u>4.1</u>
Acre	11 673	0.5	10.2
Amazonas	21 702	1.0	4.1
Pará	40 717	1.9	3.5
<u>Northeast</u>	<u>261 782</u>	<u>11.9</u>	<u>2.1</u>
Maranhão	50 991	2.3	3.2
Piauí	29 584	1.4	2.9
Ceará	33 323	1.5	1.2
Río Gr. do Norte	22 166	1.0	2.3
Paraíba	12 304	0.6	0.7
Pernambuco	97 237	4.4	2.9
Alagoas	15 907	0.7	1.5
<u>East</u>	<u>692 986</u>	<u>31.5</u>	<u>3.7</u>
Sergipe	8 125	0.4	1.3
Bahia	52 150	2.4	1.1
Minas Gerais	47 266	2.2	0.6
Espírito Santo	3 661	0.2	0.4
Río de Janeiro	191 785	8.7	8.3
Distrito Federal	389 999	17.6	16.4
<u>South</u>	<u>966 183</u>	<u>44.0</u>	<u>5.7</u>
São Paulo	417 866	19.0	4.6
Paraná	479 286	21.8	22.7
Sta. Catarina	59 405	2.7	3.8
Río Grande do Sul	9 626	0.5	0.2
<u>West Central</u>	<u>201 501</u>	<u>9.2</u>	<u>11.4</u>
Mato Grosso	52 065	2.4	9.3
Goias	149 436	6.8	12.3
<u>Total</u>	<u>2 196 574</u>	<u>100.0</u>	<u>4.2</u>

Sources: Computed from - IBCE, Recenseamento Geral de 1940, Censo Demográfico, Rio de Janeiro, 1949, Table 65, pp 169-172; IBCE, Recenseamento Geral de 1950, Censo Demográfico, Rio de Janeiro, 1956, Table 11, pp 75-76

Looking now at major directions of state to state movement, it can be seen that in the ten year period 1940-1950, the state of Paraná received the largest number of migrants, followed rather closely by São Paulo, Distrito Federal and more distantly by the states of Rio de Janeiro, Goiás and Pernambuco. The relative increase due to intercensal migration was highest for Paraná (22.7%), the Distrito Federal (16.4%), Goiás (12.3%), Acre (10.2%), Mato Grosso (9.3%) and Rio de Janeiro (8.3%). In all other states, the influx of migrants during the 1940-50 period represented less than five per cent of their enumerated 1950 population.

In short, the examination of intercensal migration would suggest the existence of several main points of attraction for migrants - only some of which are constituted by urban-industrial centers. For instance, in northern Brazil, we find substantial movement towards Pará. In the northeastern region, the states of Maranhão and Pernambuco have been the recipients of large numbers of migrants. In the east, the Distrito Federal and its contiguous state of Rio de Janeiro have received the largest number of migrants. In the south, Paraná and São Paulo are the major recipients. Finally, in the west central region, Goiás and Mato Grosso both received large numbers of migrants during the 1940-50 period. Thus, within each of the major regional subdivisions of Brazil, at least one state exercised an attractive influence over a sizeable number of migrants.

b) Lifetime migrants as of 1950

It was previously asserted that 3.4 million people, representing 8.5 per cent of the Brazilian population were migrants as of 1940. By 1950, the number of such migrants had risen to 5.2 millions and constituted 10.3 per cent of the total population. How was this increased population of migrants distributed throughout the country?

In terms of physiogeographic regions, table 7 reveals that the general trends verified in movements prior to 1940 (cf. table 4) persisted until 1950. More specifically, it can be noted that the major recipients of migrants in 1940, the Southern and Center-West region, both increased their positive balance by some 70 per cent. Meanwhile, the number of migrants who had left the Eastern region in 1950 had increased by some 80 per cent over the 1940 total, while the corresponding increased net loss for the Northeast

/amounted to

amounted to over 50 per cent. The net positive balance of the Northern region actually decreased slightly over 1940.

