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Social Science Research Relevant for Population Policies in Latin America

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*/ Only for distribution among participants from Latin America and the Caribbean.

SOCIAL SCIENCE RESEARCH
RELEVANT FOR POPULATION POLICIES IN LATIN AMERICA

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I N D E X

I. DEMOGRAPHIC AND SOCIO-ECONOMIC CHANGE IN LATIN AMERICA: AN OVERVIEW OF MAJOR TRENDS

1. Demographic change: Present situation and prospects for the future

Although Latin America is undoubtedly part of the underdeveloped world, the somewhat privileged position it has as a region when contrasted with other regions presently undergoing a process of development has made many to classify it as a kind of middle class in the international stratification. Demographic indicators also put it in an intermediate position.

Total fertility rate has recently been estimated to be 5,3 for the region as a whole, having been falling steadily since 1955-60. This is still much higher than those presently estimated for Europe, North America excluding Mexico, Japan or the Soviet Union, but lower than those found in Africa and Asia. Life expectancy at birth is also higher than in the other developing countries (62 years), but it is still ten years less than in the already developed countries.[1/]

This combination of fertility and mortality rates has brought about two important demographic consequences. The first is a rate of natural growth higher than any other region of the world (2.8 vs. 2.7 in Africa and 2.5 in

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1/ The figures are taken from, Somoza, Jorge L., América Latina: Situación Demográfica alrededor de 1973 y Perspectivas para el Año 2000, Santiago de Chile, CELADE, enero de 1975.

Southern Asia, the other closest regions).[2] The second is that the proportion of the population ages under 15 was tending to rise by 1970, while at the same time the proportion of the population between 15 and 64 years of age was slightly declining (from 56 per cent of the total population in 1950, to 54 per cent in 1975) and that 65 years of age and older was increasing. The end result of these changes in the age structure has been a considerable increase in the dependency ratio during the last twenty years (it was 80,53 in the 1950-55 period and 86,83 in the 1965-70 period).[3]

Projections carried out by CELADE on the basis of a "medium growth hypothesis" indicate that the growth rate will tend to decline in the next twenty five years. According to it, total fertility rate is likely to fall from its present level of 5.3 to 3.97 in the period 1995-2000, a much more pronounced downward trend than the recently experienced. On the other hand, life expectancy at birth is expected to increase from 61 to 70 years of age, while the average natural growth rate will come closer to 2.6 per cent per year in the same period.

These trends will affect considerably the age structure of the population, making that of active age increase while the proportion of young people declines. On the basis of the above projections, CELADE has estimated that the population between 15-64 years of age will increase from 54 per cent to 58 per cent of the total by the end of the century, and that the under 15 age group will decline from 42.1 per cent in 1975 to 38 per cent in the year 2000. It is worth mentioning that this growth of the active age groups provoked by an increase at an average rate of 2.9 per cent per year from now to the year 2000 depends, as a recent study reminds us, "mainly on the age structure of the current population and the fall in the rate of mortality, and to a lesser extent on the changes which may occur in the hypotheses on the decline of fertility...".[4]

2/ Selected World Demographic Indicators by Countries, 1950-2000, ESA/WP.55, 28 may 1975.

3/ Somoza, Op.cit.

4/ U.N., Economic and Social Council, ECLA, Long-term and projections of Latin American Economic Development, E/CEPAL/1027, 3 march 1977, p. 116.

High rates of population growth have considerable increased population density, making it rise from 7.7 people per square kilometer in 1950 to 13.3 in 1970, a difference due to a mean annual density change of 3.6 per cent in theperiod .5/ Although that density is still much lower than those prevailing in Europe and Asia, the "empty areas", that is, those with less than one person per square kilometer, have decreased from 43.6 per cent of the total area in 1950 to 19.5 per cent in 1970. On the other hand, the proportion of the population living in areas with 50 or more people per square kilometer has increased in the same period from 20.6 per cent to 41.2 per cent. Likewise the area covered by them increased from 1.4 per cent in 1950 to 5.3 per cent in 1970.6/

Latin American high growth rates and higher densities have gone together with massive population redistributions. If for comparative purposes localities with populations 20 000 or more are defined as urban, the proportion of the total population residing in urban areas increased from approximately 26 per cent in 1950 to 45 per cent in 1975 and absorbed 65 per cent of the total population growth of the region during the same period.7/

Furthermore, in all Latin American countries, cities of 100 000 or more inhabitants are concentrating a growing proportion of the total and the urban population. ECLA has recently estimated that in 1975, 14 countries had more than 20 per cent of their population residing in them, while in 13 countries more than 70 per cent of the urban population was living in such cities and in 14 countries more than fifty per cent of the urban population was residing in the most populated city.8/

5/ CELADE, "América Latina y El Caribe: Densidad de Población en los Países del Area alrededor de 1970", Boletín Demográfico, Número Especial, Nº 1, Santiago de Chile, abril de 1976.

6/ CELADE, Ibid.

7/ U.N., Op.cit.

8/ U.N., Ibid.

On the other hand, although the annual average rate of growth of the rural population was 1.6 per cent between 1950-1975, it shows a clear tendency to fall, and in a few countries it has even declined in absolute levels (Argentina, Chile, Uruguay and Venezuela).

In sharp contrast with the high concentration of the urban population, the rural one is characterized by its wide dispersion, as shown by some indirect indicators. Thus, 34.5 per cent of the total Latin American and Caribbean population were living in 1970 in administrative units with less than 25 persons per square kilometer, which is the minimum that the U.N. considers necessary for social and cultural relations as well as diversified economic activities to take place.[9/]

A different and somewhat more reliable criterion to determine rural dispersion is to consider that those living in places with less than a certain minimum number of inhabitants are a dispersed population. Adopting this criterion and setting the limit at 500 inhabitants, Herrera has found that the dispersed population around 1960 of six countries included in her study ranged between 19.0 per cent in Argentina and 44.4 per cent in Ecuador, the modal figure being around 40.0 per cent.[10/]

None of the two indicators mentioned above is without problems, as Herrera has convincingly shown.[11/] Nevertheless, the figures above cannot but be interpreted as showing that rural dispersion is an important characteristic of the patterns of population distribution now existing in Latin America and the Caribbean.

A very tentative attempt to provide at least some approximation to what the urban situation might be in 25 more years has recently been made by ECLA. Taking the census definitions of urban (usually 2000 inhabitants) and assuming the continuation of past trends, the population in these areas is estimated to increase from 194 millions in 1975 to more than 460 millions in the year

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9/ See, Herrera, Ligia, La Concentración Urbana y la Dispersión de la Población Rural de América Latina, CELADE, Serie A, N° 136, February 1976.

10/ Ibid.

11/ CELADE, Ibid., the criterion is taken from Naciones Unidas ST/SOA/Serie A. Estudio sobre Población, N° 21, La Población de América del Sur en el período 1950-1980; sección IV: Distribución Geográfica de la Población.

Table 1

LATIN AMERICA (TWENTY COUNTRIES): CLASSIFICATION OF COUNTRIES ACCORDING TO THE STAGE OF DEMOGRAPHIC DEVELOPMENT IN 1970-1975 AND SOME INDICATORS OF ECONOMIC AND SOCIAL DEVELOPMENT IN EACH GROUP OF COUNTRIES

Indicators	Group A Argentina Chile Cuba Uruguay	Group B Brazil Colombia Costa Rica Panama Venezuela	Group C		
			Group C (1) Ecuador El Salvador Mexico Paraguay Dominican Republic	Group C (2) Honduras Guatemala Nicaragua Peru	Group C (3) Bolivia Haiti
Total Fertility Rate (1970-1975) a/	Under 4	4.6 to 5.3	Over 6 except Guatemala (5.9) and Haiti (5.8)		
Life expectancy at birth (1970-1975) b/	Over 68 years, except Chile (62.4)	64 to 68 years, except Brazil (61.4) and Colombia (60.9)	57 to 64 years	52 to 54 years	46 to 48 years
Per capita Gross Domestic Product (1960)	Over 670 dollars	330 to 550 dollars, except Venezuela (918)	Less than 330 dollars		
Per capita Gross Domestic Product (1975)	Over 870 dollars, except Chile (717)	550 to 770 dollars, except Panama (967) and Venezuela (1 276)	Less than 480 dollars		
Per capita Gross Domestic Industrial Product (1960)	Over 169 dollars	58 to 85 dollars	Less than 35 dollars		
Per capita Gross Domestic Industrial Product (1975)	Over 220 dollars, except Chile (171)	110 to 165 dollars	Less than 110 dollars		
Percentage of total Economically Active Population employed in agriculture (1960)	Under 28% except Cuba (39)	46 to 50%, except Venezuela (31)	Over 50 per cent		
Percentage of total Economically Active Population employed in agriculture (1970)	Under 25%	37 to 42%, except Venezuela (23)	Over 43 per cent, except Mexico (42)		
Percentage of the population residing in localities of 20 000 inhabitants or more (1950)	Over 35%	20 to 31%, except Costa Rica (18)	Less than 20 per cent, except Peru (22) and Mexico (24)		
Percentage of the population residing in localities of 20 000 inhabitants or more (1975)	Over 64%, except Cuba (45)	43 to 64%, except Costa Rica (28)	Less than 40 per cent, except Peru (45)		
Percentage of the population residing in cities of 100 000 inhabitants or more (1950)	Over 23%	14 to 18%, except Brazil (13)	Less than 14 per cent, except Paraguay, Mexico and Ecuador (15)		
Percentage of the population residing in cities of 100 000 inhabitants or more (1975)	Over 44%, except Cuba (34)	32 to 38%, except Venezuela (46) and Costa Rica (19)	Less than 27 per cent, except Peru (35)		
Consumption of electricity (1960)	Over 420 kWh/inhab.	210 to 350 kWh/inhab. except Venezuela (600)	Less than 125 kWh/inhab. except Mexico (295) and Peru (260)		
Consumption of electricity (1974)	Over 920 kWh/inhab. except Cuba (646) and Uruguay (765)	530 to 870 kWh/inhab. except Venezuela (1 494)	Less than 400 kWh/inhab. except Mexico (711) and Peru (477)		
Percentage of the total population with electric light (1970)	Over 70%	47 to 65%, except Venezuela (76)	Less than 40 per cent, except Mexico (60)		
Daily protein consumption per capita (1971-1974)	Over 80 grams	62 to 65 grams, except Colombia (50)	Less than 57 grams, except Paraguay (81), Nicaragua (74) and Mexico (66)		
Daily calorie consumption per capita (1971-1973)	Over 2 900 calories	2 530-2 770 calories, except Colombia (2 140)	Less than 2 350 calories, except Paraguay (2 842), Mexico (2 732) and Nicaragua (2 598)		
Percentage of literate persons in the population aged 15 or more (circa 1960)	Over 88%	72 to 85%, except Brazil (61)	Less than 72 per cent		
Percentage of children aged between 7 and 13 years enrolled in primary education (1960)	Over 97%	83 to 86%, except Brazil and Colombia (58)	Less than 78, except Paraguay (90) and the Dominican Republic (86)		
Teachers per 10 000 inhabitants aged between 7 and 24 years (1970)	Over 275, except Chile (188)	188 to 240, except Colombia (152)	Less than 188, except Paraguay (210) and Peru (205)		

Sources: The total fertility rate, life expectancy at birth and percentages of the population living in towns of 20 000 or more and cities of 100 000 or more inhabitants are CELADE estimates. The estimates of the Economically Active Population employed in agriculture were taken from "The employment problem in Latin America: facts, prospects and policies", ILO-PREALC, April 1976, Table 1. The percentage of literate persons in the population aged 15 years or more was taken from Rolando Franco, "Tipología de América Latina", Cuadernos del ILPES, N° 17, Santiago de Chile, 1973, Table 15. All the other indicators were taken from "Indicators of Economic and Social Development in Latin America", E/CEPAL/1021, 18 November 1976.

The figures for the Gross Domestic Product per capita and the per capita Gross Domestic Product of Manufacturing Industry are in 1970 dollars at the per rate of exchange.

2000, absorbing more than 90 per cent of the total population growth of the region. On the contrary, according to the same estimates, the rural population would increase in only 25 per cent.

The above figures are all regional averages and hide wide inter-country differences. The recognition of different stages in the process of demographic change has led many to attempt at classifying the countries of the region into more homogeneous categories. The U.N. study mentioned before adopted fertility and mortality rates as classification criteria and distinguished three main categories of countries. As it can be seen by inspecting table 1, the four countries placed in the first category (Argentina, Cuba, Chile and Uruguay) have already reached fertility and mortality levels leading to moderate growth rates. The proportion of the population under 15 years of age has been declining in recent years, and will continue doing so in the future, while that of persons of active age will remain at present high levels, or will increase. At the same time, in 1975 over 65 per cent of their population was living in localities of 20 000 inhabitants and over.

Urbanisation is expected to continue but at a lower pace. Finally these are the countries where, with the only exception of Cuba, the absolute size of the rural population will shrink.

The countries in this group represent about 15 per cent of the population of the region.

The second category is composed of five countries (Brazil, Colombia, Costa Rica, Panamá and Venezuela) with rates of natural growth as high as the Latin American average, but where fertility has begun to fall significantly in recent years at the same time that life expectancy at birth is already over 60 years. In all of them the proportion of the population less than 15 years old will decline sharply while that of active age will grow steadily from now to the end of the century. Urbanization in these countries is more recent than in the countries of the first group, but it has been particularly intensive in the last 25 years. Their rural population is still growing but at the relative low rate of 1.5 per cent annually.

The third group includes all the other Latin American countries and is characteristized for having shown no significant decline in their fertility rates. Three different subgroups are distinguished within it according to their present mortality levels. Although it may be reasonably expected that the rate of natural population growth will fall more rapidly in the countries where mortality is presently lower, it is probable that the countries placed in this group will have population growth rates of over 2,5 per cent annually by the year 2000. Their age structure will be younger than in the other two groups, but it will also show some ageing, particularly in those conuntries where mortality has already declined. Urbanization is still at relatively low levels, but it has accelerated over the last 25 years.

There are also wide inter-country differences as to population densities, but only the Caribbean countries and El Salvador surpass the 150 inhabitants per square kilometer which could arbitrarily be considered as the lower limit of relatively high density. They are followed by two other countries, Cuba and the Dominican Republica, with densities of 76.6 and 82,7 respectively. All Central American countries except El Salvador, which falls in the first category, and Costa Rica (36,8) have densities below 30 inhabitants per square kilometer, while all South American countries except Ecuador (24,9) have densities below 20.[12/]

Intracountry differences with respect to both mortality and fertility must be added to those existing between countries. Practically all empirical evidence shows that rural fertility is higher than in urban areas, the magnitude of the difference being apparently related to the level of fertility reached by the country.[13/]

12/ CELADE, América Latina y El Caribe, Op.cit.
13/ CEPAL-CELADE, El Desarrollo y la Población en América Latina: Un Diagnóstico Sintético, ST/CEPAL/Conf.54/L.3, 20 january 1975, p. 8.

In a number of countries regional fertility differences are at least as large as rural-urban differences.[14] At the same time, as it will be shown in the following chapter, there are sharp regional differences in mortality.[15]

A note should be added with respect to the countries include in the Caribbean region. Although it has not been possible to cover them in any detail in this review, data collected by the U.N. in 1975 for the latest available year show a wide range of variation in fertility, mortality and rates of natural increase, as it can be seen in table II. Though as it was said before, all of them have population densities higher than in Latin America an inspection of that table shows that, with the only exception of Surinam, all the Caribbean countries have birth rates, death rates and rates of natural growth lower than the Latin American average. At the same time, although there are differences between countries as to the intensity of the change, they are experiencing a downward trend in crude birth rates since around 1965-66.[16]

14/ Among others, for Brazil, see Pelaez, César and Martine, George, "Las Tendencias de la Población en el Decenio de 1960 y sus Repercusiones sobre el Desarrollo", Boletín Económico de América Latina, vol. XVIII, N° 1 and 2, Table II-5; Berquó, Elsa, "A Fecundidade Rural-Urbana dos Estados Brasileiros em 1970", Simposio sobre o Progresso Da Pesquisa Demográfica no Brasil, Rio de Janeiro, 7-9 june 1976. For Mexico, Demografía en el Nordeste de México, Centro de Investigaciones Económicas, 1965. For Perú, Salazar, Huaman, Julia, "Diferenciales de la Fecundidad en la Zona Urbana del Perú", Conferencia Regional Latinoamericana de Población, México: El Colegio de México, p. 325. For Ecuador, Merlo, Pedro, Análisis de la Encuesta de Fecundidad Urbana y Rural Realizada en el Año 1967-68, CELADE, Serie C, N° 135, december, 1971. For Bolivia, Llano, Luis, "Condicionamientos Socio-Culturales de la Fecundidad en Bolivia", Conferencia Regional de Población, pp. 334-340.

15/ Three examples of descriptive studies on the subject are: Alvarez, L. and Pujol, J., Chile: Tablas Abreviadas de Mortalidad por Regiones, 1960-61; Santiago, CELADE, Serie A, N° 76, 1967; Somoza, Jorge, La Mortalidad en la Argentina entre 1869 y 1960, Buenos Aires, Centro de Investigaciones Sociales, Instituto Torcuato Di Tella-CELADE, 1971; Lerner, Susana and Morelos, José, Proyecciones Regionales de Población Total y Parcial Activa, por Sexo y Grupos de Edades, 1960-1985, CEED-El Colegio de México, mimeographed.

16/ United Nations, Demographic Yearbook 1975, New York, Twenty Seventh Issue, 1976, Crude Live-birth rates, by Urban-rural Residence: 1965-75.

Table II

SOME DEMOGRAPHIC CHARACTERISTICS OF THE CARIBBEAN COUNTRIES

(Rates per thousand)

Continent, country or area	Year	Birth		Death		Natural increase	Expectation of life at birth	
		Crude	Fertility	Crude	Infant		Male	Female
AMERICA, North								
Bahamas	1975	18,1	112,0	3,9	29,2	14,2	64,0	67,3
Barbados	1974	19,5	84,1	8,4	37,7	11,1	62,74	67,43
Belize	1973	38,7	191,7	6,1	33,7	32,6	44,99	48,97
Guadaloupe	1973	28,0	148,1	7,3	34,6	20,7	52,5	67,3
Jamaica	1974	30,8	175,9	7,2	26,3	23,6	62,65	66,63
Martinique	1973	22,4	140,8	6,8	31,6	15,6	63,3	67,4
Netherland Antilles	1973	20,0	95,6	4,8	19,8	15,2	58,9	65,7
Trinidad & Tobago	1974	24,0	114,7	6,5	37,6	17,5	64,08	68,11
AMERICA, South								
Guyana	1971	33,4	136,2	7,2	42,3	26,2	59,03	63,01
Surinam	1966	40,9	150,9	7,2	30,4	33,7	62,5	66,7

Source: Vital Statistics rates, Natural Increase Rates and Expectation of Life at Birth: Latest Available Year, Demographic Yearbook 1975, Twenty-seventh issue, United Nations, New York, 1976.

Because of high emigration, the annual rates of population increase have been much lower than natural growth, having been estimated to be about 2 per cent annually between 1950-70.[17]

2. Economic growth and socio economic change in Latin America: A brief overview of major trends

The above is a very sketchy summary of past demographic trends, present situation and future prospects of Latin America as a whole, as well as of different groups of countries. An equally sketchy description of some recent characteristics and trends of economic and social change in the region will now be presented.

The first thing worth mentioning is that high population growth rates and massive population redistributions are found at a moment when the region as a whole is experiencing very high rates of economic growth, measured either in a historical or a comparative perspective. According to the most recent data available,[18] the average annual growth rate of the GDP rose from around 5 per cent during the 1950s to about 5.5 per cent in the 60s, and to 6.3 per cent in the first half of the 1970s. This gives an average growth of 5.5 per cent for the 1950-75 period and amounts to quadrupling the Latin American product in the same period.

The high rates of population growth led to a less spectacular 2.6 per capita average growth of the gross domestic product between 1950-75. Nevertheless, when shorter periods are considered it is found that between 1966-1973 per capita growth was on the average 3.7 for the region as a whole, and that Costa Rica, Panama, the Dominican Republic and Brazil had rates per inhabitant much higher than that average.[19]

17/ Sagal, Aaron, "Population Policies and Caribbean Crisis", in Aaron Lee Sagal editor, Population Policies in the Caribbean, Lexington, Massachussetts, Lexington Books, 1975.

18/ U.N., ECLA, Op.cit.

19/ U.N., ECLA, Op.cit., Table 7.

The above per capita growth rates are much higher that those experienced by European nations while in the process of demographic transition, as shown by statistics compiled by Kuznetz: the United Kingdom grew at 1.4 per cent annually between 1870-1913; France did it at 1,5 per cent; Germany at 1,8 per cent; Belgium at 1.95 per cent and Italy at 0.8 per cent.[20] The United States, which was the fastest growing country of that period, did it only at the comparatively low 2.4 per cent between those years.

Fast economic growth in the region has radically changed its productive structure. The share of manufacturing industry in the gross domestic product rose from 18 per cent in 1950 to 25 per cent in 1975, while that of the agricultural sector declined even further than what could have been expected by the displacement of demand usually accompanying higher income levels, with a clear downward trend in its rate of growth of production.[21]

As it could be expected, the proportion of the labour force employed in agriculture decreased in all countries, but employment in manufacturing industries experienced a much smaller growth that their share in the gross domestic product, while it considerably increased in commerce, building and construction, and services.

These trends in sectoral emplyment are closely related to the inability of recent and past economic growth to erradicate or significantly decrease wide differences in productivity between as well as within sectors of economic activity. The magnitude of these differences and the complex ties of interchanges, dominance and dependance between technologically "modern", "intermediate" and "primitive" activities within a national economic structure have led many to speak of the "structural heterogeneity" of Latin America, as opposed to "dualistic" economies in which two economic structures are assumed to co-exist almost independently.[22]

20/ Kuznetz, Simon, Modern Economic Growth, New Haven and London Yale University Press, 1969, pp. 65-85.

21/ U.N., Ibid.

22/ See Pinto, Aníbal, Inflación, Raíces Estructurales, México, Fondo de Cultura Económica, 1973.

Although the boundaries between "modern", "intermediate" and "primitive" activities are sometimes difficult to define, recent estimates show that "towards 1970, for the region as a whole, the modern sector mainly based in manufacturing industries and mining, and to a lesser extent agriculture, absorbed only 12 per cent of the labour force while accounting for 50 per cent of the production of goods; while the "primitive" sector, heavily agricultural, absorbed one-third of employment and contributed only 5 per cent of the product".[23]

The most accepted view among independent students of this characteristic of contemporary economic change in Latin America is that modern, relatively high productivity activities will continue expanding at a faster rate than other less technologically advanced activities, but that they will fail to absorb the greatest part of the population now subsisting outside them.[24]

Structural heterogeneity goes together with a high concentration of modern economic activities in a small number of metropolitan areas. Thus, a recent study on the subject has estimated that the provinces (or states) of Buenos Aires and Santa Fe in Argentina; Guanabara, Rio and Sao Paulo in Brazil; the Federal District and the states of Mexico and Nueva Leon in Mexico, produce 57,1 per cent of the Latin American total industrial value.[25] The same pattern is repeated within all the countries for which there is information available.[26] These areas concentrate not only a higher proportion of the industrial product, but also those technical services and commercial and financial activities that complement the manufacturing sector. Besides, they usually are the seat of the main political and administrative authorities, as well as of the most important communication networks.

23/ U.N., CEPAL, Long Term ..., Op. cit., p. 11.

24/ For a summary presentation of this view, see ECIA-UN, Economic Survey of Latin America 1973, Part Three, Social Change in Latin America in the Early 1970's, U.N. Publicación 74-4-0581.

25/ Di Filippo, Armando, El Desarrollo Regional Diferenciado y la Dinámica Demográfica en América Latina, Santiago de Chile, Consejo Latinoamericano de Ciencias Sociales, Comisión de Población y Desarrollo, Unidad Central, PISPAL, Documento de Trabajo Nº 15, october 1976, p. 48.

26/ Ibid, Table 18-b.

Although modern activities are still not very common in the Latin American agricultural sector, some important changes are also ocurring in it.

As it is known, the increased demand for agricultural products, and particularly for foodstuff, of a growing population can be solved through expanding the agricultural frontier and/or improving the productivity of the land already under cultivation. Some countries -notably Brazil, Mexico, Colombia and Paraguay- have made efforts in the first direction, but in a number of others the agricultural frontier is already exhausted, and in most of them the amount of capital investment required has made this strategy unfeasible. As a consequence, the area under cultivation has grown at a slow and declining rate, falling from 2.6 per cent between 1960-65 to 0.5 per cent between 1970-73 for Latin America as a whole.[27/]

Productivity increments in the land under cultivation had to be faced by agricultural entrepreneurs in a context of increasing state intervention and political awareness and organization on the part of the rural working classes. Since at the same time a number of direct and indirect government subsidies facilitated to import agricultural machinery, the spontaneous tendency of the most capitalistic-oriented entrepreneurs has been to modernize their farms making use of capital-intensive rather than labour-intensive techniques.

The emergence of modern farms and plantations did not alter the old latifundio-minifundio complex nor the high degree of concentration of agricultural property. To change this situation and at the same time increase productivity, a number of Latin American governments approved more or less radical agrarian reform programs, some of which have been implemented.

27/ CEPAL, La Alimentación de América Latina dentro del Contexto Económico Regional y Mundial, agosto 1974, p. 60.

No systematic effort has been made to evaluate the experiences of agrarian reform in Latin America during the last 10 or 15 years, but it seems evident that recent political changes as well as their high cost, problems encountered in their implementation, weak political organization of the rural working classes, etc., are gradually transforming them into something of the past. Agricultural extension, the creation of rural social organizations, and community development programs are now seen as complementary measures to agricultural modernization along capitalistic lines.