In terms of the net balance by states, table 8 demonstrates that the Distrito Federal maintained its position as leading recipient of lifetime migrants. Paraná took over the second position from São Paulo which in 1950 held third place in terms of net influx of lifetime migrants. These three states combined in 1950 to absorb almost forty per cent of all Brazil's migrants. As had been the case in 1940, other states receiving a positive net balance of substantial proportions include Goiás, Mato Grosso, Maranhão and Santa Catarina. At the other extreme, the net outflow of lifetime migrants from Minas Gerais was heightened by some 80 per cent; on a much smaller scale, Bahia, Rio Grande do Sul, Ceará, Paraíba and Alagoas also saw their net migration deficit increased as of 1950.

One observation which is suggested by the examination of table 8 is that, even in those states showing a heavy predominance of either net in-migration or out-migration, large movements in the opposite direction can be detected. For instance, São Paulo, which had the highest number of net in-migrants, also has a large number of out-migrants. The state of Rio de Janeiro, which has a number of out-migrants similar to that of São Paulo and which has, in relation to the base state population, an out-migration rate which is proportionately higher than in any other state, also has a significant inflow of migrants. Such counter-movements would thus indicate a replacement process in the overall pattern of Brazilian migrations.

Turning now to the examination of major streams of lifetime migrants between pairs of states, table 9 shows that, as of 1950, 24 streams of interstate movements included at least 50,000 lifetime migrants. Altogether, these 24 currents made up three-fifths of all migratory moves up to 1950.

As was the case in 1940, the two most important streams were formed by migrations from Minas Gerais to São Paulo and from Rio de Janeiro to the Distrito Federal. But, the greatest proportionate increase in any stream was that running from São Paulo to Paraná, thereby testifying to the attractive power of agricultural exploitation in Paraná for residents of adjacent São Paulo. Other major streams include Minas Gerais to Distrito Federal, Bahia to São Paulo and, Minas Gerais to Paraná, Rio de Janeiro and Goiás. Again the same state is often cited both as a major recipient of incoming migrants and a major source of outgoing migrants.

Table 7

NET BALANCE OF POPULATION MOVEMENTS BETWEEN REGIONS AS OF 1950
Gain or loss for region specified below in exchanges of population
with each of the regions named on the left

	North	Northeast	East	South	Center- West
North	-	-97 210	+25 436	+4 111	-7 334
Northeast	+97 210	-	+219 511	+185 805	+73 022
East	-25 436	-219 511	-	+644 301	+204 901
South	-4 111	-185 805	-844 301	-	+15 548
Center-West	+7 334	-73 022	-204 901	-15 548	-
Total net gain or loss	+74 997	-575 548	-804 255	+1 018 669	+286 137

Source: IBGE, Conselho Nacional de Estatística. Contribuições para o Estudo da
Demografia do Brasil. Rio de Janeiro, 1961, p. 368, table VI.

Table 8

NET BALANCE OF POPULATION MOVEMENTS BETWEEN STATES, AS OF 1950

State	Natives of State Present in other States	Natives of other states present in states	Net balance	Rank in terms of positive balance
Rondônia	29 061	299	+28 762	9
Acre	29 309	13 313	+15 996	10
Amazonas	49 605	53 378	-3 773	12
Rio Branco	13 844	116	+13 728	11
Pará	71 770	81 432	-9 662	13
Amapá	30 063	117	+29 946	8
Maranhão	161 117	100 189	+60 928	5
Piauí	86 330	144 946	-58 616	16
Ceará	107 538	268 486	-160 948	22
Rio Grande do Norte	77 288	103 669	-26 381	14
Paraíba	100 159	246 780	-146 621	21
Pernambuco	207 310	311 138	-103 828	18
Alagoas	66 675	207 250	-140 575	20
Sergipe	36 170	107 479	-71 309	17
Bahia	140 894	430 217	-289 323	24
Minas Gerais	210 868	1 367 239	-1 156 371	25
Espírito Santo	92 787	147 854	-55 067	15
Rio de Janeiro	365 756	504 130	-138 374	19
Distrito Federal	929 846	142 053	+787 793	1
São Paulo	1 064 009	507 248	+556 761	3
Paraná	661 456	71 310	+590 146	2
Sta. Catarina	151 651	118 748	32 903	7
Rio Grande do Sul	44 425	205 576	-161 141	23
Mato Grosso	78 070	36 024	+42 036	6
Goiás	281 364	37 263	+244 101	4
Brasil*	5 206 319	5 206 319	-	-

Source: IBGE, Conselho Nacional de Estatística - Contribuições para o Estudo da Demografia do Brasil, Rio de Janeiro, 1961, p. 375, Table IV.