The variegated ways of organizing agricultural production now found in the Latin American countryside have deeply altered labour relations in it. A rural proletariat is now found in plantations and agricultural farms, while old "peon" relationships in latifundia have in different degrees been replaced by at least partial cash payment. Besides, cooperative forms of labour relations are found in many countries, while independent minifundia owners have shown no sign to disappear, or even to decrease.

All the above changes have increased the "structural heterogeneity" of the sector: archaic latifundia, modern plantations and commercial farms, minifundia of different types, indian communal lands, agrarian reform settlements, etc., can all be found in a single country, many times linked by a number of mutually sustaining relations.

Although there are still problems of comparability and coverage to be solved, the available data on the subject now allow some rough estimates of the impact those trends in economic change and development have had on the way income is distributed.

Information for Argentina, Brazil, Chile, Colombia, Mexico, Paraguay, Honduras and Venezuela has been used by ECLA to estimate per capita income in 1960 dollars as well as changes in the share of the various socio-economic strata in the total income of the region. The share of the 50 per cent poorest strata has remained practically unchanged in the ten-year period, but

among them the 20 per cent poorest has worsened somewhat its relative position, while the gains of the following 30 per cent amounted to 15,4 per cent of the total income increase experienced in the decade. At the other end, the 10 and the 5 per cent highest strata decreased their share, while the immediately following 20 per cent had a substantial increase.[28] In other words, unequality within the 50 per cent lowest strata has increased but concentration at the top has decreased somewhat, the middle income groups being those who have obtained the lyon's share of income increases in the decade.

Those changes correspond to the "most striking" change shown by the occupational statistics for the same period, namely, the rise in relative importance of the urban middle and upper strata, a trend common to all countries for which information is available, except Uruguay.[29] Both trends combined are expected to give a reasonable degree of political stability to the prevailing style of development because, "the groups that have gained something greatly out-number those that have not, and the highest gains are naturally found among the better educated and better organized upper middle groups whose support should be particularly essential".[30]

Summarizing all the major trends in recent economic and social development of the region, Latin America has been experiencing fast rates of total and per capita economic growth which have brought about important changes in the productive structure and in the sectoral and regional employment distribution. At the same time, sharp contrasts between technologically advanced and primitive activities have remained or have been accentuated both in rural and urban areas; income distribution remains highly unequal, but with a tendency for middle income groups to increase their share, and the middle occupational strata have considerably expanded. It is now time to mention some of the main social consequences derived from this particular style of development and its accompaying demographic trends.

28/ CEPAL, Long-term ..., Table 1, p. 8; Table 6, p. 16.
29/ ECLA, Economic Survey of Latin America 1973, p. 654.
30/ ECLA, Ibid.

3. Consequences of present demographic and socio-economic trends: the recognized agenda

A review of the literature shows wide consensus as to the problems posed to the Latin American governments by the above summarized demographic and socio-economic trends, a consensus which, of course, is immediately broken when policy measures to solve them are discussed. Imbalances between labour force supply and demand, widespread poverty and malnutrition, housing, health and educational deficits are some of those problems too evident to be denied, which governments try to solve in different ways and on which population trends are considered to have some influence.

a) Labour force underutilization

It is generally recognized that the characteristics of Latin American economic development plus the demographic trends to them related, are at the basis of the pervading employment problems being faced by Latin American countries.

PREALC-ILO efforts to estimate total labour underutilization in the region on the basis of 6 countries representing 90 per cent of the regional labour force of 20 Latin American and Caribbean countries included in PREALC studies (Argentina, Brazil, Chile, Colombia, Mexico and Venezuela) make it amount to around 27 per cent of the economically active population in 1970.[31] According to the same study, only 20 per cent of that underutilization can be attributed to open unemployment, the other four-fifths being different forms of underemployment, more or less equally divided between rural and urban areas.[32]

Open unemployment is estimated to be no more than 2 per cent of the agricultural labour force, but it is considerably higher in urban areas. On the contrary, massive underemployment in the rural areas makes total underutilization of the labour force in them reach 29 per cent of the labour force,

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31/ PREALC-ILO, The Employment Problem in Latin America: Facts, Outlooks and Policies, Santiago de Chile, PREALC, april 1976, p. 12.

32/ Kirsch, Henry, "El Empleo y el Aprovechamiento de los Recursos Humanos en América Latina", Boletín Económico de América Latina, Vol. XVIII, N° 1 and 2, 1973, pp. 45-87.

as against 25 per cent in towns.[33] Nevertheless, broadly three-fifths of total underutilization -unemployment and underemployment included- of the labour force concentrates in cities and towns.

Several surveys have consistently shown that open unemployment is found mostly among young people and married women. Analysing these surveys PREALC-ILO has come to the at first sight surprising conclusion that "well over half of those in search of a job are certainly not in desperate straits in terms of insufficient income", and thus that "unemployment has a lighter social seriousness that could be presumed by simply looking at the numbers of the jobless".[34] Poverty and need would be mostly associated with underemployment in the rural areas and in the so-called urban informal sector.

Rural underemployment of the labour force, as measured by open unemployment equivalences, reaches different degree for different agricultural occupational groups: it is very small among those working in plantations and commercial farms, while it is almost generalised among minifundia owners, for whom the scarcity of land and other capital inputs determine a very low pattern of labour use. This is, nevertheless, partially compensated by what has been labelled a "simbiotic" latifundia-minifundia relationship, in which the former may hire a very small amount of permanent wage labour and rely on minifundia owners and their families for the peak seasons. Underemployment among the latter thus becomes lower than what would have been if forced to rely exclusively on their small plots of land.[35]

Labour earnings have been used to estimate urban underemployment by the Regional Employment Programme for Latin America and the Caribbean. Data from 7 countries representing 86 of the total non-agricultural labour force in twenty countries for which the programme has information, indicate that two our of every five urban workers suffer some form of underemployment.[36]

33/ Ibid., p. 13.
34/ Ibid., p. 21.
35/ For a critical review of recent literature on the subject, see Urzúa, Raúl, Estructura Agraria y Dinámica Poblacional, Santiago de Chile, PISPAL, Unidad Central, Documento de Trabajo N° 7, 1975.
36/ PREAL-ILO, Op.cit., p. 31.

Students of the subject tend to agree on that, perhaps with a few short-lived exceptions, no matter how fast modern activities might grow, their absolute size is too small to accomodate an ever increasing contingent of labour force originated by the combined influences of high rates of urban natural grow and rural-urban migration. General underemployment as well as the fast growth of an "informal" labour market, difficult to measure accurately but in which those who work in small non-modern enterprises, independent workers excluding university professionals, and household workers are usually included, have been the main ways for coping with urban labour force expansion.[37/] Rough estimates of the latter for 8 Latin American countries show that the rates of informal to formal economic active population growth rates for 1960-1970 tended to cluster around 1.3.

Shortage of data and the need to carefully scrutinise all the relationships involved make it difficult to project sectoral and employment trends over the next 25 years. ECLA has an ongoing project particularly devoted to the analysis of this subject. Although, general and provisional, some conclusions can already be drawn with respect to two projections. In the first, the growth rate of the product in each of a selected group of countries is assumed to be the same as in the past ten years; in the second some employment objectives are set, and the magnitude of the growth and the level of economic activity necessary to meet them are specified. In both cases present patterns of economic and technological change are assumed to remain constant. The first projection shows that with an economic growth rate of 6 per cent annually total occupation will rise by about 2.2 per cent annually. If this figure is

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37/ The concept of an informal market or informal sector, as it is sometimes called, was coined in an ILO study on Kenya and it has been widely used by PREALC-ILO in Latin America. While there is no doubt that the concept deserves much more theoretical elaboration and that its operational meaning is sometimes open to discussion, it provides a valuable additional approximation to an understanding of the employment problems now being faced by Latin America. For the most clear-cut definition of the concept in general see ILO, Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya, Geneva, 1973. For an effort to clarity its meaning for the Latin American case, Sousa, R. and Tokman, V., El Sector Informal Urbano, Santiago de Chile: PREALC, 1975, mimeo.

compared with the projected 3 per cent annual growth of the economically active population, the conclusion must be reached that such rate of economic growth would worsen Latin American labour force underutilization.

The second analysis was geared to answer the question of what amount and rate of economic activity would be required to promote an increase in employment large enough to absorb the growth of the labour force and gradually reduce present levels of underutilization. The conclusion is that it would have to be around 8 per cent per year, that is, substantially higher than the actually recorded in recent years.[38] This conclusion clearly poses the problem of finding a style of development that might combine fast growth, and high labour force absorption, with policies aiming at provoking a fall in fertility now and in the coming 9-10 years so as to reduce the dependency burden of those of working ages and the proportion and size of working age population. A failure to find such combination will make even worse a situation which has already reached dramatic dimensions.

b) Extreme poverty

Recent trends in economic development were already shown to be leading to high income concentration. The other side of the coin is the presence of large numbers of individuals currently living under conditions of extreme poverty in Latin America. Although the limits separating the extreme poor from the less extreme ones are always somewhat arbitrary, recent estimates on the basis of a minimum balanced diet according to national nutritional patterns have found that in 9 Latin American countries the incomes of about 35 per cent of their total population are below the cost of that diet (see table III).

In the same countries, the poorest 20 per cent of the population makes only a 3 per cent contribution to total consumption, while 71 per cent of this is make by the richest 20 per cent of the population.[39] More specifically, only 5 per cent of the total consumption of food and beverages, and 2 per cent

38/ CEPAL, Long-term ..., pp. 131-133.
39/ Molina, Sergio, "Introducción" en ILPES, La Pobreza Crítica en América Latina. Ensayos sobre Diagnóstico, Explicación y Políticas, Vol. 1, mimeo.

of that on clothing is made by the poorest 20 per cent of the population, while the contribution of the upper 30 per cent amounts to 88 per cent in the first item and to 74 per cent in the second.40/

Those data help to put nutritional problems in the proper perspective. As ECLA reminds us, availability of calories per capita, availability of proteins, and availability of animal proteins remains below international norms in a good many countries, gains in the early 1970's over the 1960's are small, and the improvements up to 1980's that can be projected from past trends or national objectives will not entirely erase the deficit.41/

Malnutrition among children under five years of age is the most serious problem in this respect. Sample surveys conducted in 13 Latin American countries and 3 English-speaking Caribbean countries between 1965 and 1970 found percentages of under-nourished children ranging between 37 and 80. Second degree undernourishment (weight 25 per cent below the normal) affected 20 per cent or more of the sample in 5 countries, the highest rates of child undernourishment being found in Central America and the Caribbean.42/ Rightly so, poverty and malnutrition are two closely related problems the countries of the region are worried about.

c) Housing deficits

Housing is a third problem very much discussed in recent years, particularly with respecto to its deficiencies in the larger urban centers. Most Latin American governments made calculations during the early 60's of the existing and the projected housing deficit that population growth and rates of deterioration of the existing housing stock allowed to estimate. The

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40/ Ibid.
41/ ECLA, Economic survey ....., p. 673.
42/ Pan American Health Organization, "Four-year Projections of Ministeries of Health for the Period 1972-1975", as quoted in ECLA, Ibid., p. 681.

shown deficiencies were dramatic and, despite a number of government plans, there are indications that they continue to be so. For instance, Hardoy estimated that in 1970 theurban housing deficit was of 8.9 million units while the usually forgotten rural deficit reached 9.9 million units, both figures for Latin American as a whole.43/

Table III

SIZE OF THE EXTREME POVERTY STRATUM IN SOME LATIN AMERICAN COUNTRIES
(Estimates)

Country	Per capita annual cost of the minimal balanced diet according to national standards (1960 US dollars) a/	Population with income levels lower than the minimal balanced diet (percentages)
Argentina	245	11
Brazil	125	42
Colombia	150	43
Chile	225	29
Ecuador	135	35
Honduras	95	49
México	220	31
Peru	160	45
Venezuela	180	22
Total of countries above mentioned b/		35

Source: ECLA estimates based upon national figures.

a/ Food costs calculated from recent national income and expenditure surveys. Since some national dietary patterns show surplus consumption of low nutritional content items and deficitary consumption of high nutritional content items, the annual cost of the average balanced diet could be lower provided that traditional nutritional customs observed are changed within the different countries of the area.

b/ The above mentioned countries account for a little over 85 per cent of Latin America's total population.

43/ Hardoy, Jorge, "Un Ensayo de Interpretación del Proceso de Urbanización en América Latina", Revista Interamericana de Planificación, Vol. 7, N° 27, september, 1973.

The housing problem can be also defined as one of fast growing shanty towns, ecologically isolated from the rest of the urban environment and having almost no infra-structural services. Data collected by Herrera[44] show that in Bogotá, Colombia "ilegal and incomplete urbanizations" were spreading over around 1 530 hectares in 1970, while in Guayaquil, Ecuador, although it has only about one third the population of the first city they covered 800 hectares. As to the number of people living in them, 6 out of the eleven Peruvian cities with more than 50 000 inhabitants had more than 30 per cent of their population living in such shanty towns in 1970; in Venezuela the equivalent figure reaches 52 per cent. Bad housing, lack of basic and health services, and isolation from the rest of the city combine to provide most of the inhabitants of these shanty towns living conditions that government try to improve, or at least to palliate, in a number of ways.

The preoccupation governments are showing about present trends in population distribution is in great part due to the causal link it is assumed to exist between housing problems and these trends.

d) Educational deficits

Pressures to expand formal education are another consequence of demographic and socio-economic changes. Primary school enrolment has grown steadily in most countries and the proportion of the population receiving no schooling is now relatively small. It is not surprising, therefore, that a recent study could have found that the illiteracy rate (percentage illiterate out of the population 15 years and older) for Latin America, decreased from 32.4 in 1960 to 26.7 in 1970,[45] Argentina (7.4); Chile (11.7) and Venezuela (14.8) being the countries included in the study with the lowest rates, while Guatemala (53.8); El Salvador (43.1); Nicaragua (41.7) fall at the other extreme and still show extremely high illiteracy rates. Despite

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44/ Herrera, Ligia, "El Crecimiento Urbano y el Deterioro del Medio en América Latina", Notas de Población.

45/ CEPAL, El Desarrollo Latinoamericano y la Coyuntura Económica Internacional, Doc. E/981/ADD.3, XVI Período de Sesión, Port Spain, february 1977.

that progress, the population with no formal schooling has increased in absolute numbers for the region as a whole, national proportions still varying between 20 and 40 per cent of the population in primary school age, except in Argentina, Uruguay, Costa Rica and Chile.[46] In the rural areas and in ecologically marginal urban areas most children do not attend school for more than 3 years and the quality of the education they receive is considerably poorer than that available for other more privileged areas.[47] Since enrolment at middle and higher educational levels has been increasing faster than primary enrolment in most countries, high illiteracy rates and low enrolment in primary schools are sometimes found together with high enrolment rates in higher educational levels.

Latin American governments are investing between 10.1 and 35 per cent of the national budget in education, the mode of the distribution falling around 15 per cent.[48] It does not seem realistic to expect deficiencies in coverage and quality of primary education to be solved through further expansions of that budget. Rather, the possibility of making those efforts rests on a re-allocation of government expenditures presently devoted to education, alloting a higher proportion of it to primary education. A number of schemes trying to find a way to fulfill the double objective of improving primary education while at the same time maintaining and even improving the other educational levels have been suggested by different governments, but social and political preassures have conspired against their implementation.[49]

46/ UNESCO, Evolución Reciente de la Educación en América Latina, México, sepsetentas, 1976.

47/ UNESCO estimates that in 11 out of 17 Latin American countries for which information was available 50 per cent or more of the rural primary schools did not offer the complete program of primary studies. See UNESCO, Ibid., Vol. II.

48/ UNESCO, Ibid.

49/ U.N., Education, Human Resources and Development in Latin America, E.68.II.6.7.

Employment problems and "extreme" poverty, malnutrition, housing problems, shortage of basic health and educational services in general, and for extended areas and social groups, are some of the main consequences governments and international agencies identify as derived from the prevailing demographic and economic trends. The need to solve these problems and the belief that they are influenced by the patterns of population growth and distribution, are the main reasons why interest in formulating population policies is gaining recognition in Latin America. Sometimes explicitly, some other times only implicitly, they enter into the definition of the population problems Latin American governments have officially identified at different regional meetings, as it will be seen in the following chapter.

II. POPULATION AS A PROBLEM: THE VIEW FROM THE GOVERNMENT

1. Towards an acceptance of population policies

The preceding chapter identified a "recognized agenda" of problems that are deeply worrying Latin American politicians, leaders of different organizations (trade unions, community associations, the Church, to mention three of the most influential types of organizations) and social scientists, and which largely explain the social and political unrest characterizing the region. Political debates and the development strategies favored by one or other group are centered on different alternatives to solve if not all at least some of those problems; pressure groups denounce them, deny their existence, fight for improving the underprivileged position of those they represent or for maintaining their privileges; the mass media echoes the whole debate and editorializes, with more or less freedom depending on the political regime, in favor or against one or another position; social scientists discuss about the ultimate and intermediate causes of those problems and offer more or less coherent interpretations to them; defined at the same time as the main culprit and the way to salvation, the State attempts one or another solution depending on what group is governing and who are in a better position to influence its decisions.

However, until roughly the beginning of the sixties there was little or no awareness in the region of the way demographic factors relate to employment, income distribution, poverty, malnutrition, housing, health or education, and are relevant for the success or failure of socio-economic policies aimed at solving those problems. The situation is dramatically different at this moment: not only two regional conferences of Latin American and Caribbean

governments have been convened with the specific purpose of analysing population problems and a technical exchange meeting of governmental entities in charge of population policies has been held, but also most Latin American governments have at this moment some kind of administrative unit in charge of implementing population policies of one sort or another. At the same time, after a period of heated arguments in pro or against population policies and, more specifically, fertility-regulating policies, the debate has now become one of determining how, when and for what purposes population variables can be introduced into social and economic planning. Finally, while up to the sixties every national policy was either officially or in fact pro natalist, only Argentina and Uruguay, two countries with fertility rates similar to those prevailing in developed countries, keep maintaining such policies in 1978.

Before examining more in detail the position governments have with respect to population problems, some factors related to such a dramatic change must be mentioned. The first to remember is that the way population problems are defined and the measures recommended to solve them are strongly influenced by the heated controversies over birth control that took place during the sixties and that are revived from time to time even in countries with long-standing family planning programs.

Such programs were, in fact, the first instance in which actions over a demographic variable were introduced as complementary means to help solving some health problems and particularly infant and maternal mortality. This inevitably led to an identification of population policies with family planning programs. While official statements by those in charge of such programs were careful to specify their limited goals, two outspoken ideological factions -opposed among themselves on almost all points- coincide in their rejection to such programs and to the anti-natalist policy they believed it was behind them: the Marxist left and the Catholic extreme right. No matter what their actual position might be when and if political parties expressing those ideologies reach power (in Chile Allende's socialist government continued family planning programs initiated under the Christian Democratic government. These programs have been even strengthened by the ideologically rightist government of Pinochet and the military

Junta despite the support given to it by conservative catholic intellectuals and priests), they coincide in considering that the population problem is a false one imposed upon Latin America governments by the US and its numerous agencies as a means of keeping their control over the continent.

While those in favor of family planning programs emphatically reject external influences and insist on that they are but the natural outcome of the realization by medical doctors and other professionals related to health and family well being that something had to be done in order to decrease abortion and infant mortality, the adoption of population policies has been in great part shaped in its timing as well as its content by the need to convince such powerful opponents that they are answers to real problems and not only to external pressures. Although not completely successful, as occasional but violent public statements testify, Latin American governments seem to have reached an agreement as to how to approach the problem that in great part satisfies the center and left sides of the political spectrum, thus considerably reducing opposition to population policies.

In the first place, there now seems to be an agreement on that if population policies are not identical with development policies, neither they are solely policies aiming at reducing fertility. On the contrary, deliberate actions to influence any of the demographic variables are defined as population policy actions.[50/] A fortiori, family planning programs would be at best part of fertility-reducing policies but by no means identical to population policies.

Secondly, policies thus defined are formally oriented by a value framework strongly rejecting foreign intervention and pressures in the decision making process as well as the use of coercive means to achieve desired goals. That framework closely follows that orienting the World Population Plan of Action

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50/ For an analysis of current definitions of population policies see Atria, Raúl and González, Juan Carlos, La Noción de Políticas de Población: Una Revisión de la Literatura Reciente, CELADE, Unidad Central del Programa de Investigaciones Sociales Relevantes para Políticas de Población en América Latina, Documento de Trabajo N° 13, November 1975.

and was solemnly specified in the Second Latin American Meeting on Population held at Mexico City in March 1975. According to that framework and quoting the WPPA, "the formulation and implementation of population policies is the sovereing right of each nation".[51] That right must be exerted taking into account that the policy decisions adopted by a government may have implications for other nations. This requires international solidarity and the definition of population policies within the broader context of the search for the establishment of a new international economic order and a more just world.[52] At the same time, these policies should at all moments be consistent with the internationally and nationally recognised human right of individual freedom and should aim at the full development of the human person, in accordance with the aspirations, needs and rights of the individual, the family and the community.[53] The explicit recognition of a number of specific rights already included in the WPPA, such as the basic right of all couples to decide freely the number of spacing of their children, freedom of movement and residence within the borders of each State, the right to emigrate and to a fair treatment in the receiving countries,[54] derive directly from that more basic human right.

The consensus reached on a broad definition of population policies as well as on the value framework orienting them is further strengthened by the agreement on the need to make population policies an integral part of development policies. Once more, the clearest statements were made in the Second Latin American Meeting on Population. The Latin American Meeting on Population in Costa Rica and the World Population Conference had offered the countries of Latin America the occasion to establish that principle in general. The Second Latin American Meeting insists on the principle that "the basis for an effective solution of population problems is, above all, socio-economic transformation",[55] and that in

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51/ WPPA para. 14; Second Latin American Meeting on Population, Mexico City, 3 to 7 March 1975, Report of the Meeting, ST/ECLA/Conf.54/L.9/Rev.1, 31 March 1975, para. 120.

52/ Report of the Meeting, paragraphs 122 and 123.

53/ Ibid., para. 124.

54/ Ibid., paragraphs 126, 129 and 130.

55/ WPPA, para. 1.

the particular case of Latin America, this and other related principles implied that the formulation of guidelines for action in the field of population should take into account "the nature of the structural origins of under-development and the dynamics of development".[56] But at the same time the governments participating in that meeting strongly emphasized the need to move beyond those recognitions and to propose concrete actions which might lead to an actual integration of population and development policies. For this a number of "critical situations" requiring an integrated action were defined, at the same time that the instruments and inputs required to make that integration possible were identified. We shall come to them later.

With respect to the sensitive issue of fertility-reducing policies, besides the previously mentioned value framework and the insistence on relating them to development, a number of governments make a distinction between birth control and family planning, recognizing to have the latter but not the former. Birth control, according to this distinction, would correspond to a fertility -reducing population policy, while on the contrary family planning would be inserted into a family welfare policy oriented to avoid abortion and maternal morbi-mortality caused by multiparity.

Despite all the above collectively agreed precautions and guidelines to action, governments are usually reluctant to make public statements regarding the measures they are taking in the field of fertility. In fact, the process of policy adoption and implementation in this field is usually very gradual, starting with private family planning programs and slowly moving to government supported programs and to formal policy statements.

Social science research and teaching have also played a role in the process leading to a wider acceptance of population policies in Latin America. Although the evolution of the subject within these sciences will not be dealt with in this document, some comments must be made in this context. In doing this, the distinction must be made between the role played by demographic research and teaching, and that played by the rest of the social sciences.

The teaching as well as the pioneering research efforts of CELADE have done more than anything else to provide information about some basic demographic processes, thus allowing some objective basis on which to argue. At a more local level , El Colegio de México has played a similar role in that country. Under the lead of these centers a series of activities were developed which, taken as a whole, greatly contributed to increase the degree of awareness of population problems in Latin America as well as their specific nature: regular courses in demography, seminars, regional conferences, comparative research projects, etc. Among the latter, for the strategic character they have had and the opportunity they provided for relating demographic with social and health variables, particular mention must be made of the comparative studies on urban and rural fertility coordinated by CELADE, the Inter-American investigation on child mortality undertaken by the Pan American Health Organization, the comparative studies on induced abortion and the use of contraceptives coordinated by CELADE, and the attempts to construct instruments to evaluate family planning programs. Through them not only knowledge about important demographic processes was obtained but also for the first time demographers, other social scientists, statisticians, medical and paramedical professionals could meet on fairly common grounds.

Despite those initiatives the social sciences remained for a long time either uninterested or firmly opposed to the recognition of population problems. This neglect and opposition, based either implicitly or explicitly on the assumption that those which appear as population problems are in fact social and economic problems derived from the predominant mode of production or, for those with a non-marxist orientation, from insufficient development, was certainly influential in shaping the process of population policy formation, if only by providing different political groups with ammunition against the attempts at implementing policies at the formal level.

While the basic tenets of the prevailing view among Latin American social scientists remain the same, the analysis of some of those pervading problems of the development of the region, here labeled the "recognized agenda", and particu-

larly of unemployment and marginality, helped to call attention to the relations they had with the prevailing patterns of population growth and distribution, and to the probable effect that actions on the one could have on the other. This not only has changed the character of the opposition to population policies, where it still exists, making it more specific, but it has also influenced, albeit indirectly, the efforts governments are now making to give a more precise meaning to the integration of population policies and development plans.

2. The present situation: from general statements to concrete actions

With all the above background information, it is now possible to approach the analysis of the positions adopted in Latin American Inter-Governmental population meetings and by individual countries in recent years. Three meetings of such nature have been held during the last four years: the Latin American meeting preparatory to the World Population Conference (San José, Costa Rica, April 1974), the Second Latin American Meeting on Population at Mexico City, to which reference has already been made, and the First Technical Exchange Meeting of governmental entities in charge of population policies in Latin America, that was held at San José, Costa Rica in November 1976. Reports on those meeting and the position papers presented to them by individual countries provide the most accesible source to the publicly stated position of the governments of the region with respect to population problems and issues. The Third Inquiry among governments on population policies in the context of development (1976) conducted by the U.N. Population Division as well as oficial governmental documents allow to supplement those reports and papers. While because of the reversal in the process of policy adoption mentioned before these sources are not the most accurate ones to depict all what governments are actually doing, they do reflect the range of population policy issues they identify, the position with respect to them they are willing to recognize publicly, and the gamut of alternatives they are considering to solve them. With respect to certain issues, they also allow to determine what kind of relationship they are

seeing between those policy issues and the social and economic problems at the center of the Latin American debate.57/

A first problem to be examined is the evaluation Latin American governments are now making of present demographic trends. The position held by a number of Latin American countries on fertility, urban concentration and international migration at the San José and Mexico City population meeting provides information on this. Table IX summarizes it.

An inspection of that table shows that an "excessive" urban concentration was the most generally recognized population problem by the governments attending those meetings. Thirteen out of the 19 countries that made official statements on the subject shared that position. At the same time, twelve out of those nineteen were dissatisfied with their fertility levels, and ten of them considered those levels to be "excessive". On the contrary, international migration seems to be preoccupying only a small number of countries.

57/ Detailed analyses of these as well as of other sources have been made by CELADE. See González, Gerardo and Errázuriz, Margarita María, "Políticas de Población en América Latina. La Conferencia Mundial y las Reuniones Regionales de Población", in FISPAL, Estructura Política y Políticas de Población, Consejo Latinoamericano de Ciencias Sociales, Comisión de Población y Desarrollo, 1977, pp. 35-68; ECLA-CELADE, Notes on Population Policies in Latin America, paper presented to the ACC Sub-Committee on Population, 12 th. Session, New York, 27-29 September 1976; González, Gerardo et.al., The State of Population Policies post Bucharest, Forthcoming. In what follows the main findings of these analyses will be summarized.

Table IV

LATIN AMERICAN GOVERNMENTS' POSITIONS ON FERTILITY LEVELS, URBAN CONCENTRATION AND INTERNATIONAL MIGRATION AS DEVELOPED IN THEIR OFFICIAL STATEMENTS AT THE SAN JOSE AND MEXICO MEETINGS ON POPULATION

Country	Fertility			Urban Concentration		International Migration				
						Emigration			Immigration	
	Acceptable	Insufficient	Excessive	Acceptable	Excessive	To Discourage	To Allow	To Encourage	To Restrain	To Stimulate
Argentina	-	X			X	X				X
Bolivia	-	-	-		X	-	-	-	-	-
Brasil	X				X	-	-	-	-	-
Colombia			X	-	-	-	-	-	-	-
Costa Rica			(X)	-	-	-	-	-		(X)
Cuba	X			X		X			-	-
Chile			X		X	-	-	-	-	-
Ecuador	(X)				(X)	-	-	-	-	-
El Salvador			X		X	-	-	-	-	-
Guatemala			X	X		-	-	-	-	-
Haití	-	-	-		X	X			-	-
Honduras			X	-	-	-	-	-	-	-
México			(X)		X		X		-	-
Nicaragua	X				(X)	-	-	-	-	-
Panamá			X		X	-	-	-	-	-
Perú			(X)		X		(X)		-	-
Rep. Dominicana			X		X	X			-	-
Uruguay		X		-	-	-	-	-	-	-
Venezuela	-	-	-		X		-	-		-
TOTAL	4	2	10	2	13	4	2	-	-	2

NOTE: Although the Government of Paraguay was represented at the Mexico Meeting, it did not make and official statement.

- : No reference was made on this issue in the country's statement.
(X): Information inferred from the text of the statement.

Source: Taken from González, Gerardo and Errázuriz, Margarita María, op. cit., pages 91-92.

Table V

POPULATION GROWTH AND FERTILITY. 1976

Country	(1) What is the government's view concerning the present rate of population growth?			(2) Does the government have a formulated policy to change it?		(3) Which is the policy? Which demographic factors are being adjusted? Which economic and social factors are being adjusted?		(4) Which is the government's view regarding the present level of fertility?			(5) Does the government have a formulated policy to change it? When?		(6) Which is the policy?
	Too Low	Satisfactory	Too High	Yes	No	Demographic factors	Economic-social factors	Too Low	Satisfactory	Too High	Yes	No	
Argentina	X			X		1 - 2 - 3 - 4 - 5 - 6	9 - - 12 -	X			X(1965)		-9-
Colombia			X	X		1 - - 3 - 4 - - 6	- 10 - - 12 - 13 -			X	X(1967)		7- -10-
Costa Rica			X		X					X		X	
Chile		X		(-)	(-)					X		X	
Ecuador			X	X			- 10 - - 12 -			X		X	
El Salvador			X	X		1 - - 3 - 4 - - 6	7 - - 10 - 11 - 12			X	X(1974)		7-8- -11-
Haiti			X	X			- 14 -			X		X	
Honduras		X		X		1 - - 3 - 4 -	- 10 - - 12 -			X	X(1975)		7- -10-
Mexico			X	X		1 - - 3 - 4 - 5 -	- 10 - - 12 -			X	X(1974)		7- -10-
Nicaragua			X	X		1 - - 3 - 4 -	- 12 -			X		X	
Panama		X			X					X		X	
Dominican Republic			X	X		1 - - 3 - 4 -				X	X(1968)		7-
Uruguay	X				X			X				X	
TOTAL	2	3	8	9	3			2	0	11	6	7	

(-) : No answer given

1 : Mortality
2 : Nuptiality
3 : Fertility
4 : Internal distribution
5 : Immigration
6 : Emigration
7 : Family Planning
8 : Massive distribution of contraceptives
9 : Income distribution according to size of family
10 : Education
11 : Women participation in productive and educational process
12 : Regional economic development, rural development, Agrarian Reform
13 : Income redistribution
14 : Raise production

Source: Third Population Inquiry among Governments: Population policies in the context of development in 1976. United Nations.

Table VI

INTERNAL DISTRIBUTION OF POPULATION. 1976

Countries	(1) How does the government consider the present distribution of population?			(2) Does the Government view the present rates of population change in the metropolitan region (M) and in the other urban areas (U) and rural areas (R) as contributing positively to the achievement of development or as constraining it?				(3) Does the Government have a formulated policy to modify the rates of internal migration in these regions? When?				(4) Which is the policy?			(5) How does the government view the rate at which sparsely populated or unpopulated areas are being settled?		
	Not appropriate	Appropriate with some changes	Completely appropriate	Constrain Development: Change too slow	Constrain Development: Change too fast	Contribute positively		Yes: M	Yes: U	Yes: R	No	In metropolitan region	In other urban areas	In rural areas	Too Slow	Satisfactory	Too rapid
Argentina	X				M U R			(1970) X	(1970) X	(1970) X		1	6	15	X		
Colombia	X				M		U R	(1975) X	(1975) X	(1975) X		2	6-14	8-9	X		
Costa Rica	X				M(a)				X	X			6	12	(b)		
Chile	X				M U R					X				10	X		
Ecuador	X				M U(a)						X				X		
El Salvador	X				M U R					(1975) X				9	(c)		
Haiti	X			U R	M			(1976) X	(1976) X	(1976) X		3-4	4-6	9-13	(d)		
Honduras	X				M U R					X				10	X		
Mexico	X			R	M U			(1974) X	(1974) X	(1974) X		5	5	5	(d)		
Nicaragua		X		R	M		U	(1975) X	(1975) X	(1975) X		4	6-7	8-11	X		
Panama	X			R	M U						X				X		
Dominican Republic	X				M U R						X				X		
Uruguay	X			U R	M						X				X		
TOTAL	12	1	0	2 5	13 8 5	0 2 1		5	6	9	4				9	0	0

(a) No view regarding other areas because information is insufficient.
(b) It is not satisfactory because of its impact on natural resources.
(c) There is not such area.
(d) Insufficient information to give view.

1: Not permitting industrial settling near the capital city.
2: Constructing cities within the cities.
3: Readjustment of density.
4: Better distribution of public services and economic activities, increase of.
5: Health and educational programs.
6: Encouragement of industrialization, industrial parts.
7: Habitation centers.
8: Agro-industries.
9: Rural development, agrarian reform (commerce and technology).
10: Rural settlements.
11: Colonization.
12: Family assignment, social development.
13: Social equipment.
14: Administrative descentralization.
15: Law of zone and areas of frontier.

Table VII

INTERNATIONAL MIGRATION

Countries	(1) What is the Government's view concerning the present level of international immigration?			(2) Does the government have a formulated policy to modify the level of immigration? When?		(3) Which is the policy?	(4) What is the Government's view concerning the present level of international emigration?			(5) Does the government have a formulated policy to modify the level of emigration? When?		(6) Which is the policy?	(7) Does the government have a formulated policy to secure the return of emigrants ("brain drain")? When?		(8) Which is the policy?
	Too Low	Satisfactory	Too high	Yes	No		Too Low	Satisfactory	Too high	Yes	No		Yes	No	
Argentina	X			X(1970)		1			X	X(1976)		2-3	X(1969)		6
Colombia	(-)	(-)	(-)	(-)	(-)		(a)			(-)	(-)			X	
Costa Rica	(-)	(-)	(-)	(-)	(-)		(-)	(-)	(-)	(-)	(-)		X(1971)		6-7
Chile	(-)	(-)	(-)	(-)	(-)				X	X(1975)		4-5	(-)	(-)	
Ecuador	(-)	(-)	(-)	(-)	(-)				X		X		X(1974)		6
El Salvador	(a)				X		(a)				X			X	
Haiti	(a)			(-)	(-)				X		X			X	
Honduras	(a)				X				X	X		4		X	
Mexico	(-)	(-)	(-)	(-)	(-)		(-)	(-)	(-)	(-)	(-)			X	
Nicaragua	(-)	(-)	(-)	(-)	(-)		(-)	(-)	(-)	(-)	(-)			(b)	
Panama	(-)	(-)	(-)	(-)	(-)		(-)	(-)	(-)	(-)	(-)			X	
Dominican Republic	(-)	(-)	(-)	(-)	(-)		(-)	(-)	(-)		X			X	
Uruguay	X				X		(a)				X			X	
TOTAL	2	0	0	1	3		0	0	5	3	5		3	8	

(-) No answer given.
(a) Insufficient information to give a view.
(b) Emigration is not a problem.

1 : There is a regulation of the admission of foreign people.
2 : Support to research projects.
3 : Support to industrial investment.
4 : Sectorial Plans (health, education (for rural men and workers)).
5 : Recovery of human resources.
6 : Exemption of taxes at Custom House.
7 : Salary fitness.

Source: United Nations, Third Population Inquiry among Government's Population Policies in the Context of Development in 1976.

Tables V, VI and VII summarize the answers given by Latin American countries to the Third U.N. Inquiry in 1976. A comparison of these tables and table IV shows remarkable consistency between the two sets of answers, suggesting that they are more than just purely formal statements and that changes detected are most probably reflecting real changes. These refer particularly to the cases of Nicaragua and Ecuador, two countries which had previously deemed their fertility rates as acceptable and that in 1976 had moved to a negative evaluation of them; and to Chile and Costa Rica, which previously considered them too high and in 1976 defined them as acceptable. Both changes approximate the respective countries to what could be considered their objective situation: Nicaragua and Ecuador belong to the group of countries with comparatively high fertility in the region, while Chile is among those with lowest fertility and Costa Rica has experienced sharp declines in recent years.

As it was mentioned before, the Second Latin American Meeting on Population gave the Latin American governments attending it the opportunity of defining those situations they considered critical with respect to population and on which special actions were recommended. Two kinds of situations were identified: those "resulting from the interaction between socio-economic, political and demographic structures in the specific situations inherent in each country's mode of development, and those deriving from the demand for services generated by population dynamics".[58/]

In the following paragraph of that Report, seven critical situations of the first kind are identified:

a) urbanization and metropolitanization trends and the imbalance of regional development;

b) irrational destruction and poor utilization of natural resources;

c) deterioration in the quality of the environment, particularly in urban areas;

58/ Report of the Meeting, para. 153.

d) agricultural development trends and their effects on employment, living levels, access to services, infant mortality, the factors determining a high fertility rate, and the exodus from the countryside;

e) insufficient employment opportunities in relation to population growth and urbanization, leading to high levels of underemployment and unemployment;

f) the exodus of highly skilled personnel and the migration of workers between adjacent countries, and

g) the distortions and anomalies in the structure and patterns of consumption, and those occurring in investment, for example, with respect to technology, employment and non-priority investment in luxury items.[59/]

As it can be seen, there is a close agreement between those critical situations and the priority that the governments' official declarations had attributed to problems linked with urban concentration: five out of those seven critical situations are directly related -either as causes or consequences- with the trends in urbanization and spatial distribution of the population, and the remaining two are indirectly related to them. In two of them, the rates of population growth are seen as either caused by, or contributing to the problems created by those trends in spatial distribution. At the same time by recognising international migration as one of the critical situations, governments raise this issue to the same level of importance than those related to population distribution and growth.

On the other hand, only a brief mention is made to the fact that high density and rapid population growth in Latin America have created critical situations in some countries where rates of economic growth have not kept pace with population growth.[60/]

59/ Report of the Meeting, para. 154.
60/ Report of the Meeting, para. 157.

With respect to the second kind of critical situations, particular mention was made of the increase in educational demands, and demands for health services and housing, which "are clearly related to the trends of population growth, distribution and structure".[61]

The critical situations enumerated above reveal at the same time that Latin American governments are moving from the general assertion that population and development are related to the identification of more concrete ways how the two inter-relate, and to a better understanding of how population trends are linked to unemployment and underemployment, to increasing demands for education, housing and health, to the deterioration of the urban environment to distorsions and anomalies in consumption, presumably related to the pattern of income distribution, etc. At the same time, recommendations with respect to research and teaching show the need they feel for clarifying those links and inter-relations so as to make the integration of population policies into development planning more feasible.

As to research, suffice it to say that although bio-medical research is also recommended, the governments of the region have agreed on that "priority should be given ... to research aimed at establishing the interrelationships between population and development in specific historical contexts, particularly where this would make it possible to identify the effects produced and to anticipate probable future effects of different modes or patterns of development on population dynamics".[62]

Conversely, in what respects to teaching the governments have recognized that the "advanced training of high-level planners in matters connected with the interaction of economic and social development phenomena"[63] is a field where action should be intensified both by U.N. regional agencies and by national units, especially universities.

61/ Report of the Meeting, para. 155.
62/ Report of the Meeting, para. 139, b, (i).
63/ Ibid., para. 145, (i).

The same intention to provide a more concrete meaning to the population and development dictum is reflected in the kinds of actions governments have identified recently as population policy measures. The Second Latin American Meeting on Population is once more instructive on this respect.

Actions already taken by the governments or suggested to be taken in the future during its sessions include a wide array covering population distribution, fertility, mortality and international migration. Among those related to the first, regional development, rural development and agrarian reform, and settlement policies are mentioned. Among those related to mortality, apart from statements recognizing the importance of the improvement of levels of living in order to decrease mortality and morbility, preventive medicine, improvement of health services in the rural areas, community development programmes, nutritional programmes, and educational programmes, are mentioned as more direct measures. With respect to efforts to decrease fertility, governments recognize to have given particular emphasis to women's participation in social, economic and political activities, and to the improvement of levels of living and education, while marriage and healt incentives, medical programmes to decrease sub-fertility and sterility, as well as programmes to decrease mortality, were mentioned as adequate to increase fertility.

Such wide definition of population policy actions cannot, however, be taken at face value. For instance, as the answers to the Third Inquiry reveal and other sources confirm, policies with respect to fertility are frequently limited to family planning programs, complemented in some cases with education on sex, family and population (See Table VI). As it can be seen in Table VIII, programs of that sort were found in all twenty Latin American countries, although in four of them they were only of a private nature.

Table VIII

FAMILY PLANNING PROGRAMMES IN LATIN AMERICA (AT 1975)[a/]

Countries	Only private supported programmes	Public supported programmes	Starting year of private supported programmes	Starting year of public supported programmes
Argentina	X		1966	-
Bolivia		X	1967	1975
Brazil	X		1966	-
Colombia		X	1966	1969
Chile		X	1963	1966
Ecuador		X	1966	1970
Paraguay		X	1966	1970
Peru	X		1967	-
Uruguay	X		1961	-
Venezuela		X	1967	1963
Costa Rica		X	1966	1968
El Salvador		X	1966	1968
Guatemala		X	1965	1967
Honduras		X	1963	1966
Nicaragua		X	1968	1968
Panama		X	1966	1966
Mexico		X	1959	1973
Cuba		X	-	1964
Haiti		X	1966	1970
Dominican Republic		X	1963	1968
Total	4	16		

Main Sources: Soto, Zaida, América Latina: Situación de los Programas de Planificación de la Familia hasta 1973. CELADE, Santiago de Chile, abril 1975, Doc. Serie A, N° 130, Cuadros 1 y 4 and América Latina: Actividades Desarrolladas por los Programas de Planificación de la Familia, 1975, Santiago, CELADE, 1977.

a/ Taken from González, Gerardo and Ortiz, Pura, Manual de Políticas de Población, CELADE, Santiago de Chile, 1975, page 135.

With respect to the Caribbean region, Barbados initiated public family planning programs as early as in 1954; Jamaica has had private programs since the 1940's and a government program was started in 1966; Trinidad and Tobago have private programs since 1956 and a public program since 1967. All the other English-speaking islands have voluntary family planning associations operating, but no national family planning program, while in the two mainland territories (Guyana and Belize) and in the Bahamas no family planning program of either private or public nature exists.[64/] As to the French Caribbean, Guadeloupe has a family planning association operating since 1964 but although the French government approved in 1967 a law on the control of information and the distribution and sales of contraceptives stating that special measures will be taken in extra-territorial France in accordance with individual situation, no important family planning programs have been organized in Martinique, and none whatsoever in French Guyana.

It is not very different what happens with respect to population distribution, although the tradition of actions with probable redistributive effects is much longer than fertility policies. The first attempts at formulating regional and urban development policies are in fact found in the 1950's and even before that. A few examples of such early policies are the Superintendence for the Development of the San Francisco River Valley in Brazil, 1948; the establishment of federal commissions for the study and colonization of different Mexican river basins in 1951; the corporations for the Cauca valley, the Magdalena Valley and the Sinú in Colombia, all established around 1954; the Guyana Corporation in Venezuela (1960); the Superintendence for the Development of the Northeast (Sudene) in Brazil, 1959; the projects to create growth poles at Chimbote, Peru (1955); Arica, Chile (1955); Brasilia (1957); Reconcavo Baino, Brasil (1959); Guyana, Venezuela (1960), and Sahagún, Mexico (1960), etc.

Agrarian reform programs considering in some cases population redistributive side effects were initiated in a number of countries during the sixties: Venezuela, 1960; Colombia, 1961; Chile, 1962; Brazil, 1963; and Perú, 1964. To them it is

64/ All the information above is taken from Harewood, Jack, Caribbean Population Policy Review, unpublished paper submitted to the IRG Secretariat.

necessary to add the Bolivian agrarian reform of 1952 and the Cuban agrarian reform of 1959.[65]

The same source where the above information has been taken from provides a description of the present state of policies regarding population redistribution in Latin America. That state allows to classify the countries into four main categories: a) countries with explicit and specific policies; b) countries with regional development policies and with some public measures oriented at adjusting the pattern of population distribution to development objectives; c) countries with development plans including population redistribution as a problem to be solved, but with no explicit policy to solve it; and d) countries with development plans which do not consider population redistribution. Brazil, Colombia, Venezuela and Mexico are included in the first category; Argentina, Cuba and Chile in the second; Bolivia, Ecuador, Panamá, Costa Rica, Nicaragua, Honduras, El Salvador, Haití and the Dominican Republic in the third; and Guatemala, Paraguay and Uruguay in the fourth category. In other words, despite formal statements a majority of the Latin American countries have not included population redistribution as an objective to be reached.

At the same time, most Caribbean countries have at least an implicit policy of trying to slow down the rate of growth of the principal urban center, mainly through rural development measures an through redirecting the allocation of industries.[66]

Policies with respect to international migration have been recently examined by Torrado.[67] According to her, a negative evaluation of the impact of immigration of unskilled workers has led countries to establish legal restrictions to it. This notwithstanding, a number of bilateral and multilateral agreements attempting to protect this type of migrants have been signed by Latin American governments,

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65/ The above information is taken from Alberts, Joop, "Present State of the Policies on Population Redistribution", in González, G. et.al., The State of Population Policies post Bucharest, forthcoming.

66/ Harewood, Op.cit.

67/ Torrado, Susana, "International Migration Policies in Latin America", in González, G. et.al., The State of ...

the best example of which is the "Andean Instrument on Labor Migration", signed in 1975 with the occasion of the Third Conference of the Ministers of Labor of the countries of the Andean group (Colombia, Venezuela, Ecuador, Peru, Bolivia and, at that date, Chile) held in Lima, Peru.

A similar negative attitude towards this type of migration, and even its prohibition in Trinidad-Tobago, has been reported for the Caribbean countries, except the sparcely populated mainland territories of Guyana, Belize and French Guyane.[68/]

Attitudes and actions of Latin American governments towards selective immigration of professional, administrative and highly trained workers are, on the contrary, positive and oriented to encourage it. For instance, three Latin American countries -Bolivia (1976), Honduras (1971) and Paraguay (1974)- have modified their migration laws with the specific purpose of making immigration more attractive to that type of workers. Furthermore, Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay and Venezuela are participating in the programme of selective migration to Latin America organised by the Inter-Governmental Committee for European Migrations.[69/]

On the contrary, most Caribbean countries Migrations.[69/]s require work-permits which are in theory given only if no nationals are available to fill the specified post, for skilled workers and professionals to be accepted as legal migrants.[70/]

Although emigration of unskilled workers has been included as one of the critical situations on which action was recommended at the Second Latin American Meeting on Population, only Colombia and Mexico have specific policies oriented to solve some of the problems faced by migrants of this type,[71/] and none of them

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68/ Harewood, Op.cit.
69/ Torrado, Op.cit.
70/ Harswood, Op.cit.
71/ Torrado, Op.cit.

has policies aiming directly at reducing them. Quite the contrary, Haiti, the Dominican Republic and the English-speaking Caribbean countries encourage this type of migration as one way of solving unemployment problems and of reducing population growth.

Finally, a number of governments have attempted to reverse the trend towards the emigration of professionals and skilled workers through waving the payment of customs duties, and making other legal exceptions to those returning home.

All the above developments are clear demonstrations that Latin American governments are ready and willing to integrate population policies into regional and sectoral policies; and more generally, into development plans. At the same time, the number of national population councils already organized to that purpose provide the institucional arrangements for formulating and implementing such policies (See Table IX). Nevertheless, actual policies are most of the times of a much more restricted nature than what is formally expressed as desirable. Aside from problems faced by governments in the decision making process and from their policy-making capacities, a subject which will be examined in another chapter of this paper,*/ this gap between formal statements and actual behavior raises the question whether Latin American social science research on population has provided sufficiently precise answers as to make that integration possible. The additional question of how to fill the existing gaps so as to strengthen the probability of obtaining policy relevant knowledge is raised. The following chapters are devoted at attempting to answer those questions.

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*/ For a deeper analysis of this problem see Atria, Raúl, Population and Development. Some Notes on the Policy-making Capacities of the State in Latin America, forthcoming paper commisioned by the IRG Secretariat.

Table IX

NATIONAL POPULATION COUNCILS AND EQUIVALENT ENTITIES IN LATIN AMERICAN COUNTRIES

Countries	Year of Formation	Name of the Organization	Attached to:	Area of Concern: Fertility	Spatial Distribution	International Migration	Ministries and other entities represented as members
Argentina	1974	Comisión Nacional de Política Demográfica	Ministry of Interior	X	X	X	Ministries of: Interior, Foreign Affairs, Defense, Economy, Education, Labor and Social Welfare
Bolivia	-	-	-	-	-	-	-
Brazil	(a)	-Comisión Nacional de Migraciones Internas -Comisión Nacional de Planeamiento Urbano	(a)		X X		(a)
Colombia	1970 1973	Consejo Nacional de Población Consejo Nacional de Población y Medio Ambiente	National Department of Planning	X	X	X	National Department of Planning, Ministries of Defense, Economy, Agriculture, Labor, Health, Mines and Education
Costa Rica	1968	Comité Nacional de Población	Population Department of the Ministry of Public Health	X			Ministries of: Public Health, Education, Social Security; Universities(2) and other private organizations
Chile	1975	Comisión Nacional de Bienestar Familiar y Dinámica de Población	Ministry of Health	X			
Cuba	-	-	-	-	-	-	-
Ecuador	1974	Consejo Nacional de población	Planning Board	X	X	X	Planning Board. Ministries of: Health, Education and Labor
El Salvador	1974	Comisión Nacional de Población y Comité Técnico de Población	National Planning Council	X	X	X	National Planning Council. Ministries of: Public Health, Education, Labor and Agriculture. Representatives of private and labor sectors.
Guatemala	(a)	(b)	(a)	(a)	(a)	(a)	(a)
Haiti	1971	Département de la Santé Publique et de la Population	Ministry of Health	X			Ministry of Health, Red Cross
Honduras	1970	Dirección General de Población y Política Migratoria	(a)	(a)	(a)	X	(a)
Mexico	1974	Consejo Nacional de Población	Ministry of Interior	X	X		Ministries of: Interior, Health, Education, Treasure, Foreign Affairs, Labor, Secretary of the Republic and Agrarian Reform
Nicaragua	-	-	-	-	-	-	-
Panama	1974	Comisión Nacional de Política Demográfica	Ministry of Health	X	X	X	Ministries of: Health, Labor and Social Welfare, Housing, Planning and Economic Policy, Interior and Justice
Paraguay	1975	Comité Especial de Población (c)	National Social Progress Council	X	X		Ministries of:Health and Social Welfare, Justice and Labor, Agriculture. Secretary of Planning and Rural Welfare Institute
Perú	1976	Comisión para lineamientos para una política de población en el Perú (c)	Ministry of Health	X	X		
Dominican Republic	1963	Consejo Nacional de Población y Familia	Ministry of Health and Social Assistance	X			Ministries of: Health, Agriculture, Education and Labor. Representatives of the Presidency
Uruguay	1975	Departamento de Población	Ministry of Social Promotion and Housing	(a)	(a)	(a)	(d)
Venezuela	-	-	-	-	-	-	-

(a) Information missing
(b) There is a Population Council, but the exact name is unknown
(c) Ad hoc Commission without permanent functions
(d) Actually there is an administrative restructuration going on in Uruguay.