* Totals include migrants to and from Serra dos Aimorés as well as to Fernando de Noronha.

Table 9

PRINCIPAL INTER-STATE MIGRATION STREAMS OF 1950

State of Birth	State of Residence	Number of migrants
Minas Gerais	São Paulo	512 700
Rio de Janeiro	Distrito Federal	360 300
São Paulo	Paraná	352 500
Minas Gerais	Distrito Federal	191 900
Bahia	São Paulo	189 700
Minas Gerais	Paraná	156 900
Minas Gerais	Rio de Janeiro	152 900
Minas Gerais	Goiás	150 000
Rio Grande do Sul	Santa Catarina	120 700
Distrito Federal	Rio de Janeiro	102 100
Piauí	Maranhao	100 600
Paraíba	Pernambuco	89 800
Santa Catarina	Paraná	63 200
Pernambuco	São Paulo	62 700
Paraíba	Rio Grande do Norte	60 700
Alagoas	Pernambuco	60 400
Bahia	Minas Gerais	59 600
Alagoas	São Paulo	56 700
Rio de Janeiro	São Paulo	56 100
Espírito Santo	Distrito Federal	55 700
Pernambuco	Paraíba	54 400
Pernambuco	Alagoas	52 500
Ceará	Piauí	51 000
Minas Gerais	Espírito Santo	50 900

Sources: IBGE, Conselho Nacional de Estatística.

Contribuições para o Estudo da Demografia do Brasil, Rio de Janeiro, 1961, p. 381, table 2.

Internal Movements of Population 1950-60 and 1960-70

Although it can be presumed from projections of past trends and from several impressionistic accounts that migratory movements are gaining in volume and importance during the second half of the century, no direct information is as yet available on the dimensions of such movements. That is, 1960 census information on state of birth and state of residence is available for only a few of the smaller states and territories and the 1970 census data have not yet been processed. The only available approach to estimating migration in Brazil since 1950 is thus through broad inferences based upon the counts of population in each state which were made at each census date.

For this purpose, a basic simplifying assumption can be made. That is, in order to obtain gross estimates of intercensal migration, it can be assumed that the rate of population growth for the country in an intercensal period will not diverge significantly from the rate of natural increase in each of the constituent states. Since foreign immigration for the two decades under consideration has been negligible, the rate of increase of Brazil's population, which reached 36.62 per cent in the 1950-60 decade and 29.97 per cent in the 1960-70 decade, is thus attributable to the natural increase of the resident population.

If, as in our assumption, the rate of natural increase for each state or region does not differ significantly from that of the nation as a whole, then any deviation from the nation's growth rate can be attributed to net in or net out-migration to or from such state or region.

The validity of this basic assumption is obviously questionable since it is improbable that rates of natural increase are equal for all states and regions. Moreover, a high rate of in or out migration would tend to increase the discrepancy between a given state's rate of natural increase and that of the nation as a whole. However, any attempt at refining the assumptions and estimates would involve intricate, time-consuming procedures which would lead us far afield from the preliminary objectives of this paper. Consequently, the present estimates can only be considered as crude preliminary measures of migration, subject to the basic discrepancies in our assumption. Moreover, it should be made clear that the estimates

/presented here

presented here are of net migration, or of the net resultant of migratory movements occurring in many different directions.

According to our calculations, the results of which are reproduced in table 10 the only region to incur a net loss of migrants in the 1950-60 decade was the Northeast. This region experienced a net outflow of some 2.1 million migrants with all states of the region, except Maranhão, losing a substantial number of inhabitants through net out-migration. By contrast, Maranhão continued in its 1940-50 role as a substantial recipient of migrants.