Source: ECLA-CELADE, Notes on Population Policies in Latin America, ACC Sub-Committee on Population 12 th. Session, New York, 27-29 September 1976.

III. SOCIO-ECONOMIC DEVELOPMENT AND POPULATION GROWTH

The first chapter was devoted to summarize some of the information available with respect to demographic trends and socio-economic development in Latin America. A brief mention of the consequences attributed to a combination of high rates of demographic growth and massive population redistributions was also made in it. Chapter two identified the population problems recognized by Latin American and Caribbean governments at regional meetings and summarized the position they have adopted towards them. The literature on the interrelations between the two processes -demographic change and socio-economic development- or the probable effect that the latter might have had on the former will now be examined. Some recent attempts to evaluate the applicability of the transition theory to Latin America are discussed in section one, while those dealing with mortality and fertility taken independently are discussed in sections two and three, with a view to allow a better integration of population policies to sectoral policies as well as to broader development strategies.

1. Economic development, modernization and the demographic transition

Historical and longitudinal studies show that, in general terms, economic development and modernization, that is, all those social, cultural and political changes which are associated with development, are linked to a process of demographic change starting with mortality declines and ending up after an

intervening lag, with low fertility and low mortality. Nevertheless, the transition patterns and sequences as well as the time-lags between them are not necessarily the same in all countries and in all historical periods. With respect to Latin America and the underdeveloped countries in general, there is a predominant view that their demographic evolution cannot be adequately fitted into the demographic transition theory: not only mortality would have decreased independently from levels of economic development, but also fertility levels would have proved to be quite resistant to economic growth.

Oechsli and Kirk[72/] and Beaver[73/] have examined the applicability of the demographic transition theory to the Latin American case. The first of these studies takes issue with the view that the theory would not be applicable in less developed countries and attempts to demonstrate that modernization and development must be taken as a holistic process which includes mortality and fertility declines as parts of it. The first would be present in early stages of development while the second would take place only after a certain development level has been reached. The analysis includes all the 25 countries of Latin America and the Caribbean regions with a population of 200 000 or more as of 1970, with the exceptions of Surinam, Martinique and Guadeloupe, for lack of adequate data.

The analysis consist mainly in establishing a correspondence system between a development index around 1962, empirically constructed so as to have the widest possible scope as to content (aspects of social change covered) and timing (stages of development in which they play a role), and crude birth and death rates for different periods. The results they obtain confirm the authors in their belief that the usual representation of the demographic transition as experienced by the developed countries is applicable, with a minor difference to Latin America and the Caribbean. The difference would be that here mortality declines start very early in the development process while the birth rate does not begin a substantial drop until the death rate has very nearly reached bottom.

72/ Oechsli, Frank W. and Dudley, Kirk, "Modernization and the Demographic Transition in Latin America and the Caribbean", Economic Development and Cultural Change, Vol. 23, N° 3, April 1975, pp. 391-419.

73/ Beaver, Steven E., Demographic Transition Theory Reinterpreted, Lexington, Massachusset: Lexington Books, D.E. Heath and Company, 1975.

They also found that those countries having in 1962 birth rates higher than expected by the curve of average experience at a given development level, have had particularly large declines in recent years. At the same time, the lag between onset of the mortality decline and natality decline is considerable short, the latter showing a tendency to speed up after 1962.

Although the authors are conscious of the dangers involved when cross-section analysis is transfered to temporal processes and urge for more time-series studies, they optimistically conclude that though Latin American rates of natural growth are unprecedented, so are the rates of modernization and development accompaning them, and that "if the decline in mortality is speeded up and the decline in natality is speeded up, and if the lag between mortality and natality decline is less, it follows that an elevated rate of natural increase in the LDCs will not be sustained as long as was the elevated rate of natural increase among the MDCs".74/

A more elaborate specification of the demographic transition theory and an empirical test of a battery of hypotheses derived therefrom is due to Beaver. Although some of his findings are not particularly relevant from a policy point of view, his main confirmed hypotheses corroborate and expand what Oeschli and Kirk had reported. The first among his most relevant findings, is that, once begun, natality decline tends to proceed faster in Latin American societies than in comparable periods in Europe, particularly when that decline has started after the II World War. The finding holds both when the crude birth rate and the gross reproduction rate are used as measures of natality.

A second finding confirms that mortality and natality declines in Latin America have tended to accelerate over time, suggesting that future natality declines in countries where this process has not yet started will be very rapid.

74/ Oeschli and Kirk, Op.cit., p. 116.

A third hypothesis relates more directly to the demographic transition theory and states that "during a given period, those Latin American countries with lower mortality and higher levels of socio-economic development will be more likely to experience the onset of major natality decline".[75] The hypothesis fits well past experiences but it encounters some problems when, as the author attempts, it is used for predictive purposes.

Actually, of the three countries he considered (Brazil, Venezuela and Mexico), the first two have moved in the predicted direction, while Mexico has shown only a very mild decline, if any.[76]

His hypothesis is strengthened if Colombia is included in this group of countries since its mortality and socio-economic levels, as recorded by Beaver himself, were similar to them. Total fertility rate has abruptly declined in this country from 6.65 in the period 1960-65 to 4.92, if the latest CELADE

75/ Beaver, Op.cit., p. 56

76/ There has been considerable debate on whether fertility decreased, increased or remained practically unchanged in Mexico during 1960-1970. For different views on this subject see Hicks, Whitney W., "Economic Development and Fertility Change in Mexico, 1950-1970", Demography, Vol. XI, N° 3, August 1974; Seiver, Daniel "Recent Fertility in Mexico: Measurement and Interpretation", Population Studies, Vol. 29, N° 3, 1975; Davidson, María, "Fertility Trends and Differential in Mexico, 1950-1970", paper presented at the 1976 Annual Meeting of the Population Association of America; see also comments by Hicks on Seiver's paper and Seiver's reply in Population Studies, Vol. 31, N° 1, March 1977. Previous estimates by CELADE of a 6.46 total fertility rate for the period 1970-75 have been corrected on the basis of the latest available information from births registers and it is now considered to reach 6.70. The same correction led to change the estimated crude birth rate from 42.0 to 43.79 per thousand. See América Latina: Evaluación de la Situación Demográfica en el Quinquenio 1970-1975. Comparación de las Estimaciones Previas con las que Resultan de Datos Recientes, Santiago de Chile: Centro Latinoamericano de Demografía, Abril de 1977. Nevertheless, a recent document prepared by the Secretariat of the Mexican National Population Council indicates that the crude birth rate for 1976 can tentatively be estimated in 40.6 per thousand. See "Consideraciones sobre Política Demográfica y Programa de Actividades de la Secretaría General del Consejo Nacional de Población", Mexico City, 3 May 1977, mimeographed.

estimate is accepted,[77] or to 4.36, if Potter et.al. estimate for 1972 is considered more accurate.[78] A decline of such magnitude is one of the sharpest in the world and, in the Latin American region, only comparable to those that have taken place in Costa Rica and Chile in recent years.

In a final chapter Beaver makes a multivariate analysis of recent natality trends which, among other things, finds that expectation of life at birth lagged 10 years before natality has the second highest effect on the latter, both for zero order and partial correlations, as well as that crude death rates and life expectancy at birth were highly correlated with the lagged development indicators.

On the whole, Beaver's findings tend to support the view that Latin America and the Caribbean are experiencing a demographic transition which, once fertility changes are iniciated, has a much faster pace than previous experiences. At the same time, there seems to be "no reason to suppose that mortality is independent from socio-economic change in Latin America",[79] as it is sometimes asserted.

In sum, the two studies reviewed in this section coincide in providing some empirical basis to the view that both mortality and fertility -and hence demographic growth- are not independent from socio-economic development, to the fast speed of fertility decline once initiated, and to the relation between mortality and fertility declines. The studies dealing separately with mortality and fertility allow to check those conclusions and specify more how different types of factor are affecting them.

77/ CELADE, Ibid.

78/ Potter, Joseph E., Miriam Ordoñez G. and Anthony R. Measham, "The Rapid Decline in Colombian Fertility", Population and Development Review, V. II, Numbers 3 and 4, September-December 1976, pp. 509-527.

79/ Beaver, Op.cit., p. 130.

2. Socio-economic factors and mortality

The best available information indicates that life expectancy at birth experienced very few changes in Latin America until 1900, except for the case of Argentina.[80/]

More generally, it seems that up to 1930 there were only modest changes in death rates, more or less closely associated with economic development.[81/] The situation changed after 1930 due to the impact of better disease control, sanitation measures and medical care, on mortality levels. Since then life expectancy at birth increased rapidly and at whatever the level or rate of economic development of the country, to slow down and adopt a more modest pace in the sixties.[82/]

The above generalizations have led to the conclusion that "in most underdeveloped countries... mortality change seems increasingly independent of economic improvement and more dependent on the importation of preventive medicine and public health from industrial countries".[83/] In other words, mortality change would depend on a factor exogeneous to development as such.

That conclusion is, of course, directly relevant to policies aimed at reducing mortality levels. If it were correct, sectoral policies in charge of the ministries of health would be the most adequate to reach that goal, without governments being forced to affect other more difficult to change socio-economic variables, or some structural characteristics. These policy

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80/ Arriaga, Eduardo, New Life Tables for Latin American Population in the Nineteenth and Twentieth Centuries, Berkeley, California: International Population and Urban Research, Institute of International Studies, University of California, 1968; Somoza, Jorge, "La Mortalidad en la Argentina entre 1869 y 1960", Desarrollo Económico, Vol. 12, N° 48 (January-March 1973) pp. 807-826.

81/ Arriaga, Eduardo, and Davis, Kingsley, "The Pattern of Mortality Change in Latin America", Demography, Vol. 6, N° 3 (August 1969), pp. 223-242.

82/ Arriaga and Davis, Op.cit.
N.U., Consejo Económico y Social: América Latina: Situación Demográfica alrededor de 1973 y Perspectivas para el año 2000, ST/ECLA/Conf.48/L.5 March, 25, 1975.

83/ Arriaga and Davis, Op.cit., p. 223.

implications of the above conclusion require that its adequacy be more closely scrutinized and that the relative importance of socio-economic versus health factors be assessed.

Among the studies relating health and socio-economic factors with mortality in Latin America, the one by Rao is perhaps the most inclusive as to the number of countries and variables considered.[84] According to this study, in a battery of ten social, economic and health variables included, the most important are literacy, industrialization, urbanization, medical services, calories consumption, per capita income and sanitary factors. However, the order changes when different age-groups are considered. For instance, literacy is very weakly related to mortality in the group 65 and over, while level of living variables are the most related at that age. According to that study, sex does not make difference as to the relative importance of the factors involved but regression coefficients are significant only for certain age groups.

The importance of literacy as a determining factor of mortality has been independently established for infant mortality both in the Latin American countries and in the regions of a country (Chile).[85] At the same time, E. de Kadt, examining Chilean provinces, found a strong association between the proportion of the population with high school education and the utilization of health services.[86]

The predominance of literacy may be explained because it is a factor not only strongly related to other level-of-living variables but also to a better knowledge of medical facilities, a higher understanding of the need for healthy environments and perhaps, a more favorable attitude towards medical treatment.

84/ See, Rao, S.L.N., "Factores Socio-económicos y de Salud Pública que afectan a la Mortalidad por Edades en América Latina", Conferencia Regional Latinoamericana de Población, Actas (1), Op.cit., pp. 182-190.

85/ Lira, Luis Felipe, Chile: Factores Económicos y Sociales que Afectan a la Mortalidad, 1960, Santiago, CELADE, Serie C, N° 149,; for Colombia, E.Baldión La Mortalidad en Colombia por Secciones Político-administrativas, 1963-1965; CELADE, unpublished.

86/ De Kadt, Emanuel, "Las Desigualdades en el Campo de la Salud", in Livingstone, Mario and Raczynski, Dagmar, Salud Pública y Bienestar Social, Santiago de Chile, CIEPLAN, 1976.

Housing conditions is another level-of-living factor expected to be negatively related to mortality. Nevertheless, the correlations found between general mortality and that factor are rather weak, as reported by Rao for Latin American countries, and by Lira and Baldion, for the administrative units of Chile and Colombia, respectively.[87] On the contrary, housing conditions and infant mortality are strongly related, as reported by De Kadt[88] and Rao.[89]

The Interamerican Investigation of Mortality in Childhood conducted by the Pan American Health Organization in 15 cities, suburban communities and rural areas, all except two located in Latin America or the Caribbean, paid particular attention to the influence of environmental conditions on mortality in the first 5 years of age.[90] The expected inverse relationship between mortality and availability of piped water and toilet facilities at homes, was found, while the number of people per room showed to be positively associated with child mortality.

On the other hand, as expected, the availability of health services has also been found to be related to mortality although once more the relation to general mortality at the intra country level is weaker than to infant and child mortality.[91]

Studies relating mortality to socio-economic factors have also allowed to discover important differences for areas and regions within countries, as well as to answer the question whether mortality is higher in the urban or the rural areas.

87/ Lira, Luis Felipe, Op.cit.
88/ De Kadt, E., Op.cit.
89/ Rao, Op.cit.
90/ Panamerican Health Organization, Interamerican Investigation of Mortality in Childhood, First Year of Investigation, Provisional Report, Washington, D.C., September 1971.
91/ Lira, Luis Felipe, Op.cit., Baldion, E., Op.cit., De Kadt, E., Op.cit. Rao, Op.cit.

Intra country regional differences with respect to socio-economic factors and availability of health services seem to be at the basis of the wide variations in mortality rates reported for Argentina,[92] Chile,[93] Mexico,[94] Brazil,[95] Costa Rica, Bolivia, Paraguay, San Salvador, Dominican Republic, Perú, Colombia and Ecuador.

The question whether mortality is lower in the urban or the rural areas of Latin America can now be answered in favor of the first alternative, the few exceptions to this rule being a consequence of under-registration of deaths in the rural areas.[96] At the same time, urbanization and mortality have been found to be negatively correlated both at the inter and intracountry levels and with respect to general and infant mortality.

92/ Somoza, Jorge, Op.cit.
Alvarez, L. and Pujol, J., Chile: Tablas Abreviadas de Mortalidad por Regiones, 1960-61; Santiago, CELADE, Serie A, N° 76, 1967; Pujol, J., Chile: Tablas Abreviadas de Mortalidad a Nivel Nacional y Regional, 1969-1970, Santiago, CELADE, Serie A, N° 141, Julio 1976;

93/ Lerner, Susana and Morales, José, Proyecciones Regionales de Población Total y Parcial Activa, por Sexo y Grupos de Edades, 1960-1985, México, CEED-El Colegio de México, Mimeographed; also Cordero, Eduardo, "La Subestimación de la Mortalidad Infantil en México", Demografía y Economía, Vol. 4, 1968.

94/ Carvalho, J.A.M. de and Charles Howard Wood, Renda e Concentraçao de Mortalidade no Brasil, Centro de Desenvolvimento e Planejamento Regional de UFMG, CEDEPLAR, Belho Horizonte, October 1976, mimeographed; Rodríguez, Julio, Brasil, Mortalidad y Fecundidad en las Regiones Nordeste y Sudeste 1970, San José, Costa Rica, CELADE, Serie C, N° 1005, Agosto 1977.

95/ Soliz, A., H. Behm and K., Hill; Mortalidad en los Primeros Años de Vida en Países de América Latina: Costa Rica 1968-1969, San José, Costa Rica: CELADE, 1976. Behm, H. Hill, K, and Soliz A, La Mortalidad en los primeros años de vida, Bolivia 1971-72, San José, Costa Rica; CELADE 1972; Behm, H. and Brizuela de Ramirez, F. Id., Paraguay, 1967-68, San José, Costa Rica, CELADE 1972; Behm, H. y Escalante, A., Id., El Salvador 1966-67; CELADE 1977; Behm H. and De Moya F. Id., República Dominicana 1970-71; Behm H. and Leáserma, Id. Perú; Behm, H. and Rueda, J. Id. Colombia; Behm, H. and Rosero, L. Id., Ecuador; Hill, K., H. Behm and Z. Soliz, La Situación de la Mortalidad en Bolivia, La Paz, Bolivia, Ministerio de Planeamiento y Coordinación de la Presidencia de la República, Instituto de Estadísticas-CELADE, 1976.

96/ See, CEPAL, Desarrollo y Población, Op.cit., p. 9; Arriaga, Eduardo, "Rural-urban Mortality in Developing Countries: An Index for Detecting Under Registration", Demography, Vol. IV/N°1, 1960, CEPAL, Población y Desarrollo, Op.cit., Behm, H. et.al., Op.cit.; Ortega, A. and Rincón, H. Mortalidad, yCELADE, Dirección General de Estadística y Censos de Honduras, Encuesta Demográfica Nacional de Honduras, Fascículo IV.

Nevertheless, it cannot be assumed that the trend toward lower urban mortality rates will necessarily continue until it reaches its "floor". In at least one country, Brasil, it has been found that infant mortality has increased in a number of cities. In three of them (Belho Horizonte, Goiania and Joao Pessoa) after having experienced the expected decrease until the middle of the sixties, the last registered infant mortality rates were higher even than in 1950. In Sao Paulo, Manaos and Recife the same trend toward a decrease followed by recent increases has been found and is particularly strong in the first of these cities, at the same time the largest metropolis and the most important industrial center of the country.[27/]

These findings have been independently confirmed and expanded by Wood for the cities of Belho Horizonte and Sao Paulo.[28/] According to this analysis, infant mortality rate increased from 62.9 in 1960 to 89.5 in 1970 in the city of Sao Paulo, and from 74.2 to 124.8 in the period 1960-1973 in Belho Horizonte. These differences are found even when the proportion which can be attributed to deaths of non residents in the cities is discounted from the official rates. The author provides information allowing to relate those increases in mortality with sharp decreases in the purchasing power of the minimum wages during the same period in the two cities, as well as with a higher concentration of income. These two processes, plus the incapacity of the State to increase basic services in the cities at the rate it would have been required, are viewed by the author as the main causes of a reversal in the previously prevailing trend toward lower infant mortality.

Differential mortality by social groups has proven to be more important than urban, rural or regional differentials, as shown by the few studies available on the subject. For instance, Brazilian data from the 1970 census

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27/ IBGE, Anuarios Estadísticos do Brasil, 1965-1973, as reproduced by Felicia R. Madeira, "Aspectos Demográficos de la Urbanización", en CEBRAP, La Urbanización en el Brasil, Aspectos Demográficos, Sociales, Económicos y Políticos, papers submitted to the Seminar on Urban Planning and its Relations with National Economic Planning, organized by ILPES, Bogotá, 14-15, June, 1976.

28/ Wood, Charles Howard, Tendencia de Mortalidade Infantil e Distribuçao de Renda: Estudo sobre Belho Horizonte e Sao Paulo, Centro de Desenvolvimento e Planejamento Regional, CEDEPLAR, Belho Horizonte, Marzo 1976, Mimeographed.

have allowed Carvalho and Wood[99] to estimate life expectancy at birth for the Brazilian regions, cross tabulated with family monetary income and place of residence. A comparison of the trends in regional differences through time (1930-40; 1940-50; 1960-70) shows a curvilinear relation that closely follows inter-regional changes in urbanization, educational levels and per capita income.

At the same time, wide differences in life expectancy at birth between income groups were found for Brazil as a whole and for the different regions. These differences are found at any level of general mortality and vary independently from it.

Finally, the same study found that in Brazil low income urban families have lower life expectancy than all rural groups, thus lending support to the contention that social class differences in mortality are much more important in that country than regional or urban-rural differentials.

The demographic national survey of Honduras, conducted in 1971-72 by the Census and Statistical Records Bureau of that nation (Dirección General de Estadística y Censos), with the collaboration of CELADE, has provided additional data on socio-economic factors associated with general as well as infant mortality. With respect to the former, the crude death rate of the upper, upper-middle and middle strata was almost half that of the lower stratum, while life expectancy at birth for those in the lower stratum was 18.6 years less than that of those in the upper and middle strata (48.3 vs. 66.9). Differences in infant mortality are equally impressive; at the same time, although differences in crude death rates by socio-economic categories are also marked in the rural areas, they are much more pronounced in the urban areas.[100]

Social class differences with respect to infant and child mortality have been more thoroughly analized than general mortality differentials. One of the most important efforts in this respect is the study of child

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99/ Carvalho and Wood, Op.cit.
100/ Ortega and Rincón, Op.cit.

mortality conducted by the Pan American Health Organization in 13 Latin American cities or regions. A negative relation between the educational level of the mother and child mortality was clearly established in it.[101]

The census of Nicaragua taken in 1971 has also allowed to correlate the number of children dead in 1970 for 1 000 born alive with the area where registered (urban vs. rural) and the educational level of the mother. The main finding in this case is that although, on the average, mortality is lower in the urban areas, the urban group where mothers have no formal education has the highest rates of all the groups examined. At the same time, intra-area differences, particularly in the cities, appear as much more pronounced than inter-area differences: the rate in the group with uneducated mothers is 2.5 times higher than among those with 10 or more years of formal schooling in the urban areas and almost 100 per cent higher in the rural areas.

But there is little doubt that the most important contributions for a clarification of social class differences with respect to infant and child mortality are due to Hugo Behm. In his first pioneering study on infant mortality and level of living in Chile during the period 1930-1957,[102] he had been able to determine that the children of manual workers had twice the infant mortality rate of those of non-manual workers, a difference which was even larger in the provinces with higher socio-economic conditions and lower mean infant mortality. Recent studies conducted by CELADE under Behm's direction have tackled more systematically the problem from a comparative perspective. I am referring to a series of studies on mortality in the first two years of age in Argentina, Bolivia, Colombia, Costa Rica, Cuba, Chile, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay, Perú, Dominican Republic and Uruguay.[103] Using data from the last censuses and from national sample surveys, the studies make use of a methodology originally developed by W. Brass, to estimate the levels and characteristics of mortality in the first years of life by geographical subdivisions and by socio-economic level, as measured by women's educational status.

101/ For a description of this study see Organización Panamericana de la Salud, Investigación Latinoamericana de la Mortalidad en la Niñez, Informe Provisional; also, Serrano, Carlos, "Investigación Interamericanan de la Mortalidad en la Niñez", in Conferencia Regional Latinoamericana de Población, Op.cit., pp. 164-166.

102/ See Behm, Hugo, Mortalidad Infantil y Nivel de Vida, Santiago, Universidad de Chile, 1962.

103/ See footnote 95/ for reference.

The findings for 8 of the above countries have already been published at the moment of writing this report and are summarized in Table X (Bolivia, Costa Rica, Colombia, Chile, Dominican Republic, Ecuador, El Salvador and Perú). As it can be seen by inspecting that table, in all those countries mortality in the first two years of age is closely related to the educational level of the mother. The last column in it shows that, with the exception of the two countries with the highest probability of dying in the first two years, children whose mothers had no schooling had a probability around three times higher of dying in the first two years than those whose mothers had 10 or more years of schooling.

A combination of regional and social status differentials in mortality, plus the number of live births in each status and the number of deaths in the first two years expected for those strata allow the authors to identify the main target groups, if policies oriented to make mortality decline in those years are intended. In all countries those groups are composed of the most uneducated mothers, but in some of them they are placed in the rural areas while in others they are more prevalent in the cities, and even in the capital city (Bolivia, San Salvador).

All the above findings lead to the conclusion that social group differences are more important than rural-urban or intracountry regional differences, and that they tend to be maintained at whatever level of economic development[104/] or mortality.[105/] Likewise, they show that cities not only are the residence of some of the most underprivileged groups with regard to the probability of dying, but they also hide the largest social group differences in this respect.

The close relationship between mortality levels and socio-economic development, as well as the doubtless role played by health programs require further scrutiny lest false policy dilemmas be raised.

104/ Behm, Op.cit.
105/ Carvalho and Wood, Op.cit.

Table X

PROBABILITY OF DYING IN THE FIRST TWO YEARS OF AGE, BY MOTHER'S EDUCATIONAL LEVEL, IN SELECTED LATIN AMERICAN COUNTRIES AROUND 1966-1972

Probability of dying (per thousand)	Mother educational level (years of schooling)						Probability of none/ 10 and more
	Total	None	1-3	4-6	7-9	10 -	
Paraguay 1967-1968	75	104	80	61	45	27	3.9
Costa Rica 1968-1969	81	125	98	70	51	33	3.8
Colombia 1968-1969	88	126	95	63	42	32	3.9
Chile 1968-1969	91	131	108	92	66	46	2.8
Dominican Republic 1970-1971	123	172	130	106	81	54	3.2
Ecuador 1969-1970	127	176	134	101	61	46	3.8
El Salvador 1966-1967	145	158	142	111	58	30	5.3
Bolivia 1971-1972	202	245	209	176	110		2.2

Source: Behm, H. et.al, Op.cit.

The most systematic attempts to evaluate the relative importance in mortality reductions of health programs that make use of modern medical technology are due to Samuel Preston; although referred to all less developed countries, they cannot be ignored in this discussion.[106] According to the data he has been able to assemble, a varying but important proportion of changes in life expectancy in less developed countries is due to factors exogeneous to national levels of income, literacy and calories consumption. The predicted life expectancy in 1970-75 if 1940 relations between this and the other three variables had continued to prevail in the latter date are presented in table XI

If the World Health Organization estimates that Latin American life expectancy in 1935-39 was 40 years[107] and CELADE estimate that it was 61.35 in 1970-75[108] are accepted, a weighted mean difference of 9.54 years in the predicted and the actual life expectancy in Latin America would imply that 44.7 per cent of the mortality decline experienced in the region is attributed to better medical technology and to health programs.

That notwithstanding, the available data on causes of death in Latin America and the Caribbean given strong support to the generalization advanced by Preston that "in high mortality populations, infectious and parasitic diseases bear almost exclusive responsability for shortening life below the modern Western standards".[109] For instance, the PAHO study of mortality in twelve cities found that the annual age-adjusted death rates from tuberculosis per 100 000 population for males 15-74 years was 5.7 in Bristol and 10.4 in San Francisco, but that it reached 31.9 in Bogotá, 50.1 in Cali, 40.5 in Guatemala City, 87.1 in Lima, 92.5 in Santiago de Chile, 34.8 in Mexico City and 34.6 in Ribeirao Preto. Death rates from other infective and

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106/ Preston, Samuel H., "The Changing Relation Between Mortality and Level of Economic Development", Population Studies, V. 29, 2, 1975, pp. 231-248; Preston, Samuel H. "Causes and Consequences of Mortality Declines in Less Developed Countries During the Twentieth Century" paper submitted totthe Conference on Population and Economic Change in Less Developed Countries September 30-October 2, 1976, National Bureau of Economic Research, N.Y.

107/ World Health Organization, "Health Trends and Prospects, 1950-2000", World Health Statistics Reports, Vol. 27, n° 10, 1974, p. 23.

108/ CELADE, América ....

109/ Preston, Causes...., p. 6.

Table XI

LIFE EXPECTANCY IN 1970-75 AND LIFE EXPECTANCY PREDICTED IF 1940 RELATIONS BETWEEN LIFE EXPECTANCY AND LEVELS OF LITERACY, INCOME, AND CALORIES CONSUMPTION HAD CONTINUED TO PREVAIL

Latin America	Predicted e_0^{0*}	Actual e_0^0	Difference
Argentina	61.04	68.20	6.36
Bolivia	39.49	46.80	7.31
Brazil	50.85	61.40	10.55
Chile	56.26	62.60	5.98
Colombia	51.36	60.90	9.54
Costa Rica	56.07	68.20	12.13
Dominican Republic	48.38	57.80	9.42
Ecuador	47.14	59.60	12.46
El Salvador	45.09	57.80	12.71
Guatemala	43.86	52.90	9.04
Guyana	51.21	67.90	16.69
Haiti	29.48	50.00	20.52
Honduras	44.10	53.50	9.40
Jamaica	54.93	69.50	14.57
México	55.24	63.20	7.96
Nicaragua	48.51	52.90	4.39
Panamá	55.47	66.50	11.03
Paraguay	47.84	61.90	14.06
Perú	46.72	55.70	8.98
Puerto Rico	59.60	72.10	12.50
Trinidad and Tobago	54.17	69.50	15.23
Uruguay	59.54	69.80	10.26
Venezuela	55.14	64.70	9.56

Mean Difference, Latin America - 10.90

1970 Population-weighted Mean Difference, Latin America - 9.54

Mean, all LDC's	-	8.61
1970 Population-weighted Mean all LDC's	-	8.66

* Based on substitution of 1970 values of literacy, income and calorie consumption into 1940 regression relating e_0^0 to these variables.

Source: Preston, Causes....., Table 5.

parasitic diseases and particularly from intestinal infections were also higher in the Latin American cities than in the two cities from outside this region.[110]

Analogous findings have been reported by PAHO for infant and child mortality in Latin America and the Caribbean.[111] A study of 12 Latin American areas, one Caribbean area and two North American Areas (one in the United States and one in Canada) found that infectuos and parasitic diseases -more precisely, diarrheal diseases- are the most important underlying causes of post neonatal and childhood deaths in Latin American and Caribbean cities and rural areas; those causes followed only maternal conditions and complications at birth in the case of neonatal deaths.

The high importance of nutritional deficiences as an associated cause of death is another important finding of the PAHO study in 12 Latin American and one Caribbean areas that cannot be disregarded when attempting to pinpoint more precisely the way level of living factors and health programs are affecting death rates. For deaths with infectious diseases as the underlying cause the percentage with an associated nutritional deficiency varied from 40 for Kingston, Jamaica, to 70 and 76 for Recife and Ribeirao Preto, Brazil. In all but two places more than 50% of the deaths from diarrheal diseases had malnutrition as an associated cause; the percentages were even higher in those cases having measles as the underlying cause of death. While the percentages of respiratory diseases as underlying causes of deaths having malnutrition as an associated cause are lower, in no case they fall below 20 per cent and in some they reach more than fifty per cent.[112]

110/ Puffer, Ruth Rice and G. Wayne Griffith, Patterns of Urban Mortality, Washington, D.C.: Pan American Health Organization, Scientific Publication N. 151, 1967, table 12, p. 41; for other studies broadly confirming the above findings see Arrias, Adalberto, Venezuela, Análisis de la Mortalidad por Causas, 1961, CELADE, Serie C. N.151, Junio de 1973; Cericola, Elsa, República Argentina, Análisis de la Mortalidad por Causas, 1960, CELADE, Serie C, N.109, 1968; Taucher, Erika, Mortalidad en Chile, 1955-1975, Tendencias y Causas, CELADE, unpublished.

111/ Pan American Health Organization, Interamerican Investigation of Mortality in Childhood, Provisional Report, September 1971; also Puffer, Ruth R. and Carlos V. Serrano, Patterns of Mortality in Childhood, Washington, D.C. Pan American Health Organization, Scientific Publication N.262, 1973.

112/ PAHO, Op.cit., Table 25, p. 67.

Unfortunately we do not have enough data on mortality by causes at different dates so as to determine the relative importance of each cause in the experienced mortality decline, but some information from Chile, Mexico and Guyana mentioned by Preston[113] tends to confirm the importance of declines in deaths by respiratory TB and diarrheal diseases in total mortality declines. A recently finished study by Taucher on mortality trends and causes in Chile between 1955-1975[114] confirms that finding: the decline of respiratory diseases explains the highest per cent (28.4) of the deaths avoided the years 1974-75 with respect to 1955-56. Declines in deaths caused by pneumonia and immaturity are the most important to explain declines in the deaths of infants less than 28 days old, while reductions in pneumonia, bronchopneumonia and, to a lesser degree, diarrheal diseases are those explaining a higher proportion of declines in infant mortality. Since cross-sectional studies have shown that these are at the same time the causes of death distinguising low mortality and relatively high mortality countries, future mortality declines will still have to rely mostly on lowering the incidence of these causes.

Progress in making death rates caused by respiratory diseases to decrease depends in the first place of immunization programs and only indirectly of improving the nutritional status or other level of living variables.[115] The administrative capacity of the health sector to cover all areas of the country and all social groups with preventive measures and curative services will be mostly responsible for future declines of deaths caused by respiratory diseases. On the contrary, decreases in infectous and parasitic diseases are directly dependent on improvements in the levels of living of the most under-privileged social groups. Programs to provide better sanitation facilities, more purified water, sewage disposals, etc., as well as others oriented to eliminate malnutrition became in this case an integral part of policies aiming at increasing life expectancy.

113/ Preston, Causes.....
114/ Taucher, Op.cit.
115/ Preston, Ibid.; Taucher, Ibid.

Though the importance of inadequate nutritional practices in causing malnutrition even when adequate food supplies are available cannot be denied, the data presented in a previous section of this paper on the percentages of the population in extreme poverty and on calories consumption make us be skeptical of how much can the situation be improved on a national scale just by teaching better nutritional habits.

Furthermore, preventive health programs, improvement of medical facilities so as to make them available to high mortality groups still lacking them, and improvements of environmental conditions affecting living standards are strongly hindered by present trends in population distribution and redistribution. The unequal distribution of health and basic social services along the national territory, their concentration in the capital cities and other urban places as well as the disadvantaged position of the dispersed rural population is a well documented fact.[116/] The speed of urbanization and of urban concentration make it highly difficult for governments to cope with the increasing urban needs in housing, purified water supplies, sewage disposals, and health services. The consequence of this is that large segments of the urban population are now living under conditions highly favorable for the emergence of infective and parasitic diseases, a situation that is aggravated in many cases by the unequal distribution of medical services within city limits.

116/ For instance, in Colombia during the 1960s, the number of inhabitants per doctors and nurses were 20 000 and 80 000 respectively, in the rural areas, while in the cities of 100 000 inhabitants and more the corresponding proportions were 1 200 and almost 4 000; in Lima, there were 600 persons per doctor in 1964 while in the rural areas of Perú there were 17 600 persons for each doctor; in Kingston and in Guatemala City there was one doctor for about each 1 000 persons, while the corresponding figure climbed to 5 000 in the rest of Jamaica, and to 10 000 in the rest of Guatemala. The data for Colombia and Perú are taken from De Kadt, Emanuel, Op.cit., in Livingstone, Mario and D. Raczynski, Op.cit., pp. 22-64. Those for Jamaica and Guatemala come from Bryant, J., Health and the Developing World, Ithaca and London: Cornell University Press, 1969.

In sum, from a policy point of view, it seems clear now that future improvements in life expectancy at birth as well as more specific improvements in infant and child mortality require that health programs be included in much broader socio-economic and population policies aimed at raising the level of living of high mortality groups in both rural and urban areas. On the contrary, it does not seem plausible to expect that isolated health programs will lead in the future, and while the importance of the different types of causes of death is not altered, to significant and long lasting mortality declines.

3. Development, fertility and family planning

When reviewing the studies testing the applicability of transition theory in Latin America and the Caribbean, the conclusion was reached that economic development and modernization were clearly affecting demographic change, and that both the mortality and fertility rates found in a country corresponded to its development level, broadly speaking. The contrary view that health measures were in itself and independent from development, sufficient to make mortality decline has already shown to be against the available empirical evidence.

Views with respect to the best means to achieve fertility changes and, more concretely, fertility declines, were for a long time polarized in two extremes: those who believed that family planning programs could effectively reduce fertility independent from the level and type of development, and those others who sustained that such programs were unnecessary because socio-economic development will in and for itself make fertility decline.

Although these views were at the center of the debate before, during, and immediately after the Bucharest World Population Conference, and the slogan "Take care of the people and population will take care of itself" is still repeated by non-specialists, very few students of the field would sustain them at this moment. But if development and family planning are now seen more as complementary than contradictory measures to achieve fertility changes, the specific ways through which the former affects fertility, and how and when

family planning programs become successful are not clear, as it appears when the empirical evidence is discussed.

A. Development and fertility: General relations

Studies on the subject tend, in general, to confirm the negative relationship between socio-economic development and fertility, particularly if the first is measured in more than purely economic terms, both when Latin American countries and regions within them are compared.[117]

Nevertheless, exceptions to that generalization have been reported. For instance, some studies using per capita income as an indicator of economic development have found a positive relation,[118] with fertility, while others found the sign of the relationship to change from positive to negative, depending on whether developed or undeveloped countries were examined.[119]

At the intracountry level, exceptions to the negative relationship have been found in Perú, Ecuador and Bolivia, as well as in other countries, when more specific development measures have been used.[120]

117/ See, among others, Boletín de Población de las Naciones Unidas Nº 7 de 1973; Robert H. Weller and David F. Sly, "Modernization and Demographic Change: A World View", Rural Sociology, Vol. 34, Nº 3, 1969; pp. 313-326; Edward G. Stockwell, "Some Demographic Correlates of Economic Development", Rural Sociology, Vol. 31, Nº 2, June 1966, pp. 216-224; Heer, D. and Turner, E. "Areal Differences in Latin American Fertility", Population Studies, Vol. 18, Nº 3, 1965, pp. 279-292. Blanch, J.M., Op.cit., p.5; Beaver, Op.cit. Kirk, Dudley, "A New Demographic Trancition?", in National Academy of Sciences, Rapid Population Growth. Consequences and Policy Implications, Vol. II: Research Papers, pp. 123-147; Zúñiga, L. and Ortiz, P., Factores Estratégicos en el Cambio de Fecundidad en Chile: Un Análisis de Cohortes entre 1950-1970, Santiago: CELADE, Informes de Progresos de Investigaciones, noviembre 1976; Berquó, Elsa, Op.cit.; Kaminsky, Mario, "Tasa de Natalidad y Variables Socio-económicas: Una Nota", Notas de Población, Vol. IV, Nº 11, 1976, pp. 97-110

118/ Weintraub, Robert, "The Birth Rate and Economic Development: An Empirical Study", Econométrica, Vol. 40, Nº 4, October 1962, pp. 812-817; Adelman, Irma, "An Econometric Analysis of Population Growth", American Economic Review, June 1963, pp. 869-911

119/ Friedlander, Stanley and Silver, Morris, "A Quantitative Study of the Determinants of Fertility Behavior", Demography, Vol. 4, 1967, pp. 30-70

120/ Merlo, Pedro, Op.cit.; Salazar, Huarán, Julia, Op.cit.; Llano, Luis, Op.cit.

The use that is made of the child-woman ratio as a measure of fertility, may explain some of these contradictory findings. As it is known, this measure is affected by infant mortality: if this is higher in less developed countries or regions, the measured fertility will be lower than the actual one. Others have suggested a non-linear relationship: income increments at low income levels would provoke higher declines in fertility than at high income levels.

Searching for more general explanations, some authors have made a distinction between the fertility effects of economic growth and those of other "modernization" factors as an alternative explanation. Increases in per capita income would be in the short-run associated with higher fertility because nuptiality rates would become higher, age at marriage would be lower, and the probability of pregnancy ending up in a live birth would be higher. But, at the same time, economic growth would have as either causes, consequences or, simply, correlates, some other processes associated in the long run with a decrease in fertility.[121/] Some of those processes most mentioned in the literature are:

a) improvements in educational levels which, with respect to fertility, should bring about: i) more access to information in general and to modern and more efficient means of birth control in particular; ii) more communication between husband and wife regarding family decisions, particularly decisions as to the desired family size and the means to attain it; iii) parent's higher educational and occupational aspirations for their children and, consequently, preferences for a smaller family size, and iv) higher age at marriage;

b) higher levels of urbanization, with a concomitant change in values, aspirations and social relations, which in turn, lead to changes in preferred family size and to more efficient birth control practices (facilitated by an easier access to the means);

121/ For a distinction between the short-run direct effects of income on fertility and the long-run indirect effects see Simon, Julian L., "Income, Wealth and their Distribution as Policy Tools in Fertility Control", in Ronald G. Ridker (ed) Population and Development. The Search for Selective Interventions. Baltimore and London: The John Hopkins University Press, 1976, pp. 36-76

c) higher participation of women in the labour force, and

d) lower infant mortality.

The distinction between the effect of economics and of modernization factors on fertility is a first step toward identifying different types or styles of socio-economic development as differentially affecting fertility, an essential distinction when the problem is analysed from the perspective of linking population and development policies and strategies more closely.

A recent review of the factors most strongly related with fertility found that women's participation in the labour force, urbanization and literacy levels, when taken jointly are those with highest explanatory value in Latin America,[122] thus giving a strong support to the hypothesis that modernization (as measured by those variables) makes fertility to decrease.

Most of the available information shows a strong negative association between different indicators of educational level (literacy rates, mean years of schooling, number of years in school, etc.) and fertility, at both aggregate and individual levels.[123]

However, a number of studies have found a positive relationship,[124] Some of these unexpected findings are probably due to the measure of fertility being used as dependent variable (the child-woman ratio). Those using other measures cannot be dismissed so easily. Hicks, for instance, used total fertility rates observed at the 1950, 1960 and 1970 census years in 32 Mexican states as the dependent variable, and female literacy as the independent

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122/ Lira, Luis Felipe, Op.cit.

123/ For a summary of the available information, see, Mertens, Walter, "Investigación sobre la Fecundidad y la Planificación Familiar en América Latina", Conferencia Regional Latinoamericana de Población, México, 1970, Vol. 1, pp. 195-219. Also De Vanzo, Julie, The Determinants of Family Formation in Chile, 1960: An Econometric Study of Female Labour Force Participation. Marriage and Fertility Decisions (Santa Mónica, California: Rand, 1972, R830-A(D)

124/ Heer and Turner, Op.cit.; Blanch, Op.cit.; Friedlander and Silver, Op.cit., Hicks, V. Whitney, "Economic Development and Fertility Change in Mexico, 1950-1970", Demography, 11 August, 1974, pp. 407-422; Iutaka, Sugiyama, D.W.Bock and W.G.Varnes, "Factors Affecting Fertility of Natives and Migrants in Urban Brazil", Population Studies, 25 March, 1971, pp.55-62

variable, founding a positive coefficient in a multiple regression model. At the same time, it seems that the positive relation is found in countries and regions at low levels of development, while there are no exceptions to the expected negative relation at higher levels.[125] Both considerations have led to the suggestion that countries or regions must first surpasse a certain threshold educational level before education starts to influence negatively on fertility. Some have even dared to suggest that "uniformly inverse relationships between education and fertility only emerge in countries with female literacy in excess of 60 per cent".[126] Although that figure has in fact empirical support in a couple of studies mentioned by Cochrane, the generalization seems quite audacious. The existence of a threshold value and the possibility of empirically establishing it require that data at the individual level be brought into the picture, something we shall do later when discussing marital fertility.

As elsewhere, fertility is in general lower in urban than in rural areas, the magnitude of the differences tending first to widen and later to decrease. At the same time, urbanization, as measured by the percentage of urban population out of the total population, is negatively related with fertility.[127] Nevertheless, intra-country regional differences as to natality levels may make the urban population of some regions to reach higher levels than the rural population of other regions. This is the case in Brazil: total fertility rate is lower in urban than in rural areas when the country as a whole and each state are considered separately, but the urban population of 15 states out of 26 has rates higher than the rural population of at least one other state.[128]

125/ Blanch, Op.cit.; Friedlander and Silver, Op.cit.

126/ Cochrane, Susan H. Education and Fertility, Population and Human Resources Division, Development Economics Department, Preliminary Draft, March 16, 1977, p. 162.

127/ For a summary of the information see, CEPAL, Desarrollo y Población; also Cortés, Fernando y Flisfisch, Angel; Educación, Urbanización y Fecundidad: Un Ensayo Teórico, Santiago, Facultad Latinoamericana de Ciencias Sociales, 1976.

128/ Berquó, Op.cit.

On the other hand, strictly economic indicators such as per capita income and average annual growth of GNP not only present more exceptions to the expected negative relationship, but when this is found it tends to be weaker than that linking social indicators to fertility.[129]

Another consideration to make is that studies at both world and Latin American levels have found high intercorrelations among the modernization factors and between them and economic development. Broadly speaking, development is a "holistic" process which can be only analytically disentangled into its constituent parts. This being the case, the task seems to consist in analyzing how different structures of relationships among the development components and their changes through time influence fertility, rather than in examining the explanatory value of each component taken in isolation.

Unfortunately, this has rarely, if ever, been done in Latin America. In fact only three studies resemble this kind of analysis. One is Oeschli and Kirk's attempt to develop a "correspondence system" for Latin America,[130] in which degrees of correspondence for individual countries (instead of for the region as a whole) were not included.

The second is Cortés and Flisfisch attempt to isolate a "social heterogeneity" component in each country and to examine its influence on fertility rates.[131] Making use of the method of principal components for the analysis of socio-economic and demographic UN data for 20 Latin American countries, this study isolated two main factors as those having the highest explanatory value of the birth rate. The first is a straightforward socio-economic factor including per capita income, gross agricultural product as a percentage of GNP; percent urban; percent in elementary school out of the 7-13 years old population; Percent in high school out of the 15-19 years old population; percent literate 15 years old and over. The second factor was interpreted by the authors as meaning the degree of "lack of correspondence" between the above variables, or as they prefer to call it, the socio-economic heterogeneity, found in a nation.

129/ Kirk, Ibid.
130/ Oeschli and Kirk, Op.cit.
131/ Cortés, Fernando and Flisfisch, Angel, Tasa de Natalidad y Variables Socio-Económicas: Una Nota Metodológica, Notas de Población, Año III, Vol. 8, August 1975, pp. 43-62; also by the same authors: Educación, Urbanización y Fecundidad: Un Ensayo Teórico, Santiago de Chile, Facultad Latinoamericana de Ciencias Sociales, June 1975.

In that study the socio-economic growth factor and the socio-economic heterogeneity factor, taken together, explained 81 per cent of the variance in the birth rate, while socio-economic heterogeneity alone explained more than half (51 per cent) of the variance unexplained by the other factor. Finally, it was found that the effect of the educational system depended on the urbanization level reached by the country.

The third study is a simulation model built by the Colombian Corporación Centro Regional de Población,[132] with which it has been possible to estimate the amount of fertility changes that could be expected under different levels of education and different patterns of population distribution.

Another important issue being raised with respect to the interrelations with economic development, modernization and fertility decline refers to the possibility of determining threshold values for rapid declines to start. Kirk has been engaged in such type of exercise for Latin America.[133] Threshold ranges for each of the independent variables he used were determined by contrasting the indicators for the seven countries of the region that had entered or gone through the transition in 1962 (Argentina, Barbados, Chile, Cuba, Puerto Rico, Trinidad-Tobago, Uruguay) with those of the eighteen that had not. The threshold was defined as the range between the lowest value for the first group of countries and the highest for the second.

As it happened with Beaver's analogous (although not similar) attempt, the exercise was only partially successful as a way of predicting which countries will follow the first seven in the process of fertility decline: while it is true that those which had reached threshold values in five of four variables (Costa Rica, Guyana, Jamaica, Venezuela and Panama) have experienced fertility declines since 1962, Colombia has hadan much faster decline than the former and, according to Kirk, it had not reached threshold values in 1962. At the same time, although Mexico had reached them in three variables, it does not seem to have experienced significant declines in fertility. In sum, while the establishment of a threshold value has intuitive appeal, attempts to set it have not up to now provided social scientists and policy makers with a useful predictive tool.

132/ Corporación Centro Regional de Población, Modelo SERES. Estructura y Usos, Bogotá, Area Socio-Económica, Monografía 3, 1974.

133/ Kirk, " A New....."

No effort has up to now been made in this review to distinguish different paths through which socio-economic factors may influence fertility. A simple but useful distinction is that between those factors affecting fertility through changes in nuptiality patterns and those that influence marital fertility.[134] Both subjects are dealt with separately in the following section.

B. Marriage patterns and union dissolutions as fertility determinants.

Differences in marriage patterns and the prevalence of union dissolutions are two factors independent from marital fertility that influence changes in fertility levels.

The literature on the subject usually distinguishes between a traditional pattern of early marriage and high nuptiality, which would be common to most less developed countries, and a European pattern of late marriage and high celibacy, considered to predominate in developed countries. The identification of each pattern with a developmental stage isn't quite correct, since, as Dixon has shown, not all less developed countries conform to the traditional pattern and, on the other hand, many of the developed countries only partially conform to the European pattern.[135] Nevertheless, as I will argue later on, it seems reasonable to expect that social and economic development might lead to postpone age at marriage and to increase the number of spinsters in a developing society.

The analysis of this subject in Latin America and the Caribbean requires that the high incidence of consensual unions in that region be taken into account. This forces the researcher to use the census, where legal and consensual unions are registered, as his main source of data, and to consider vital statistics records of legal marriages only as supplementary sources. At the same time, it is necessary to make the distinction between general

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134/ For a similar distinction with respect to Latin American and Caribbean studies, see CEPAL, Población y Desarrollo en América Latina, E/CN.12/1073, 28 de Febrero 1974, Vol. 5.

135/ Dixon, Ruth B., "Explaining cross-cultural variations in age at marriage and proportions never marrying", Population Studies, Vol XXV, N° 2, July 1971, pp. 215-234.

nuptiality -including both legal and consensual unions- and legal nuptiality. A few studies allow to have some quantitative idea of the relative importance of consensual unions in the region. Census data for 17 Latin American countries around 1950 were analysed by Mortara.[136] Only in a few countries (Chile, Costa Rica) those unions were very infrequent: seven for each 100 legal unions in Chile and 17 for each 100 legal unions in Costa Rica. In most other countries they amounted to more than half the number of legal unions, and in Guatemala and Haiti there were more than two consensual unions for each legal union. Although more recent data show a downward trend in the relative importance of this type of union in some countries, in others it has remained stable and certainly it still remains important in most of them.[137]

At the same time, all available information shows that consensual unions are more important in the rural than in the urban areas.[138] Likewise, the quantitative importance of consensual unions seems to be negatively related to female education and to socio-economic status in general.[139]

Unfortunately only very scant and somewhat outdated information on general nuptiality is available for the region, the most comprehensive study still being that by Carmen for the 1950-1960 intercensal period.[140]

136/ Mortara, Giorgio, "Les Unions Consensuelles dans l'Amerique Latine", International Population Conference, New York, 1961.

137/ ... for instance, analysing 1970 census data from Panamá, Lira found that although consensual unions had decreased since 1950, there still were 97.1 for each 100 legal unions. See Lira, Luis Felipe, Estructura Familiar, Población y Fecundidad en América Latina, Santiago, Unidad Central del PISPAL, unpublished. Also, the national demographic survey of Honduras has allowed Carmen to estimate an annual rate of consensual unions of 7.2 per thousand, while annual legal nuptiality rate was only 3.3 per thousand. See Carmen, Zulma C.,"Fecundidad y Nupcialidad", Dirección General de Estadísticas y Censos -Centro Latinoamericano de Demografía, Encuesta Demográfica Nacional de Honduras, Fascículo III, May 1975, Table 34, p. 72.