Also continuing 1940-50 patterns, the Southern region experienced the largest net gain of migrants, largely because of the great attractive power exercised by the state of Paraná. Rio Grande do Sul continued to lose a substantial number of migrants while Santa Catarina practically remained stationary. The Center-West region also experienced an upsurge of net migration, partly as a result of the transference of the nation's political capital to Brasília.

The Southeastern region (formerly Eastern region ^{4/}) includes both the biggest source of net out-migrants (Minas Gerais) as well as some of the more important receiving states.^{5/} Consequently, the total for the Eastern region shows a net influx of only one-quarter million migrants -- a figure much inferior to that found in the Southern and Center-West regions. Finally, the Northern region had a small net inflow of migrants which was shared fairly equally by its several constituent states.

^{4/} It should be noted that the organization and constitution of various regions depicted in table 10 is altered considerably from that in previous tables. More specifically, the states of Bahia and Sergipe were removed from the Eastern region and included with the Northeastern region. The Eastern region itself became known as the Southeast and came to include the State of São Paulo which formerly belonged to the South. Moreover, the Federal Capital has been transferred to Brasília and the former Federal District became the State of Guanabara; also, subdivisions produced new territories in the Northern region.

^{5/} It is worth pointing out that our basic assumption is particularly misleading in the case of Guanabara State (formerly known as Distrito Federal). This is because urban-industrial Guanabara has a rate of natural increase more akin to those of developed countries than to that of the remainder of Brazil. The actual effect of this difference is to greatly underestimate intercensal net migration into the state in both 1950-60 and 1960-70.

Table 10

GROSS ESTIMATES OF NET MIGRATION TO BRAZILIAN
STATES AND REGIONS, 1950-60 AND 1960-70

State and region	Net migration 1950-1960	Net migration 1960-1970
North	+87 600	-233 300
Rondonia	+26 600	-4 900
Acre	+3 400	-4 300
Amazonas	+18 900	-222 600
Roraima	+4 700	+2 500
Pará	+16 300	-31 000
Amapá	+17 700	+26 900
Northeast	-2 126 400	-968 700
Maranhão	+329 100	-355 800
Piauí	-165 300	+93 600
Ceará	-344 700	+102 100
Rio Grande do Norte	-165 100	+99 000
Paraíba	-322 600	-239 300
Pernambuco	-501 600	-168 700
Fernando de Noronha	+600	-566
Alagoas	-222 400	-45 800
Sergipe	-122 000	-88 000
Bahia	-614 400	-365 100
Southeast	+250 849	-779 700
Minas Gerais	-745 200	-1 455 700
Espírito Santo	+11 600	+52 500
Rio de Janeiro	+264 300	+271 600
Guanabara	+59 100	-1 500
São Paulo	+495 200	+852 900
Serra dos Aimorés	+165 600	-
South	+1 161 300	+873 600
Paraná	+1 387 500	+1 181 700
Sta. Catarina	+14 900	121 100
Rio Grande do Sul	-241 100	-429 200
Center - West	+633 800	1 101 200
Mato Grosso	+197 050	292 000
Goiás	+295 000	448 700
Distrito Federal	+141 742	360 600

Source: Computed from data in: Redação - "O Censo Demográfico de 1970 - Resultados Preliminares", *Conjuntura Econômica*, 25(2): 153-159, Fevereiro 1971. Rio de Janeiro.

/In short,

In short, our estimates of intercensal migration between 1950-60, gross as they may be, would tend to confirm the perpetuation of patterns initiated in the previous decade. They would indicate, inter alia, that several states whose predominant characteristics are agricultural rather than urban-industrial continue to attract a disproportionate number of migrants. This is particularly the case in Paraná, Goiás, Mato Grosso and Maranhão. At the other extreme, the states of the Northeast as well as Minas Gerais continue to provide a disproportionate number of all out-migrants in Brazil. Preliminary information from the 1970 census was similarly utilized in the provision of a crude estimate of net movements during the 1960-70 period. According to the results of these calculations, shown in table 10, net out-migration from the Northeast would appear to have decreased significantly in the interim. Surprisingly, Maranhão would have given up substantial numbers of its population between 1960-1970 while previously high out-migration states such as Piauí, Ceará and Rio Grande do Norte would actually have gained migrants in the period. Without external information relating to possible causes of such a radical changeover, it would appear that the defects in our working assumption plus the precarious preliminary nature of the 1970 census information would be responsible for the surprising findings.