138/ Carmen, Ibid.; Lira, Ibid.; Miró, Carmen and Walter Merrick, "Influences affecting Fertility in Urban and Rural Latin America", Milbank Memorial Fund Quarterly, Vol. XLVI-3, 1968, part 2, pp. 89-117.

139/ Michielitto, R., C. Vincent, C. Cochrane and C. Haney, "Consensual and Legal Marital Unions in Costa Rica", International Journal of Comparative Sociology, Vol. XIV, N° 1-2, 1973; Da Vanzo, Op.cit.

140/ Carmen, Zulma C., La Nupcialidad Femenina en América Latina Durante el Periodo Intercensal 1950-60, San José, Costa Rica: CELADE,AS/10, 1971.

Examining general nuptiality for age groups 15 years and older in 15 Latin American countries she was able to identify three distinctive patterns. The "Central American" pattern, in which all Central American countries but Costa Rica, and Panamá and Venezuela are included, is characterized by very high rates (226 per thousand) concentrated at the 15-17.5 age-group; the "Andean" pattern, including, Colombia, Ecuador, Perú, Mexico and Costa Rica, with slightly lower general nuptiality rates (220 per thousand) but the highest rates now being found at the second youngest age group; and the "Southern" pattern (Argentina, Chile, Uruguay) with 200 per thousand general fertility rates and relatively older age of entry into first union (39 per thousand among those 15-17.5 years old).

Early marriage and high general nuptiality rates countries are at the same time countries with a high incidence of concensual unions.

Although the author interprets these three patterns as related to geographical regions, a comparison of those included in each pattern with their levels of socio-economic development shows that the Southern pattern is found in countries that have reached higher levels of development, while the Central American pattern is found, with the exceptions of Venezuela and Panamá, among those countries sharing the lowest development indices of the region. The Andean pattern, on its turn, is found in countries at an intermediate development level.[141/]

141/ For the latest typology of Latin American countries according to their development level along a number of economic, health, nutritional, educational and housing indicators, see Franco, Rolando. Tipología de América Latina, Santiago de Chile: Cuadernos del Instituto Latinoamericano de Planificación Económica y Social, Serie II, Artículos de Investigación, N° 17, April 1973, table 18.

...h country, the proportions starting a union younger than twenty ... been found to be higher for consensual unions than for legal ... well as in rural ... than in urban areas, among women born or having ... childbearing years in the country side, and among the less educated.

Besides, a comparison between actual and ideal age at marriage shows that the latter is much higher than the former. The wider discrepancy is found among women with low educational status, but those who have been born in the rural areas not only marry younger than their urban counterparts, but also they prefer to do it an an earlier age.[142/]

In brief, the available information tends to support the view that age at marriage is closely related to women's place of origin and of socialization, to their educational level and, perhaps, to their husband's occupational status. The higher fertility registered in the rural areas, among the less educated and in blue collar families can be partially explained by these differences. From a policy point of view, measures oriented to postpone marriage and make it take place at the ages presently considered as ideal should not be disregarded. At the same time, it is expected that the generalization of primary education and the process of urbanization will contribute to increase age at marriage even without specific measures oriented to reach that goal.

Nuptiality is another factor that influences fertility independent from marital fertility. Its study in Latin America is somewhat complicated because of the different way it is defined by the census and by vital statistics records. The census adopts a broad definition including legal as well as consensual unions, while, on the contrary, only legal unions are registered in vital statistics. As it could be expected, rates calculated from the latter source are lower than the census rates.[143/] The difference between the two sources can be interpreted as measuring the importance of consensual unions in some Latin American countries.

142/ Yaukey, D. and Thorsen, T., "Differential female age at first marriage in six Latin American cities", Journal of Marriage and the Family, Vol. 34, N° 2, May 1972; Mortara, Op.cit.; Yaukey and Thorsen, Op.cit.; Krumholz, Micaela, Diferenciales en las Edades Reales e Ideales al Casarse de la Población Femenina Rural en Cuatro Países de América Latina, CELADE, SIDF, A.2/P 2, December 1973.

143/ Arretx, Carmen, "Nuptiality in Latin America", International Population Conference, International Union for the Scientific Study of Population, London, 1969, Vol. 3

To the best of my knowledge, no study of changes in general nuptiality rates (legal and consensual unions) is available for the last intercensal period. The analysis done by Camisa of nuptiality changes in the 1950's for 15 Latin American countries revealed that the proportion of women in legal or consensual union had increased during the period for most age groups and most countries, Panama being the most noteworthy exception.144/

The most plausible hypothesis is that the traditional pattern of early marriage, high general nuptiality and high incidence of consensual unions prevalent among high fertility Latin American countries will be gradually replaced by another closer to the European pattern, although not identical to it. A number of reasons help to support that hypothesis. In the first place, as it was already said, a trend toward a decrease in the importance of consensual unions has already been initiated in a number of Latin American countries probably as a consequence of higher urbanization, wider coverage of elementary education and expansion of the middle strata. Secondly, these changes, plus increases in the participation rates of women in the labour force as well as changes in the types of employment women have (two points we shall refer to later on) will in all probability lead to lower age at first marriage. In the third place, it is possible that changes in the masculinity ratio of large cities due to selective migration by age and sex might end up increasing age at marriage and the number of women never married in them. Finally, the possible impact of land shortages and underemployment in the rural areas as well as that of unemployment and crowding in the cities, although more subject to controversy, cannot be disdained.

If we accept that consensual unions have either decreased or remained stable in high fertility Latin American countries, recent changes in crude marriage rates may be accepted as indicating changes in general nuptiality rates. The last available figures are presented in table XII.

144/ Camisa, Zulma, Op. cit.

Table XII

CRUDE MARRIAGE RATES, by urban/rural residence: 1971-1975.

Continent, country or area urban/rural residence	Rate				
	1971	1972	1973	1974	1975
America, North					
Bahamas	7.5	7.2	6.8	5.8	4.8
Barbados	4.5	3.9	3.9	...	...
Belize	5.8	...	...	...	...
Bermuda	10.9	10.3	9.7	9.2	...
Costa Rica	6.4	7.0	7.0	10.9	...
Cuba	13.2	8.9	7.5	7.4	...
Dominican Republic	4.4	4.2	4.4	4.3	...
El Salvador	3.7	3.8	4.0	4.2	4.1
America, South					
Brazil	...	...	...	...	...
Chile	8.9	8.8	...	...	...
Colombia	2.4	2.3	...	...	...
Ecuador	5.9	5.8	5.4	5.6	...
French Guiana	...	3.8	4.6	...	...
Paraguay	4.9	...	...	...	...
Uruguay	8.1	7.6	7.6	...	...
Venezuela	6.2	5.6	6.3	7.1	...

Note:

Refers to the number of legal (recognized) marriages performed and registered, including unions established by mutual consent or by tribal or native authority, per 1,000 population.

Source: Demographic Yearbook 1975, Twenty-seventh Issue, United Nations, New York, 1976.

An inspection of that table shows that 14 out of the 22 countries for which longitudinal data are available show either a decrease of the same legal nuptiality rate during the last years. Except in Chile among the latter, where consensual unions are of little quantitative importance, both situations can be interpreted as indicating lower general fertility rates. Those who have experienced an increase in marriage rates are at the same time, with the only exception of Costa Rica, countries with high prevalence of consensual unions. Although this cannot be ascertained for sure, it is probable that at least part of that increase is due to higher relative importance of legal over consensual unions.

In sum, although the information available is scant and needs to be interpreted before any firm conclusion can be reached, there are more arguments in favour than against the hypothesis that marriage patterns are, on the whole, moving from one conducive to high exposure to the risk of pregnancy and, other things being equal, to higher fertility, to another where that risk is lower at relevant ages.

A few words must now be said regarding the probable impact on fertility of recent trends with respect to widowhood, divorce and separations as causes of marriage dissolutions. Since unfortunately no information for widowhood as such is available, the following comments will refer only to the last two causes of marriage dissolution.

Statistical records on divorce are particularly unreliable in the Latin American countries. The census is the main available source for cross sectional or longitudinal comparative studies. This tends severely to underestimate the real figures both by including as married all those people who have divorced or separated and remarried, and because annulments and non legal separations are not included in it. Comparisons may, therefore, give at the most a very rough approximation to what the real figures are.

Divorce rates for ten Latin American countries have been collected by the U.N. for the years 1960 and 1970.[145] Legal divorce has increased in all the countries analysed, except Costa Rica, Guatemala and Venezuela, but rates continue being comparatively small --a minimum of 0.13 per thousand in Honduras and a maximum of 2.2 per thousand in Puerto Rico for the year 1960; a minimum of 0.13 in Costa Rica and a maximum of 3.50 in Puerto Rico for the year 1970. As it was already said, these figures grossly underrepresent the real importance of voluntary marriage dissolutions, but they help to point the direction of the trend.

Studies in Chile and Uruguay confirm the tendency for voluntary marriage dissolutions to increase. In the first of these two countries the percentage annulled or separated out of all married couples increased from 2.3 per cent in 1952 to 2.9 per cent in 1960 and to 3.4 per cent in 1970. In Uruguay, the rate of divorce per thousand marriages duplicated between 1935 (40.3 per thousand) and 1959 (83.7 per thousand), having reached 124.0 per thousand in 1969.[146]

A comparison of the impact on fertility of the dissolution of legal and consensual unions in seven Latin American cities (Río de Janeiro, Caracas, San José, Bogotá, México, Buenos Aires and Panamá) has been made by Miró and [illegible].[147] In the [illegible], women who were previously legally married had [illegible] than those who had lived in a consensual union. This finding [illegible] the earlier age at which the dissolution of a consensual

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145/ United Nations, Demographic Yearbook, 1974.

146/ The figures are taken from Lira, Luis Felipe, Estructura Familiar, Población y Fecundidad en América Latina, Santiago, PISPAL, Unidad Central, mimeo, 1977.

147/ Miró, Carmen and Mertens, Walter, "Influences Affecting Fertility in Urban and Rural Latin America", Milbank Memorial Fund Quarterly, Vol. XLVI-3, 1968, part 2, pp. 89-117.

union usually takes place. In many cases, as Blake has shown for Jamaica,[137] consensual unions are broken precisely when the woman gets pregnant.

But the scant information available does not allow even a rough estimate of the impact an increase in the number of voluntary marriage dissolutions might have had on fertility, or may have in the future. To make it, records would need to be compiled not only of their numbers, but also of the ages at which they occur, the frequency with which divorcees and separated remarry, and the time-lag between dissolution of the union and new marriage. None of this information is now available.

Summarizing the discussion on marriage patterns, union dissolutions and their probable impact on fertility changes, the available evidence with respect to differentials and changes in age at first union, type of union and legal nuptiality has been used to suggest that present trends in social and economic development would be changing them in a fertility-reducing direction. This seems to be particularly the case in those countries where the Central American and the Andean marriage patterns identified by Camisa have traditionally prevailed.

Although the above trends were considered to be the most plausible, our state of knowledge regarding this subject is very unsatisfactory and does not allow firm conclusions as to the actual impact of changes in marriage patterns and union dissolutions on fertility nor more precisely to predict their future impact. Comparative and longitudinal studies of the interrelations between social and economic change and marriage patterns among high and low fertility social groups as well as between countries, and estimates of the contribution made by changes in age at first marriage, nuptiality and marriage dissolutions to the decline of fertility in selected countries would be required to improve our knowledge on a subject potentially conducive to a wider scope of fertility

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[137] Blake, Judith, "Family Instability and Reproductive Behavior in Jamaica", Current Research in Human Fertility, New York, Milbank Memorial Fund, 1955, pp. 24-41.

changing policy interventions. Studies of this sort should at the same time be complemented by efforts to evaluate the impact different government policies and legal provisions have had and are having on the patterns discussed in this section. However, all those studies would not come to firm conclusions if they are not linked to an analysis of factors affecting marital fertility, a subject we shall now start to discuss.

C. Socio-economic factors and marital fertility

Our review of this subject will start with the studies devoted mostly, although not exclusively, to examine the relations between the modernization factors previously identified (education, women's participation in the labour force and infant mortality decline) and fertility, to later summarize the information available on those family patterns considered most relevant for an understanding of the processes leading to fertility declines. In a final section urban-rural differentials in marital fertility will be examined.

c) Education and marital fertility. When discussing the general relationships between socio-economic development and fertility a number of ways through which improvements in educational levels negatively affect fertility were mentioned: more access to information in general and to means of birth control in particular; more equalitarian decisions between husband and wife regarding, among other things, the number and spacing of children; higher aspirations for themselves and their children and, consequently, preference for smaller but higher "quality" families; higher age at marriage. The first three operate through changes in marital fertility and the latter through nuptiality changes.

Empirical evidence of the negative relation between education and age and marriage was presented and discussed in the previous section. The negative impact of education on marital fertility has also found empirical support in Latin America.

In the first place, a direct relationship between education and favorable attitudes towards birth control has been found with no exceptions in Latin America.[149/]

149/ CELADE and CFSC, Fertility and Family Planning in Metropolitan Latin America, Chicago: Community and Family Study Center, University of Chicago, 1972.

Secondly, the information that couples in urban and rural areas have of contraception has been found to be positively related to their educational status, as well as to the educational level prevailing in the community where the couple lives.[150] Thirdly in the same rural and semi-urban areas, the gap between knowledge and practice of contraception is negatively related to the degree of communication existing between husband and wife which, on its turn, is dependent on the educational level of the couple.[151] Fourthly, parent's educatinnal level are highly and positively associated with educational and occupational aspirations for their children,[152] and negatively associated with desired family size.

With respect to the number of school years necessary for a decline in fertility to take place, data derived from comparative surveys on urban and rural fertility in Latin America (PECFAL studies) as well as more recent national demographic surveys have revealed that in most cases mothers who have surpassed the elementary school level have a smaller number of live births that those who have not (See Tables XIII and XIV).

150/ Simmons, Alan and De Jong, Johanna, Education one Contraception in Latin America, Santiago, CELADE, may 1974; CELADE and CFSC, Ibid.

151/ Simmons, Alan and Gulagowski, Mauricio, Motivación acerca del Tamaño de la Familia y Toma de Decisiones de la Pareja: Un Examen de sus Reacciones con la Brecha Conocimiento. Práctica de Anticonceptivos en América Latina Rural, CELADE, september, 1974.

152/ See, Ursúa, Radi, "Social Structure and Education as a Value", in William A. Harrell, Education and Population in Latin America, Houston, University of Houston, Latin American Studies Program, 1975, pp. 31-52.

Table XIII

AVERAGE NUMBER OF CHILDREN BORN ALIVE BY EDUCATIONAL LEVEL OF WOMEN SURVEYED IN RURAL AREAS OF SEVEN LATIN AMERICAN COUNTRIES, FOR THE 1960-1970 DECADE

Educational level	Bolivia a/			Ecuador b/		Colombia			Chile		México			Perú	Costa Rica
	La Paz Rural	Cochabamba Rural	Sta.Cruz Rural	Sierra	Costa	Total Rural c/	Cartagena d/	Naira d/	Cauquenes	Mostazal	Total Rural c/	Guelavia d/	Pabellón d/	Rural e/	Rural c/
Total	4.45	4.17	4.07	4.87	5.14	-	4.91	6.13	3.03	3.48	-	3.80	4.16	-	-
None	4.91	4.60	5.23	5.53	6.68	7.2	5.68	5.83	4.86	4.81	7.6	4.69	5.54	5.38	7.8
Elementary	3.71	3.26	3.77	3.91f/	4.57	6.4f/	4.58f/	5.67f/	1.26	2.49	6.9f/	3.35	1.89f/	4.69	5.6f/
Secondary	2.77	4.00	5.00	2.62	3.85	3.0g/	5.25	3.50	1.21	1.38	3.9g/	-	0.25	3.44	3.8g/
Universitary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sources:

a/ Centro de Estudios de Población y Familias "Condicionamientos Socioculturales de la Fecundidad en Bolivia", C.E.P., 1967-1969, p.93, cuadro 2.44. Figures refer to non-single persons.

b/ Maria, Pedro, Ecuador, Análisis de una Encuesta de Fecundidad Urbana y Rural realizada en el año 1967-1968, Santiago de Chile, CELADE, Serie C, Nº 133 (1971), cuadro 10. Figures refer to married women and to those living in consensual union.

c/ Fucaraccio, Angel, Algunos efectos del desarrollo sobre la población, CELADE, (mimeografiado), 1973, cuadro 5, con datos de PECFAL-Rural. Based upon PECFAL-rural survey data. Figures refer to married women.

d/ Miró, Carmen A. y Mertens, Walter, Influencia de Algunas Variables Intermedias en el nivel y en las Diferencias de Fecundidad Urbana y Rural en América Latina, Santiago de Chile, CELADE, Serie A, Nº 92 (1969), cuadro 7. Figures refer to ever pregnant women.

e/ Oficina Nacional de Estadísticas y Censos. Instituto Nacional de Planificación, "La Población del Perú" (1974), cuadro 3. Figures refer to mothers.

f/ Primary education completed, not specified in other cases.

g/ Secondary education completed, not specified in other cases.

Table XIV

...IVE YEARS, BY EDUCATIONAL LEVEL. SUMMARY OF FINDINGS. I. URBAN AREAS OF COUNTRIES
...s or countries)

BOLIVIA			ARGENTINA	COSTA RICA 1973			ECUADOR	
Santa Cruz c/	La Paz c/	Cochabamba c/	Posadas d/	Total e/	San Jose	Other urban places	Coast f/	High lands
6,0	4,7	6,4	-	-	-	-	5,6	4,7
3,9	3,51	4,4	5,3	8,6	6,0	7,3	5,0	4,5
-	-	-	3,5	5,6	4,4	5,6	3,7	3,5
3,0	2,64	3,2	-	4,5	3,7	5,4	3,5	3,1
-	-	-	2,6	3,3	3,2	3,4	1,9	4,3
3,8	2,67	2,2	-	-	-	-	1,7	1,8
2,2	3,61	4,0	-	6,8	4,6	6,0	-	-

...n al Nivel y en las Diferenciales de Fecundidad Urbana y Rural de América Latina.

...de la Encuesta Demográfica Nacional de 1975, La Paz, Bolivia, Instituto Nacional

...ales de la Fecundidad en Bolivia, La Paz, Bolivia, C.E.P., 1969.
...icas y Censos, Encuesta Demográfica Retrospectiva de Posadas, Provincia de

...José, CELADE, Serie A, Nº 1023, 1976.
...al Realizada en el Año 1967-68, Santiago de Chile, CELADE, Serie C, Nº 133 (1971).

With the only exceptions of Buenos Aires and Panama, all Latin American urban areas and national populations show an inverse relationship between education and fertility, with a slight upturn at the college level, when mean number of children born alive at the end of women's reproductive years are examined, as it can be seen in Table XIV. Of the two deviant cases Buenos Aires is the farthest away from the common pattern, while Panama conforms to it with the only exception that fertility tends to be higher among women with some elementary education than among those with no formal schooling. Although the sharpest declines are found somewhere between the "some elementary" and the "completed elementary school" levels, the exact breaking point varies from country to country and city to city. The same pattern is found in the rural areas (see Table XIII).

Two general conclusions can be reached from those studies. The first is that it does not seem possible to postulate the existence of a threshold value that should be reached before education starts to negatively affect fertility, as some students postulate to be the case in other regions of the world.[153/]

The second conclusion is that although some educational levels appear as critical for accelerating (not starting) fertility decline, they vary not only from country to country but also from region to region within a country, as well as from urban to rural areas. Consequently, the attempt to use educational policies as means for making fertility to decline requires that the impact of formal education on fertility be assessed in each particular case.

None of the above specifications is strong enough as to deny the influence that budget re-allocations alloting a higher proportion of educational expenditures to fight rural illiteracy and to improve the quality and coverage of elementary education in the urban areas might have on fertility. They do caution us not to take educational improvements as a panacea for accelerating

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153/ Cochrane, Op.cit.

fertility declines. Although the reasons why countries, regions and areas differ as to the amount of educational inputs required for fertility-declining purposes are not clearly understood and research on them is practically non existent, their links with particular structural factors can at least be hypothetized. As it was suggested earlier, education affects fertility through changes in attitudes, knowledge, aspirations, as well as through the wider opportunities higher educational levels offer to adopt the means necessary to adjust their actual behavior to those sociopsychological changes. Other structural factors will then influence the relative strength with which education affects fertility either through shaping cultural and sociopsychological responses different from those expected from educational improvements, or through putting barriers to behavioral changes. For instance, the impact of education on fertility may be expected to be rather weak if structural conditions are actually denying large rural and urban social groups opportunities of upward mobility while at the same time are encouraging them to have large families, or if they have very limited access to efficient means of birth control.

In sum the sociological interpretation of empirical data, although by no means conclusive, suggests that although educational improvements may be conducive to fertility declines, they should be reinforced with wider-encompassing structural changes.

b) Women's participation in the labour force and fertility. The increased participation of women in the labour force is another "modernization" factor considered as determinant of the negative relation between socio-economic development and fertility.

Comparisons of levels and trends in female labour force participation rates are a dangerous exercise. Differences in census criteria are often taken as real differences while efforts to find more homogeneous criteria run the risk of obscuring real intra-country or cross-temporal differences.

However, some courageous efforts in that direction have been made in Latin America. Although it has been estimated that no less than 10 million women will enter the labour force before the end of the century,[154] their participation rates increased very little from 1950 to 1970, as shown by Elizaga,[155] Pantelides,[156] and The International Labour Office.[157] Figures for all Latin American and Caribbean countries compiled by the latter show that while women's participation rate was 12,70 per cent for all ages in 1950, it had fallen to 12,57 per cent in 1960, but it had increased up to 13,50 per cent in 1970. As it could be expected, participation rates tended to decrease at extreme ages, most probably because of an increase in the number of years attending school, which delays entrance to the labour market, and to a wider coverage of retirement benefits at old ages.

Inter-country comparisons are particularly risky because of wide differences as to how the categories "family worker" and "independent" or "self-employed" worker are defined by the censuses. An exclusion of those categories from the analysis probably disturbs the picture since beyond definitional problems there are good reasons to believe that real differences exist,[158] but even when only the most comparable categories are included Latin American countries are found to differ widely as to the female labour force participation rates predominating in them.

154/ CEPAL, Población y Desarrollo, Vol. IX, p. 243.

155/ Elizaga, Juan Carlos, "Participación de la Mujer en la Mano de Obra en América Latina: La Fecundidad y Otros Determinantes", Revista Internacional del Trabajo, Vol. 89, N° 5-6, may-june 1974.

156/ Pantelides, Edith, Estudio de la Población Femenina Económicamente Activa en América Latina, 1950-1970, Santiago de Chile, Centro Latinoamericano de Demografía, march 1976.

157/ Oficina Internacional del Trabajo, 1950-2000, Fuerza de Trabajo, América Latina, Vol. III, 2a. edición, N° 327, 1977, Table 2, p. 6.

158/ Analyzing women's participation in the Bolivian labour force in 1950 Fucaraccio comes to the conclusion that their high rates are explained by the particular characteristics of the productive relations and the technological levels predominating in the country's economy at that date. See, Fucaraccio, Angel, El Trabajo Femenino en Bolivia: Un Estudio de Caso, Santiago de Chile, Centro Latinoamericano de Demografía, 1974, mimeographed.

From a more qualitative point of view, that participation has been mostly at the blue-collar level, but showing a tendency to move from domestic service to household industries, and from them to more productive blue-collar occupations.[159]

Besides, the distribution of the female labour force has drastically shifted from agriculture to the secondary and tertiary sectors, particularly in some countries. Mexico is the most noteworthy example in this respect: the percentage of female labour force in agriculture fell from 32.6 per cent in 1960 to 10.8 per cent in 1970, while the proportion in the secondary and tertiary sectors increased from 13.0 per cent to 18.8 per cent, and from 53,1 per cent to 60.1 per cent, respectively.[160]

With respect to the factors affecting participation rates, it has been found that educational level is, of course, the main determinant of entrance level in the labour market but, at the same time, that the more highly educated have the highest participation rates. It is also known that participation rates are higher in the largest cities than in the rest of the country or in smaller towns, that single and widowed, divorced-separated women have much higher participation rates than women in marriage and/or consensual union, and that the latter participation in highly affected by the number of children, except perhaps in the lower social strata.[161]

If we now turn to the association between women's participation in the labour force and fertility, the generalization that at any age both are negatively associated has fairly firm empirical support in Latin America, particularly

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159/ Ibid., p. 245; Elizaga, J.C., "Participación de la Mujer ...", Op.cit. pp. 579-585.

160/ Uthof, Andras and González, Gerardo, Women's Participation in Economic Activities as a Strategic Factor of Change in Fertility: The Cases of Mexico and Costa Rica, Santiago de Chile, Latin American Demographic Center, july 1976, mimeographed.

161/ The above generalizations are based on Elizaga, Op.cit., Pantelides, Op.cit., Uthoff and González, Op.cit., Rodríguez, Aida and Schlolnik, Susana, Chile y Guatemala: Factores que Afectan la Participación Femenina en la Actividad Económica, Santiago de Chile, CELADE, june 1974. The exception has been found in Chile, as reported in Fucaraccio, A., El Trabajo de la Mujer en Chile, 1970. Parte 1, Capital del País, Santiago, CELADE, 1974.

with respect to married women.[162] Nevertheless, the strength of the relationship, and even the possibility that its sign be altered depend of a number of factors. At the same time, the nature of the interrelations are difficult to determine in cross-sectional studies. Many women try to restrict their fertility because they work. Others have no children or a small number and thus have the freedom to work. Finally, some of them, most commonly found at the lower social strata, work because they have more children than those their husbands can support. Bearing this in mind, some of the factors mentioned in Latin American literature as affecting the strength of the relationship will now be reviewed.