The same considerations hold true of the Northern and Eastern region, which according to table 10 lost a considerable number of migrants in the decade. Actually, in the North, most of this loss is traceable to Amazonas where available census figures are recognized to be incomplete.^{6/} In the East, most of the loss is due to out-migration from Minas Gerais; according to our figures, this state would have lost 1½ million net migrants since 1960. By contrast, São Paulo would have acquired 850 thousand migrants over the decade.

^{6/} Cf. footnote 1 in table 1 of - "O Censo Demográfico do Brasil - Resultados Preliminares", Conjuntura Económica, 25 (2), Rio de Janeiro, February 1971.

The information relating to the Southern and Center-West regions would indicate a continuation of the patterns established during the two previous decades. That is, Paraná would again be the major recipient of net migrants among Brazilian states; meanwhile, the new Federal District as well as Goiás and Mato Grosso and, to a lesser extent, Santa Catarina, would have made substantial gains in net migration.

Conclusions

Unfortunately, the main observation to be drawn from our preliminary review of migration trends in Brazil relates to the deficiencies of basic information on the subject. The only reliable data at our disposal are those from the 1940 and 1950 censuses since prior enumerations did not discriminate the resident population by place of birth while the 1960 and 1970 censuses have yet to be published. In the absence of valid information for these earlier and recent periods, we have attempted to draw gross inferences from comparisons of growth rates in various regions and states.

Despite the shortcomings of the data, certain basic findings impose themselves on our attention. Firstly, with respect to the pre-1940 era, the main centres of attraction were constituted by the Federal District (later Guanabara State) and by the state of São Paulo. Beginning with the 1940's, although these two areas continued to attract a disproportionate number of migrants, 'frontier' states such as Paraná, Goiás and Mato Grosso began to predominate as favourite destinations of migrants. Indeed, one of the more striking observations to be derived from this study is that, in an era wherein preferential directions of migratory moves in Latin America are commonly identified with a rural to urban exodus, the present information would underline the importance of large movements towards predominantly rural-agricultural areas.

With respect to major suppliers of out-migrants, the state of Minas Gerais has maintained, throughout the period under consideration, its position as the most important source of outward-bound movements. Meanwhile, the Northeastern region began assuming importance as a major zone of out-migration during the 1940's and persisted in this role at least during the 1950's.

/As of

As of 1940, 8.5 per cent of Brazil's population were migrants; by 1950, this figure had reached 10.3 per cent, representing an increase of 1.8 million migrants over the previous census. Although comparable data are unavailable for more recent dates, it is indubitable that migratory movements have been increasing in both relative and absolute terms as a consequence of improved transport and communications and of widespread social change.

Finally, it may be worth noting that, although deficiencies in the data have been accentuated in this preliminary report, considerably improved inferences could be carried out in a subsequent research effort. This would involve procuring and adjusting information on rates of natural increase for each state and region (as well as immigration figures if and where the proportion of recent immigrants is significant). Using these figures, the expected population size of each state at the time of a second census (e.g. 1970) could be computed on the basis of natural increase from a first census (e.g. 1960) and the difference between actual and expected population at the time of the second census could be attributed to migration. Theoretically simple, in the absence of valid vital information such computations are complex and painstaking in practice. Nevertheless, the difficulties and effort involved are well worthwhile since otherwise information on migration in Brazil is unlikely to be obtained in the near future.

One other alternative source of information on Brazil's internal migration should also be explored, namely, the OMUECE sample data which has been collected by CELADE. Although prospects for the publication of 1960 census data in the immediate future look rather dim, much could be gained by an analysis of sample data from the 1960 (and eventually 1970) census which are to be found in OMUECE. Because of the potential importance of this source, an evaluation of its advantages and problems are presented in Annex I.

Annex I

THE OMUECE DATA ON BRAZIL

To assist in the analysis of the 1960 round of Latin American censuses, CELADE recently initiated a project called "Operación Muestras de Censos" or OMUECE. These data, culled from the various demographic censuses carried out circa 1960, command considerable potential value in several respects for any given country. But, in addition, as concerns our specific question of internal migrations in Brazil they can provide information from the 1960 census which are apparently doomed to inexistence elsewhere, as well as provide otherwise unobtainable information.

The size of the sample selected by OMUECE varies with each country; for Brazil, the data contains complete information for a representative sample of 900,000 individuals, representing some 1.3 per cent of the entire population. By its very size, the amount of information to be derived from this sample is virtually limitless. Moreover, since the tabulations from sample material have not yet as been definitely structured, it is theoretically possible to ordain the materials in such a manner as to investigate practically any question which might be deemed worthwhile. It might be beneficial to highlight briefly a few of these potentially valuable facets.

A first advantage of the OMUECE migration relates to its ability to provide a direct measure of migration. That is, prior to 1960, the census information on migration referred solely to state-of-birth, state-of-residence information. Consequently, the internal distribution of population had to be evaluated through indirect inferences from analyses in the changes in the number of inhabitants. Such estimates, though of indubitable value, nevertheless remain in the form of indirect estimates. By contrast, in 1960, a direct question on migration history was inserted into the census questionnaire in the form of "what was the date you moved into this municipio?" Although the information to be derived from such a question might appear to be initiated as a rather routine bit of data, the possibilities it opens up are of great import to the migration field.

/By permitting

By permitting a direct distinction between natives and migrants and between various classes of migrants according to their duration of residence in the present community, it becomes possible to undertake the investigation of several previously unattainable questions.

Firstly, the volume of migration flow between municipios can be ascertained whereas previous information was limited to inter-state or inter-regional migration. Moreover, each of these migration streams can be broken down by period of arrival (i.e. - migrants with less than one year of residence, 1 to 4 years, 5 to 10 years, etc.).

Secondly, the characteristics of the migrants in each type of migration current (inter-municipio and inter-state) can be compared with the characteristics of the natives at each of their respective destinations. Moreover, the characteristics of these various classes of migrants can also be compared according to the period of arrival. In this manner, it becomes possible to reconstruct the composition of different types of migration currents in different periods and relate the differential composition to underlying socio-economic changes. Moreover, the relative adjustment of various migrant groups to the economic and social structures of their respective destinations can readily be evaluated.

The characteristics of various migrant classes at different periods which can be compared to those of natives or other migrant groups are manifold. Prior to the 1960 census, the only characteristics of migrants which could be investigated were those of age and sex; however, even these characteristics had to be indirectly estimated through the application of various migration-estimating techniques. Now, with the direct migration question inserted into the 1960 census, it becomes possible to cross-tabulate various classes of migrants not only according to age and sex but also with practically any other aspect on which the census has collected information. In actuality, however, because of temporal and monetary considerations, most census programmes do not include plans for tabulating migration in conjunction with other demographic information.

/Thus, the

Thus, the advantage of the OMUECE tabulations lies precisely in the fact that, dealing with a smaller sample, more numerous detailed tabulations can be exploited at minimum cost. For instance, the OMUECE programme provides tabulations on natives and migrants in various currents by duration of residence on age, sex, marital status, literacy, education, school attendance, occupation, branch of economic activity, occupational category, labour force participation, marginality, and could include such aspects as income and housing.

The value of this type of information within the context of a highly mobile population cannot be overemphasized yet it is normally obtainable only through local sample surveys. The very fact that direct comparisons can be made between various classes of migrants and natives on several variables, and on a nation-wide basis is highly positive since the dearth of information on migration differentials is widely decried.

In short, the exploitation of OMUECE tabulations in general, and for the study of Brazilian internal migrations in particular, is to be highly recommended. Under such circumstances, it might well be asked - why, if these data are so valuable, have they not yet been tabulated and analyzed? The answer is simply that funds have not yet been uncovered which would permit computer-tabulation of the sample data. The estimated costs of such an enterprise run to approximately five thousand dollars, a paltry sum in comparison to the richness of the data, but one which CELADE has as yet been unable to obtain. The provision of such funds would be well compensated by the quantity and quality of the recovered information.