The most important of them seems to be the nature of the work done. Jaffe and Azumi had found a long time ago that fertility decreases only when women have economic activities outside of the home but not when they participate in cottage industries.[163] Similar findings have been reported by Stycos and Weller for Lima[164] by Weller for Puerto Rico,[165] by Fucaraccio for Bolivia,[166] by Hass for 7 Latin American metropolis,[167] and by Miró and Mertens for selected rural areas of Latin America.[168] These findings have led to the more general hypothesis that for women's participation in the labour force to be negatively related to fertility it is necessary that an imcompatibility between mother and workers roles be present.

The former hypothesis can be stated in economic terms more attuned with the approach in vogue in the subject, by saying that the opportunity cost a

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162/ Rothman, Ana María, La Participación Femenina en Actividades Económicas en su Relación con el Nivel de Fecundidad en Buenos Aires y México, CELADE, Serie C, Nº 108, 1969; Hass, Paula Hollerbach, Maternal Employment and Fertility in Metropolitan Latin America, Duke University, 1971; Kirsch, Henry, Op.cit.; Elizaga, J.C., "Participación de la Mujer ...", Op.cit.; CEPAL, Población y Desarrollo, Op.cit., cuadro 7, p. 257; Davidson, María, "A Comparative Study of Fertility in Mexico City and Caracas", Social Biology, Vol. 20, Nº 4, december 1973; Arrext, Carmen, Análisis de la Fecundidad de Bolivia Basado en los Datos de la Encuesta Demográfica Nacional de 1975, La Paz, Bolivia, Ministerio de Planeamiento y Coordinación de la Presidencia de la República, Instituto Nacional de Estadísticas, CELADE, 1976.

163/ A.J. Jaffe and K. Azumi, "The Birth Rate and Cottage-Industries in (Cont.)

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Underdeveloped Countries", Economic Development and Cultural Change, Vol. IX, Nº 1, 1960, pp. 54-55.

164/ Mayone J. Stycos and Weller, Robert H., "Female Working Roles and Fertility", Demography, Vol. 4, Nº 1, 1967, pp. 210-217.

165/ Weller, Robert H. "The Employment of Wives: Roles Incompatibility and Fertility", Milbank Memorial Fund Quarterly, October 1968, Vol. XLVI, Nº 4, pp. 507-526.

166/ Puoraccio, Angel, El Trabajo Femenino en Bolivia, Un Estudio de Caso. (Informe provisional), CELADE, Santiago de Chile, January 1974.

167/ Hass, Paula H., Maternal Employment ..., Op.cit.

168/ Miró, Carmen A. and Mertens, Walter, "Influences Affecting Fertility in Urban and Rural Latin America", Milbank Memorial Fund Quarterly, Vol. XVLI, Nº 3, July 1968.

169/ For a more detailed discussion of these approaches see Uthoff and González, Op.cit.

child represents for a woman, and hence the adoption of the role of mother instead of that of worker, is contingent upon the type of work done. Other not incompatible explanations stress rather the changing status and role of women in the family as a consequence of their exposure to the working environment. A third complementary approach views changes in fertility and women's participation as related to cultural changes in society as a whole that, on its term, lead to more differentiated status and roles for women, irrespective of whether they work or not.[169]

Whatever explanation is chosen, the conclusion is reached that the negative relationship between female participation in the labour force and fertility will be strengthened in the future. While this is a very plausible prediction, it deserves some qualifications when the characteristics of Latin American development are taken into account. A recent study on the subject states that "the lowest values in respect of role incompatibility, opportunity cost, the socializing and modernizing effects of work and the influence of industrial-urban culture usually correspond to jobs in the non formal market and the primary sector of the economy. The highest values, in contrast, will probably be found in jobs in the formal market and in the secondary and tertiary sectors

of the economy".[170/] If this assertion is correct, the strength of the relationship between female participation and fertility in the future of Latin America will depend on how the levels and types of social and economic development affect both the characteristics of the female labour force and employment structure and levels.

The most important to consider among the probable changes in the characteristics of the female labour force are those that might take place in their skill levels. Formal or informal education and on the job training increase the opportunities of women to find skilled and semi-skilled urban jobs rather than unskilled jobs in the urban "informal market", thus augmenting their role differentiation and the role conflict between mother and worker. But of course this may only occur if skilled and semi-skilled jobs are sufficiently expanded as to provide real opportunities for women.

On its turn, employment level and structure depend on the dynamics of the economic system, but also on the development strategy adopted by the government. When summarizing the main recent trends and characteristics of Latin American development some information was presented indicating the dim prospects for increasing labour force demand in skilled and semi-skilled urban jobs at a rate allowing the absorption of the expanded labour force supply. Suffice is to remember here that ECLA projections of present trends indicate that while by the year 2000 underemployment will remain at about the same high levels than today, open unemployment will be doubled. If these projections are accepted, there is a very low probability that better educated women might get occupations according to their qualifications.

170/ Uthoff and González, Op.cit., p. 11.

Consequently, the prediction that the negative relationship between female labour force participation and fertility will be strengthened in the near future is contingent upon the adoption by the governments of policies that might reverse present trends in unemployment and underemployment.

But economic considerations are not the only ones worthy of consideration. The type of family of which the woman is a part and the division of roles within it opens a whole new field of inquiry the literature on which will be more sistematically analysed in another section of this chapter. Here it is only necessary to remember that role conflicts are weakened when the family is composed of other relatives besides the couple, or when it has reached the stage in the family cycle when some children are old enough to take care of their younger siblings. The presence of relatives seems to be much more common in blue-collar than in white collar families, while the latter include more often other non relative adults, presumably domestic servants, to which the task of caring for the children is specifically assigned.[171] In both cases role conflicts are not as dramatic as expected.

The way social relations are organized at the community level, and particularly how much help can the working mother get from her neighbors, and the presence and accesibility of child care centers or nursery schools either in the neighborhood or at the place of work, are two other factor that weaken the conflict between the role of mother and worker. Studies on the first subject in Latin America suggest that the network of social relations in the slum areas include as one of the most important social norms that of taking care of the neighbors' children when the mother is out for work, at least when it is a part time work.[172]

171/ Torrealba, Edith. El Hogar como Unidad de Análisis de los Datos Censales: Importancia y Posibilidades, Santiago, CELADE, Serie C, Nº 147.

172/ For a summary of those studies see CELADE, Políticas de Población y la Familia: El Caso Latinoamericano, Santiago, CELADE, Serie A, Nº 124, may 1974.

With respect to the second subject it is necessary to remember that in a number of Latin American countries governments sponsor the organization of child-care centers in working class neighborhoods, or compulsory require that industries hiring more than a certain number of women organize them close to the place of work.

In sum, the negative relationship between female labour force participation and fertility is sustained by Latin American data, but the hypothesis that it will become stronger in the near future, though plausible, is contingent upon a number of economic and social factors and of political decisions that should be further analysed before more confidence might be put on it.

c) The effect of infant and child mortality on fertility. The last "modernization" factor hypothetically affecting fertility is the decrease in infant and child mortality, as a consequence of improved health policies. The hypothesis is that direct personal experiences of infant and child deaths, indirect experiences or knowledge of death ocurred among family, friends or acquaintances, or the experience of past child mortality now integrated into the culture will relate positively fertility with infant and child mortality. In other words, it is expected that a decrease in infant and child mortality will bring, with a certain time lag, a proportional decrease in fertility.

Studies on this subject are almost inexistent in Latin America. In fact, one recently done by CELADE[173/] was able to identify only three previous attempts to analyse the effects of child mortality on fertility, two on Puerto Rico and the third examining Chilean data. Those on Puerto Rico are cross-sectional studies by Schultz,[174/] and by Nerlove and Schultz,[175/] where data

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173/ Rubstein, Shea and Medina, Vilma, The Effect on Infant and Child Mortality on Fertility in Latin America, CELADE, IPI/8, april, 1975. (I have relied heavely on that study for reviewing this subject).

174/ Schultz, Paul T., "An Economic Model of Family Planning and Fertility", Journal of Political Economy, 77 (1969), 153-180.

175/ Nerlove, Marc and Schultz, Paul, Love and Life Between the Censuses: A Model of Family Planning Decision-making in Puerto Rico, 1950-1960, Santa Mónica, California, Rand, RM-6322-AID.

for local areas provided by the censuses of 1950 and 1960 and from vital statistics are used. The study on Chile involves cross-sectional data obtained from the 1950 census and publications on the vital rates for 1958-1960, and examines the child mortality-fertility relation for the rural and urban areas of the 25 Chilean provinces.[176]

In the first Puerto Rican study the relation between the crude birth rate and a lagged crude death rate was determined using ordinary least-squares regressions and including a battery of socio-economic variables(adult educational level, school attendance, women labour force participation, income level, marital status, proportion of unpaid family workers, proportion urban and proportion working in agriculture). It was found that death rates lagged one and two years had substantial effects on the birth rates one or two years later.[177]

The study by Nerlove and Schultz makes use of the same data sources but of a revised model in which the variables "proportion urban" and "proportion working in agriculture" are dropped and an index of female age composition is added. Also the effects on the crude death rate on fertility two to five years later and an estimation of the parameters of the equation over three years more than in the first study were included. The main conclusion is that the crude birth rate was more strongly related (has larger coefficients) with mortality lagged two to three years than four to five years.[178]

Analogous findings have been reported in the study on Chile, with infant mortality lagged two years and fertility measured by age-specific mean numbers of births, and 0-4 plus 5-9 child-women ratios.[179]

176/ Da Vanzo, Op.cit.
177/ Schultz, Op.cit.
178/ Nerlove and Schultz, Op.cit.
179/ Da Vanzo, Op.cit.

The study by Rutstein and Medica differs from the previous ones both in type of data used and the methodology applied. Microlevel data collected by CELADE's MECFAL-rural fertility surveys in the rural and semiurban areas (less than 20 000 population) in Colombia, Costa Rica, Mexico and Peru,[180/] instead of aggregate data, were used. Methodologically, the parity progression ratio, i.e. the proportion of women having N + 1 or more birth out of those having at least N births, was used as a dependent variable and the number of deaths of children 0 to 14 years of age that occurred before the birth causing the increase in parity was defined as the independent variable. The date of previous birth and a number of socio-economic variables were introduced as controls in a multivariate analysis using multiple classification analysis.

The results indicate that in Peru and Costa Rica there is an increase in the probability of having an additional birth with increasing experience of child mortality, but that increase is small and does not occur at all parity levels. In Mexico and Colombia an increase in the direct experience of child mortality produces a decrease in the parity progression ratios, interpreted by the authors as probably due to health problems leading to child death and lower probability of having another birth.

The authors believe that these findings should have been expected in areas with little birth control practice, since the postulated relationship between infant and child mortality and fertility assumes that mothers are able to take the decision of having another baby, postponing new births or not having more children. If that prerequisite is not present, further decreases in child mortality in the countries analysed and in all others where similar conditions prevail will be only slightly offset by decreases in fertility due to that

180/ MECFAL-rural surveys are of the KAP type and were conducted during the years 1969-70. They utilized standardized questionnaires and coding instructions to interview approximately 3 000 women of all marital status between the ages 15-49, inclusive; for this particular study the pregnancy history included in the questionnaire was the main bases of the data.

cause. Consequently, mortality decreases will bring substantial increases in the rates of growth of the population.

In sum, while there is more evidence in favour than against the hypothesis that decreases in infant and child mortality will be followed by a decline in marital fertility, socio-economic variables such as family income, education, urbanization, and economic growth, affect both fertility and infant mortality and are probably distorting the relationship between these two variables.

D. Family structure and marital fertility

The importance of family structures and patterns in the understanding of fertility changes, and of marital fertility in particular, is now widely recognized by demographers and social scientists. A vast literature discussing different decision-making models at the household level, the number of studies devoted to determine the value of children in different social and cultural contexts, the more or less formalized attempts to apply cost-benefit analyses to the production of children and, more generally, the challenging "new home economics" approach, testify that recognition.

Latin American social scientists, or those of other nationalities working in the region, have not, to this moment, shared that interest nor shown enthusiasm for the most formalized economic approaches to the problem. Rather, their interest has been placed either in macro-structural factors like social class or social strata, or in individual factors common to an aggregate of people. Except for a few pioneering and in great part impressionistic studies, the family as such, or the ways through which its structure and patterns are related to demographic behavior of one kind or another, has been a neglected theme.

However, the situation seems to have improved somewhat in recent years. The importance of studying the family is now recognized by students following diverse theoretical perspectives, although still very little empirical research to test or specify prevalent speculations has or is being conducted.

Before reviewing some of the studies more relevant for our subject the distinction between household and family must be remembered. A household is, of course, a group of people living in the same house. Although the distinction between private and public household is usually made (boarding houses, hospitals, army barracks, etc. being some examples of the latter) only the first are usually considered for fertility related purposes.

Kinship ties are not necessary to define a household but they are usually present at least among the majority of its members. On the contrary, and ignoring all the lengthy definitional discussions, that kind of ties are

recognized as a defining characteristic of families. It is, therefore, possible that not all household members belong to the same family, and that a single family be dispersed into different households. The two situations are not uncommon in Latin America and the Caribbean, and are assumed to affect differentially fertility behavior.

However, both concepts are used interchangeably when census data are being analysed in Latin America. While studies based on this source do not introduce an important bias when family and household actually overlap, they may be misleading in those regions and for those social groups where considerable exchanges between family members living inside and outside the household take place.[181/]

Family composition, type of union and intrafamily relations are three aspects to be considered in relation to fertility and for which some evidence is available in the region.

a) Family composition and fertility.

The kinds of relationships existing between family head and other family members determine family composition. Nuclear versus extended families are distinguished in this respect, depending on whether parents and unmarried children or also other relatives are included. In the particular case of Latin America, the importance of a "non residential extended family"[182/] and of compadrazgo or fictive kinship is generally stressed.

181/ Arguments in favour of the use of census data in the analysis of family types, composition and size are given in Pantelides, E.A., El Hogar como Unidad de Análisis de los Datos Censales: Importancia y Posibilidades, CELADE, Serie E, Nº 147, Octubre 1972.

182/ Muttini, Hugo, "A Sypnoptic Comparison of Mesoamerican Marriage and Family Structure", Southwestern Journal of Anthropology, Vol. 23, 1967, pp.383-404.

Nuclear families have been found to be the most common type in Latin America[183] but at the same time the complex and strong network of relationships with other relatives does not seem to have been affected by urbanization, and compadrazgo ties are still strong.[184]

The assertion that an individual's total kinship network in Latin America includes his nuclear family, his non-residential extended family and his compadrazgo ties may be more applicable to certain social classes and areas than to others, but it seems to be closer to the actual situation that the identification of nuclear families as the predominant type in the region.[185]

A number of authors have formulated the hypothesis that women members of extended families have higher fertility than those belonging to nuclear families.[186] In spite of its wide acceptance, empirical studies in Latin America have failed to prove it.[187] The fact that kinship ties and interactions adopt a number of other forms besides their nuclear and extended varieties, and that they are also affecting fertility[188] has been advanced as an probably is an explanation for the failure to find the expected relations.

183/ Burch, Thomas, K., El Tamaño y la Estructura de las Familias: Un Análisis Comparativo de Datos Censales, CELADE, S.160/30 September 1974; Bock, W., Iutaka, S. and Barardo, F., "La Familia Nuclear y Extendida en Areas Urbanas de la Argentina, Brasil y Chile", Notas de Población, Año II, Vol. 5, August 1974, pp. 63-80.

184/ Ibid.

185/ To mention just two classical examples, remember Davis, Kingsley "Institutional Patterns Favouring High Fertility in Underdeveloped Areas", Eugenics Quarterly, Vol. 2, N° 1, March 1955; Lorimer, Frank, Culture and Human Fertility, Paris: UNESCO, 1954.

186/ Tira, Luis Felipe, Estructura Familiar, Población y Fecundidad en América Latina, Santiago, Unidad Central, PISPAL, 1977, typed.

187/ Burch, Thomas, and Gendell, Murray, "Extended Family Structure and Fertility: Some Conceptual and Methodological Issues", Journal of Marriage and the Family, Vol. 32.

188/ Carlos, Manuel and Sellers, Lois, "Family, Kinship Structure and Modernization in Latin America", Latin American Research Review, Vol. VII, N° 2, 1972, pp. 95-124.

b) Type of union and marital fertility

Trends and differentials with respect to the prevalence of legal and consensual unions were already discussed in a previous section of this paper. Relationships between type of union and marital fertility will now be discussed.

On the assumption that the higher stability of the union, the clearer different roles will be defined, and the higher fertility will be, it has some time being hypothesized that women in legal unions will have higher fertility than those in consensual unions. Unfortunately, no firm generalization can presently be formulated on the subject. The hypothesis has some empirical support in the English-speaking Caribbean,[189/] although more recent findings from Jamaica show that when age of woman admitted into the Jamaican National Planning Program in 1967-69 is controlled, those in consensual unions are the most fertile, followed by the legally married, with the visiting union (union with no permanent co-habitation) remaining lowest in fertility.[190/]

In Latin America, although urban women in consensual unions loose far more time through separation than those in legal unions[191/] fertility differentials between types of union varies from city to city.[192/] Generally speaking, women in consensual unions tend to have higher fertility than those legally married in cities where the former are a high percentage of the total mated population. Similar findings have been reported for the rural areas of Colombia, Chile and Mexico.[193/]

189/ Roberts, G.W., "Fertility in Some Caribbean Countries", Proceedings of the General Conference of the IUSSP, London, 1969.

190/ Ebanks, G.E. "Fertility, Union Status and Partners", International Journal of Sociology of the Family, Vol. 3, N° 1, 1973.

191/ Yaukey, Thorsen and Omaka, Op.cit.

192/ Miró, C., and Mertens, W., Op.cit; Alberts, Joop, Migración enAAreas Metropolitanas de América Latina: Un Estudio Comparativo, Parte III, CELADE, /P/ 10 December 1975.

193/ Ibid.

A number of reasons justify to take these findings and their interpretations with care. From a methodological point of view, the remark has been made that much larger samples of women in consensual unions should be analysed and a distinction between types of them should be made before attempting to reach conclusions on this subject.[194] In the same methodological vein, the point has been mentioned that it is misleading to relate a measure of cumulative fertility to types of present union, since the consensual type tends to be legalized as women get older.[195]

Besides those methodological points the rationale behind the hypothesis of higher fertility in legal unions requires some elaboration. There are at least two reasons for believing that marital fertility could be lower in legal than in consensual unions. The first is that, unless natural fertility be assumed, more stable relationships may provide more opportunities for a deliberate control of fertility and be positively related with increased contraceptive use. The second looks at the other side of the coin: women in unstable and insecure unions may wish to get pregnant precisely as a way of transforming their present relationship into a more stable one.

In sum, new methodologically and theoretically more sophisticated studies are necessary before the impact of detected trends toward more stable unions on fertility might be assessed.

c) Intra-family relations

Intra-family relations and role differentiation constitute another set of factors theoretically related to marital fertility, but they have been very little studied in Latin America. Except for a few cases in which power spheres and the decision-making process in the family have been analysed, this is in fact an almost completely untouched area of research in that region.

194/ Miró and Mertens, Ibid.
195/ Mertens, Op.cit.

The link between those two factors and fertility is established through the hypothesis that the more equalitarian the husband-wife relationship, and the more decisions are shared by the couple, the more some means of birth control will be used and, consequently, the smaller marital fertility will be.

The hypothesis has been confirmed in Puerto Rico,[196] Brazil[197] and the rural areas of Colombia, Costa Rica, Mexico and Peru.[198] Although related to desired instead of to actual family size, studies in Colombia,[199] and Costa Rica[200] have come to convergent findings.

Socio-economic factors affecting intra-family power relations and the decision-making process were carefully studied in Brazil.[201] Wive's participation in economic activities, higher educational levels, and changes in women's perception of their role, all of them closely related to the degree of industrialization reached by the five communities investigated, were the factors explaining a larger proportion of the variance in the dependent variable.

More generally, interest in constructing family types -where family composition, type of union, and intra-family relations are all used as defining criteria- and in linking them to macro-structural features, has considerably increased in recent years.

The first pioneering effort in that direction is due to Hill, Stycos and Back with regard to lower class Puerto Rican families.[202] Two typologies

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196/ Hill, Reuben, Stycos, M. and Back, Kurt, The Family and Population Control: A Puerto Rican Experiment in Social Change, Chapel Hill: University of North Carolina, 1959.

197/ Rosen, Bernard and Simmons, Alan, "Industrialization, Family and Fertility: A Structural-Psychological Analysis of the Brazilian Case", Demography, Vo. 8, N° 1.

198/ Simmons, Alan and Cualagovski, M., Motivación Acerca del Tamaño de la Familia y Toma de Decisiones de la Pareja, CELADE, SIEF, A-2/P 5, 1974.

199/ Monsees, D., "Family Interaction and Birth Control: An Analysis of Concurrence, Consensus, Empathy and Projection", paper presented at the Latin America Regional Conference on Population, México City, 1970.

200/ Centro de Estudios Sociales y de Población, Estratificación Social y Planificación Familiar, San José, Costa Rica, 1972.

201/ Rosen and Simmons, Op.cit.

202/ Hill, Stycos, Back, Op.cit.

were constructed in that case. The first was based on a combination of three variables: degrees of exposure to the urban environment, type of union, and educational level. Eight types were thus identified in a continuum ranging from rural consensual unions with low educational levels, to those of urban, legally married and comparatively highly educated couples. The second typology allowed to distinguish families according to the wife's freedom in economic and social activities as well as to her participation in intra-family decisions. The eight types found in each typology were then compared and their probable openness for accepting birth control practices were assessed.

Another study where a similar approach is used but no explicit relation to fertility is made is Godoy's cross classification of three sets of variables (urban vs. rural, social strata, and modernism versus traditionalism) to construct nine types of families.[203/]

The theoretical approach followed to construct those typologies is closely linked to sociological functionalism and to the theory of modernization as an interpretation of social and economic change in presently developing countries. The widespread rejection to that theory by Latin American sociologists has motivated their search for other approaches, hopefully more capable of explaining the conflictive processes leading to structural changes in the region. As applied to the analysis of the family and disregarding differences in emphasis, the most publicized approach has recently been summarized in the following propositions:

i) Social classes, defined by structural relations of production and by suprastructural (legal, political and ideological) relations are the proper macrostructural units of analysis to study the family;

ii) this, in itself, is also structurally and suprastructurally determined;

203/ Godoy Urzúa, Hernán, "Bosquejo Sociológico de la Familia en América Latina", Cuadernos del Sur, Nos. 30-31, January-February 1967, pp. 55-64.

iii) conditions of existence imposed on them by their belonging to a specific social class force families to adopt "survival strategies" allowing the material and social reproduction of the group as a whole, and of each of its members. The main components of that strategy are, on the one hand, acceptance of a division of labour by sex and age (i.e. participation in economic activities) adequate for the survival of the group; on the other hand, adoption of nuptiality, fertility and migration patterns allowing the optimization of the group's productive capacity. Individual demographic behavior thus becomes meaningful only as part and parcel of a family's survival strategy;

iv) different survival strategies give rise to different types of families in terms of size, composition, residence, life cycle, etc.[204/]

204/ Torrado, Susana, "Clases Sociales, Familia y Comportamiento Demográfico", submitted to the Seminar on Theoretical and Methodological Aspects of Population Research, Mexico:CLACSO, Comisión de Población y Desarrollo, February 18-26, 1976. The following are some of the studies subscribing to that approach:
CELADE: Políticas públicas, población y familia: una primera aproximación al caso latinoamericano. CELADE. 1973; Fucaraccio, A. y Gonsáles, F.: Notas para una discusión acerca de la ley de población en Marx, CELADE/ 1975 (mimeo); Geller, L., Un comentario sobre el trabajo titulado: "Notas para una discusión acerca de la ley de población en Marx", de A. Fucaraccio y F. Gonsáles, IV Reunión del Grupo de Trabajo sobre Reproducción de la población. CLACSO, 1975 (mimeo); Lewin, H. y Torres R., A.C. : Familia: un concepto en crítica, Ibidem; Lamounier, B.: Industrialização, Emigração e Comportamento Reprodutivo, Ibidem; Singer P.: Comportamento Reprodutivo e Estrutura de classe. CEBRAP, 1972. (mimeo); Camargo, C.P.: Sociedade e População, CEBRAP, 1972 (mimeo) De Oliveira, M.C.: Notas sobre união dos sexos e familia: tipo e fundamentos de legitimidade, CEDIP, 1972 (mimeo); Duque, J. y Pastrana, E.: Las estrategias de supervivencia económica de las unidades familiares del sector popular urbano: una investigación exploratoria en Santiago de Chile. PROELCE, 1973 (mimeo) (en curso de publicación definitiva); Aldunate, A.: Algunas reflexiones en torno a las relaciones entre industrialización y reproducción de la población. El caso de San José dos Campos en Brasil; PROELCE, 1975 (mimeo). Geller, L.: Dinámica agraria y dinámica poblacional argentina, 1937-1960 (informe de investigación) PISPAL, mimeographed; Borsotti, Carlos Aspectos sociales de la familia como unidad económica, CEPAL, División de Desarrollo Social, 1970.

Unfortunately those propositions have seldom, if ever been translated into carefully designed research project,, although some illuminating interpretations of available findings are directly or indirectly derived from them.

The usefulness of this approach as a basis for interpreting past findings and guiding future research would surely be increased if some theoretical rigidities and pitfalls are avoided. For instance, intra-class differentials in family structure and, consequently, in fertility-related behavior, seem difficult to accomodate to a strict social class approach. Also, when father's social class position is used as the most important criterion for defining family types, as it is often made, the relationship between them and social class becomes clearly tautological, if intra-family relations are not included in the definition. In the third place, although the whole approach is based on the idea that different types of family are the consequence of rational adaptations to socio-economic conditions, followers of this approach have seldom attempted to define what those rational adaptations are, to specify how do they differ from the "functional adaptation" of the functionalists or from the rationality assumed by the "new home economics" approach.[205/]

Those obstacles are not unsurmountable if theoretical propositions deductively derived from abstract theories are replaced by more "grounded" and inductively constructed hypotheses. Studies on the types of family structures and kinship networks in different social groups, communities, regions and countries, on the structural and cultural factors operating at the community, regional and national levels, affecting differentially specific social groups, which might explain the persistance and change of those types and networks,

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205/ Two attempts to define more precisely and measure that concept have come to my knowledge. The first is Geller's analysis of peasants families in Argentina, as presented in Geller, L, Dinámica Agraria y Dinámica Poblacional. The second is due to Gerardo González and was developed in relation to a research project on development strategies and fertility financed by PISPAL. For a presentation of the model see González, Gerardo, Heterogeneidad Estructural y Transición Demográfica, CELADE/N°5, November 1974; Number II, July 1975; Number III, December 1975; all ditteed.

on the effects of family structures and kinship networks on accepted norms about family size, participation of women in economic activities, economic and non economic costs of children, and reproductive behavior, are essential for theoretical as well as practical purposes.206/

E. Socio-economic change, urbanization and urban-rural fertility differentials

When examining the relationships between development and general fertility it was mentioned that, as elsewhere, urbanization and fertility are negatively related in Latin America. It was likewise mentioned that although urban fertility is lower than rural fertility when national averages are considered, there are cases where urban areas of some intra-country regions have higher fertility levels than the rural areas of other regions. Finally, the trend for urban-rural differences to increase and later to decrease was also pointed out.

A closer view to those relations and trends should start by the rather obvious clarification that "urbanization" is just a short cut to refer to a whole network of social, economic and cultural processes which are typically associated to an urban context, and to their difussion throughout the societal fabric. That urban content is not homogeneus either socially or ecologically and the understanding of urban marital and general fertility cannot but take into account social class and social strata differentials. Likewise, the difussion of urban fertility patterns throughout the entire urban network and from it to semi-urban and rural places is probably highly influenced by the specific characteristics of that network in each country.

The theoretical status of urbanization with regard to fertility is, therefore, rather different from that of the other socio-economic factors mentioned in the preceding sections: urban-rural differences would be due in part to the different values those factors reach in the urban and the rural

206/ A number of very useful suggestions on how the 1980 round of Latin American censuses could improve the quality of our empirical knowledge on the characteristics of households and families have been made by Torrado. See Torrado, Susana, "Algunas Reflexiones sobre los Censos de 1980 en la Perspectiva de la Investigación Socio-demográfica y las Políticas de Población en América Latina", Notas de Población, N° 16, december 1977.

context or to the particular way how they are combined in one or another setting, and in part to other social and cultural factors not directly measured but which are included in the concepts of urbanization and "ruralization".

The above considerations provide a starting point for attempting to explain why, despite the general trend for urban fertility to be lower than rural fertility, the former still remains high in many countries. One of the best known explanations is that high urban fertility levels are due to the influence of rural migrants who are supposed to maintain their traditional high fertility patterns in the new environment.207/

That interpretation rests on two assumptions: that total city growth is due mainly to rural migration and that migrants have higher fertility than non migrants.

Empirical studies have shown that the relative importance of natural growth and migration in the total growth of cities changes from country to country. Likewise, all empirical evidence shows that direct rural-metropolitan migration accounts only for a small percentage of total immigration to Latin American metropolis.

The relationship between woman's migratory status and fertility has received considerable attention in the literature.208/ An analysis of the findings from

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207/ Robinson, Warren C. and Robinson, Elizabeth H., "Rural-urban Fertility Differentials in Mexico", American Sociological Review, XV, N° 1 (February 1950), pp. 77-81.
Zarate, Alvan, "Some Factors Associated with Urban-rural Fertility Differentials in Mexico", Population Studies, Vol.XXI, N° 3, pp. 283-293.
Browning, Harley L., "Urbanization and Modernization in Latin America: The Demographic Perspective", The Urban Explosion in Latin America, Ithaca, New York: Cornell University Press, 1967, p. 86.
Zarate, Alvan, "Fertility in Urban Areas of Mexico: Implications for the Theory of the Demographic Transition", Demography, Vol. 4, N° 1, 1967, pp. 363-373. Zarate, Alvan and Unger de Zarate, Alicia, "On the Reconciliation of Research Findings of Migrant-Non Migrant Fertility Differentials in Urban Areas", paper given at the Annual Meetings of the Population Association of America, april 18-20, 1974, New York City.

208/ For useful summaries of the available literature see Mertens, W., Investigación..., Op.cit., pp. 193-235; Zarate and Unger de Zarate, Op.cit.

different Latin American cities fails to show a clear-cut pattern when urban natives and migrants are compared. Nevertheless, when rural migrants alone are contrasted to urban natives and urban migrants they more often than not appear as having higher fertility than the other two groups.[209/]

The exception to that rule is that sometimes younger rural migrants have been found to have less fertility than their urban native counterparts.[210/] The explanations for this range from those deriving it from the greater achievement motivation young migrant women would have as a consequence of their marginal position in the rural traditional system,[211/] to those attributing it to the separation of husbands and wives caused by the migratory process.[212/]

209/ Tabah, Leon and Samuel, Raúl, "Preliminary Findings of a Survey on Fertility Attitudes towards Family Formation in Santiago, Chile", in Clyde V. Kiser (ed.), Research in Family Planning, Princeton: Princeton University Press, 1962, pp. 263-304; Miró, Carmen A., "Some Misconceptions Disproved: A Program of Comparative Fertility Surveys in Latin America", in Bernard Berelson, et.al. (eds.) Family Planning and Population Programs, 1966, pp. 615-634; Myers, George C., "Fertility and Mobility in Cross Cultural Perspective", paper presented at the 1966 Annual Meeting of the American Sociological Association; Berquo, Elza, Rubens M. Marques, Milanesi, Maria, Martins, José S., Pinho, Eunice and Simon, Imre, "Levels and Variations in Fertility in Sao Paulo", Milbank Memorial Fund Quarterly, XLVI, Part 2, 1968, pp. 167-185; Salazar, Julia, "Aspectos Demográficos de la Fecundidad en Lima Metropolitana", Boletín de Análisis Demográfico, N° 8, 1968, pp. 1-34; Zarate, A., Differential Fertility in Mexico ..., Op.cit.; Hutchinson, Bertram, "Fertility, Social Mobility and Urban Migration in Brazil", Population Studies, Vol. 14, N° 3, 1961, pp. 182-189; Iutaka, S., E.W. Beck and W.G. Vernes, "Factors Affecting Fertility of Natives and Migrants in Urban Brazil", Population Studies, Vol. 25, N° 1, 1971, pp. 55-62.

210/ Berquo, Op.cit.; González de Villacorta, Violeta, "Perú: Migración, Educación y Fecundidad en los Estratos Sociales Bajos de Lima Metropolitana", Santiago de Chile, Centro Latinoamericano de Demografía, as quoted by Zarate and Unger de Zarate, Op.cit; Macisco, John J. Jr., Leon F. Bouvier, and Weller, Robert H., "The Effect of Labour Force Participation on the Relation between Migration Status and Fertility in San Juan, Puerto Rico, 1960", Milbank Memorial Fund Quarterly, Vol. 47, 1969, N° 2, pp. 167-187).

211/ Macisco, John J. Jr., Weller, Robert H. and Bouvier, Leon F., "Some General Considerations on Migration, Urbanisation and Fertility in Latin America", in Arthur A. Campbell, et.al. (eds.), The Family in Transition. A round Table Conference sponsored by the John Fogarty International Center for the Advanced Study in the Health Sciences, National Institute of Health, november 3-6, 1969, Bethesda, Maryland, Washington, D.C., Government Printing Office.

212/ Zarate and Unger de Zarate, Op.cit.

None of these explanations is wholly convincing or has direct empirical support. The greater achievement motivation hypothesis would require this particularly elusive variable to be measured for comparable migrant and non migrant groups, an experiment which has as yet not been done in Latin America. The husband-wife separation hypothesis is a plausible explanation for marital fertility differentials but it is still equally untested and disregards that apparently a majority of women migrations at those young ages has done it unmarried.

Lack of adequate explanation should not distract us from the importance of the finding here discussed to the empirical support the ruralisation hypothesis may have as an explanation of relatively high fertility rates in the urban context. Migrant groups with lower fertility than their urban counterparts are those where the highest proportions of migrants are concentrated, as it has been shown by studies of migration to Latin American metropolitan areas. Forty nine per cent of all rural women migrating to Santiago, Chile between 1952-62 were between 15-24 years old, and very similar proportions were found in Lima (44 per cent) and Caracas (43 per cent). At the same time, a comparison between earlier and later periods of arrival shows in all these cases that the relative proportion of female migrants of these ages tends to increase rather than to decrease.[213/] As we shall see when analysing migrant selectivity, the preponderance of young adults among migrants has been found in all countries for which there is information. If their fertility is lower than that of natives with their same characteristics, the total impact of this age-group would then lead to a decrease in urban fertility, or at least to neutralize the positive influence of other age-groups.

Thus, although the ruralization hypothesis to explain high urban fertility levels cannot be dismissed completely, both the stepwise character of the migration process and the fact that the age-groups quantitatively more important

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213/ Alberts, Joop, Migración en Areas Metropolitanas de América Latina: Un Estudio Comparativo, Parte I, CELADE, IPI/2, noviembre 1974.

among all migrants are those showing less fertility than urban natives make us look for alternative explanation.

Fertility differentials by occupational groups allow to suggest a different explanation to high urban fertility. All available Latin American data show that women whose husbands are unskilled wage workers or self-employed manual workers have the highest urban birth rates; in some cases these are even higher than rural birth rates, or closely approximate them. On the other hand, businessmen, managers and white collar workers show the lowest rates in all cities, closely followed by self-employed non manual workers and skilled blue collar workers. In some cases the latter are closer to the lowest fertility group than any other occupational group. Some of the relevant information is summarized in table XV .

Table XV

MEAN NUMBER OF CHILDREN BORN ALIVE, BY OCCUPATIONAL GROUPS

	Businessmen, managers, and white collar workers	Self-employed non manual workers	Artisans	Skilled blue collar workers	Unskilled blue collar workers
Buenos Aires	1,7	2,0	2,0	1,8	2,2
Bogota	3,6	4,2	4,4	3,8	4,5
Rio de Janeiro	2,2	2,9	3,3	2,8	3,6
San Jose	3,2	3,8	4,6	4,1	5,0
Ciudad de Mexico	3,5	4,3	4,9	4,4	4,7
Panama	2,9	2,9	3,6	3,5	3,6
Caracas	3,0	2,9	3,7	3,6	4,2
Guayaquil	3,4	3,7	4,7	4,0	4,9

Source: PECFAL-urbano, as reclassified by Aldunate, Adolfo, Estudio Comparativo del Comportamiento Reproductivo en Algunas Areas Rurales y Urbanas de América Latina, Santiago, PROELCE, 1976.

The negative relationship between family income and fertility is another factor producing sharp intra-urban income differentials. The studies on the subject are painfully scarce in Latin America, but they tend to support that generalization.[214/] At the same time, there is evidence suggesting that the poorest social strata in the cities are at least as poor in absolute terms as the rural poor.[215/]

High fertility differentials by educational levels in the urban areas, which we have referred to earlier, and the presence of socially and ecologically segregated urban groups with very little opportunity for higher educational achievements are other factors contributing to maintain high urban fertility levels.

In sum, the presence of high fertility urban social groups is closely related to sharp inequalities as to levels of living and life chances now existing and, in some cases, recently aggravated in the urban context. These inequalities would be affecting fertility both on the supply and the demand side. The latter will be discussed here; some evidence with respect to the former will be presented in a later section on family planning programs.

Knowledge on the factors contributing to a comparatively weak demand for means to control fertility still remains highly speculative. Nevertheless, bits and pieces of information allow to construct a reasonably coherent interpretation of the processes most probably involved.

Whether urban natives or migrants (we shall see in a later chapter that the latter are no more disadvantaged on this respect), self-employed manual workers and unskilled blue collar workers -the family heads of high fertility

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214/ See, Fucaraccio, Angel, and Arrext, C., "Relaciones entre Variables Económicas y Demográficas. Ensayo de un Modelo", in CELADE, Los Estudios Demográficos en la Planificación del Desarrollo, CELADE, Serie G, Nº 12, 1975; Carvalho, J.A.M. de, Diferenciais de Fecundidade no Brasil por Niveis de Renda Familiar, Belho Horizonte, CEDEPLAR, May 1976, mimeo.

215/ Carvalho, Op.cit.

families- constitute that large proportion of the urban population barely surviving in the "informal" or "marginal" labor market, which lives in shanty towns under deplorable sanitary and housing conditions, and which has little or no access to education and health services. Employment insecurity and extreme poverty force members of these strata to develop survival strategies at the family and communal levels oriented to make the fullest possible use of those resources at their disposal: child labor and reciprocal help. As one student of the problem has said, "the network of shanty towns reciprocal exchanges is part and parcel of an informal economy based on the social, not the economic, resources of the individual ... A large family not only allows to use abundant unpaid labor force but it also strengthenes and multiplies those social relations of reciprocity which are at the basis of a collective security of income".[216/] Structurally determined levels of living and life chances would be favoring large families, non residential extended families and compadrazgo ties.

A recently finished study of urban low income families in Costa Rica conducted at CEDADE[217/] allows to underscore the purely survival effects of such a strategy for families in extreme poverty: when father's earnings place the family at the bottom income bracket additional earnings from child labor do not allow a family to move to the next poverty stratum. Only at the next to bottom stratum those additional earnings do make a difference: one third of the families in it would be members of the bottom stratum were it not for earnings provided by children's informal economic activities.

The effects of the network of social relations prevalent in Latin American urban slums on the incompatibility of roles between worker and mother were already mentioned when discussing woman's participation in the labor force and

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216/ Lomnitz, Larissa, "La Marginalidad como Fuente de Crecimiento Demográfico", Demografía y Economía, Vol. IX, N° 1, 1975, p. 67.

217/ Argüello, Cesar, Pobreza, Población y Desarrollo. Las Familias Pobres en Costa Rica, unpublished.

fertility. A succint but precise description of how those social relations operate to allow the collective survival of the poor has been made by Lommitz: "Inter-family cooperation within exchange and survival networks, she says, include assistance in the migratory process, lodging and work training for the newly arrived, job search, mutual exchanges and loans (food, money, clothing, tools, domestic gadgets), children and sick care, information and emergency expenditures. When one member of the network is temporarily unemployed his family is lodged and taken care of while he finds a new job. On many occassions other members of the network share their wages, their technical knowledge and their clients with the member needing help". 218/

Family and communal economic and social patterns as those described above are functionally related to high fertility. Those at the very bottom of income stratification know by experience that if child labor does not allow to improve their lot, neither would they be better off because of having less children. Those who are still below the absolute poverty line but do not belong to the bottom stratum know also by experience that children cost less than the benefits (social and economic) they provide.

The expansion of the middle sectors was already mentioned as one of the most important recent social changes in Latin America. It has equally been mentioned that income distribution became more favorable to these strata and to the upper strata of manual workers, while the poorest strata have become even poorer. These trends are leading to two quite different patterns of urban fertility: a middle class and skilled workers pattern corresponding to classes and strata that, as a response to new opportunities open to them in the social structure, have moved or are moving toward lower fertility levels and smaller family size, and the "informal sector" or "marginal" pattern, common to underemployed unskilled blue collar workers and self employed manual and service workers, where high fertility and large families still prevail.

218/ Lommitz, Op.cit., p. 75.

A similar analysis may be made with respect to rural fertility. The prevailing view on the subject in Latin America is that different rural contexts and the position families occupy in the rural social and productive structures have led to and are increasing intra-rural fertility differentials. As in the case of urban fertility, these differentials are conceptualized as derived from the amount of and ways how previously identified socio-economic factors, or other factors not directly measured which are implicitly considered as part of the rural context, are combined in each case. In other words, as in the urban scene, socio-economic determinants of fertility are not considered as changing and combining themselves randomly but, on the contrary, as following certain well established and structurally conditioned patterns.

According to this view, traditional forms of agricultural production and

their corresponding social structure, characterized as they were by large latifundia that made use of colono-type workers in a system resembling the European corvée, and by peasant holdings of either the individual or the communal type, both closely linked with larger farms by what has been called the simbiotic latifundia-minifundia complex, were conducive to family types where production and consumption are not clearly distinguished and children represent an economic contribution to the family from an early age. In fact, it was the early incorporation of children to economic activities what made possible for colono-type labourers to work for the hacienda while at the same time cultivating the plot of land assigned to them. It was also child labor what made possible for independent peasant fathers and their adult sons to hire themselves as temporary wage workers. At the same time, isolation from urban contacts and little access to education contributed to maintain self-consumption patterns and low levels of aspirations. In such structural context large numbers of children were not considered detrimental for family well being, and fertility was high.

The situation described above would have started to change due to the transformations of the rural social structure that have been taking place in the last decade. As it was remembered when reviewing recent social and

economic changes in Latin America, traditional forms of organizing agricultural production are gradually being replaced by more typically capitalistic agricultural firms that make use of smaller numbers of workers whose wages are paid mostly if not exclusively in cash and whose relationships with their employers are very close to the type of labor relations prevailing in the urban industrial milieu. At the same time, different schemes of agrarian reform have stimulated the organization of cooperatives and other types of non traditional agricultural enterprises. These new forms of organizing agricultural production have not only increased structural heterogeneity of the rural social structure, but very probably they have also changed the economic and social functions of the families of those rural workers and peasants most affected by their organization. An increase of fertility differentials in the rural areas due to the simultaneous presence of structural patterns favoring high and low fertility should be the final demographic outcome of all those changes, according to the view here summarized.

The same view leads to the hypothesis that the development of capitalistic agriculture and the emergence of a rural proletariat have weakened the family as a unit of production, and have strengthened its function as a unit of con consumption. This, on its turn, would have led to an internal redefinition of roles within the family, by which the role of children as workers is severely limited. Changes in the economic significance of children would on its turn and with a certain time-lag, lead to lower fertility.

Because of the many different types of productive organizations each particular type of agrarian reform program has attempted to implement, no general hypothesis as to how they have affected family functions and fertility can be advanced.

Pressures for fertility change from structural changes in the agricultural organization of production would have been reinforced by increased urbanization, by more and easier communications between cities and countryside and by wider diffusion to the rural areas of urban patterns of life through the mass media.

All of them would have changed rural consumption patterns, would have strengthened the market orientation of peasant economy and would have heighthened aspirations for self and children. All these changes would be conducive to a preference for families of smaller than the traditional size and, indirectly, to lower fertility.[219/]

That view of how structural changes are affecting rural fertility requires some qualifications. The first is that those rural proletarian families which would be more oriented to a smaller family size and who would probably have more access to birth control services are but a small minority of the rural population. Even if the hypothesis with respect to them were correct, their contribution to fertility declines in the rural areas would therefore be rather weak.

A second qualification is that, as it was said in another chapter of this paper, recent social and economic changes in the rural areas have only modified the character of the "latifundia-minifundia complex", making large farms to rely more on a small number of permanent laborers and a large number of seasonal workers, but have not eliminated it. Seasonal workers are mostly peasants and their older sons whose activities at their small farms are taken by their wives and younger children. Conditions hypothetically conducive to assign an economic value to children and to prefer large families would,

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219/ Some of the studies presenting different but basically similar versions of this view are Lerner, Susana, Interrelaciones entre la Dinámica Demográfica y la Estructura Agraria en México, paper presented to the PISPAL-El Colegio de México Seminar on Interrelations Between Demographic Dynamics and Agrarian Structure and Development, Cuernavaca, 1974; Errázuriz, Margarita, M., Factores Estratégicos y su Configuración en un Sector Clave: La Clase Trabajadora Rural, CELADE, Serie IPI/21; Geller, Lucio, Dinámica Agraria y Dinámica Poblacional, 1937-1960, PISPAL: Informe Semestral de Avance de la Investigación, July 1976; Miedworok, Nelly and Prates, Susana, Informe Preliminar del Estudio sobre Dinámica Poblacional en el Uruguay Rural, Montevideo, Centro de Información y Estudios del Uruguay (CIESU), Borrador preliminar, july 1977; González, Gerardo, "Conditioning Factors of the Success of Population Policies: The Cases of El Salvador and Costa Rica, IUSSP International Population Conference, 1977, Mexico, 1977, Vol. 2, pp. 333-355; Urzúa, Raúl, Estructura Agraria y Dinámica Poblacional, Santiago, Unidad Central PISPAL, Documento de Trabajo N° 7, 1975.

therefore, still be present in the Latin American countryside.

A third qualification calls attention to the independent effect that actual or institutionally created land shortages may have on fertility. Historically, these shortages have proved to be closely related to fertility changes in Europe. Within Latin America a combination of land shortages due to high concentration of ownership with little employment opportunities is generally interpreted as one of the most important factors pushing people out of the rural areas. Fertility-reducing behavior is another hypothetically possible demographic response to those institutional constraints which the view sketched above tends to disregard.

Information on the subject is very scarce and does not allow to fully understand all the processes involved, or precisely to identify the factors most relevant for accelerating fertility change in rural Latin America. A brief mention to some findings will allow to substantiate this assertion.

Data collected by CELADE in its comparative survey of rural fertility in Latin America have been examined by Aldunate.[220/] An analysis of the mean number of children born alive to woman mated to rural wage workers, to landowners or to independent peasants in Colombia, Costa Rica, Peru and Mexico failed to find any significant difference by occupational groups. Nevertheless, when non agricultural occupational groups in rural villages are compared to agricultural occupational groups, the former appear as having significantly a smaller mean fertility.

A more recent study on development strategies and population policies in Latin America conducted by CELADE provides additional data for Costa Rica.[221/] Four rural social classes were distinguished in this case: the peasantry, composed of small proprietors and tenant farmers who neither hire labor force nor work as wage workers; peasant-proletarians, who are similar to the former but work temporarily as wage workers; "typical" rural proletarians, who are

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220/ Aldunate, A., Estudio Comparativo del Comportamiento Reproductivo en Algunas Areas Rurales y Urbanas de América Latina, Santiago de Chile, PROELCE, 1976.

221/ Campanario, Pablo, Carcanholo, Reinaldo and Opazo, Andrés, Proyecto Estrategias de Desarrollo y Políticas de Población de América Latina. Costa Rica, Informe Preliminar, San José, Costa Rica: CELADE, 1976, dittoed.

Differences in rural social structure and agricultural production and organization among administrative units have some times been related to fertility differentials among them. In one of such studies it was found that total fertility was higher in thinly settled Uruguayan regions of large cattle raising ranches than in intensely cultivated and highly densed regions devoted to horticulture or vegetable gardens.[223/]

Likewise, a "rurality index" constructed for the CELADE project on Development Strategies and Population Policies, measuring the degree to which different Chilean administrative units (communes) were composed of rural and dispersed population, found a positive relationship for the census years 1950, 1960 and 1970 between degree of "rurality" and mean fertility rate.[224/]

222/ González, G., Conditioning ..., Op.cit.
223/ Niedworok, Nelly and Prates, Susana, Op.cit.
224/ Zúñiga, Luis and Ortiz, Rura, Factores Estratégicos en el Cambio de la Fecundidad en Chile: Un Análisis de Comunas entre 1950-1970, Santiago: CELADE, IPI/25, Proyecto Estrategias de Desarrollo y Políticas de Población en América Latina, november 1976.

wage workers for large haciendas; and an a-typical rural proletariat composed of wage laborer for small farms that hire only a few workers. Woman married to "typical" rural proletarians between 25 and 34 years of age have the lowest fertility of all occupational groups at those ages, while their a-typical proletarian counterparts fall at the other extreme, the two peasant groups showing intermediate levels.

These findings support the idea that rural wage laborers will have lower fertility than other occupational groups, but they also show that when the average size of family and sub-family farms is being reduced, as it has been the case in Costa Rica,[222/] peasant families will tend to reduce their number of children. At the same time, a comparison of group differences by two age groups (25-34; 35 and more) shows much greater heterogeneity as to fertility rates at the younger than at the older group, suggesting that heterogeneity may be increasing with time.

Nevertheless, most rural communes are at the same time those where fertility has more sharply declined between 1960 and 1970 and as a consequence the last-census shows that, when differences in age structure are controlled communes with highest and second highest degrees of rurality show similar fertility rates.[225] Different socio-spatial rural contexts would now be more homogeneous with respect to fertility than in the recent past.

Finally, Geller has devoted considerable research efforts to try to disentangle the relationships between changes in the Argentinian agrarian structure and population dynamics.[226] Analysing 1960 census data the author had found that inter-provincial rural fertility differentials were positively associated to the employment of family members as labor force in peasant farms, while they were negatively associated to the number of capitalistic agricultural firms. In a subsequent study he attempted a dynamic analysis of changes in fertility rates (using an unorthodox measure relating children aged 0-9 to women aged 20-29 residing in rural administrative units) between 1947-60 as related to changes in the rural social structure between 1937-1960. The data at his disposal were far from adequate for arriving at firm conclussions but the author tentatively interprets his findings as providing additional confirmation to his previous cross-sectional finding that "changes in provincial rural fertility would be associated to changes in peasant land property and to the development of peasant economy productive forces, as well as to the evolution from peasant to more capitalistic ways" of production.[227]

None of the studies mentioned above is free from serious shortcomings derived, in most cases, from their exclusive reliance on secondary data not intended to answer the questions the authors are posing. They provide

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225/ Zúñiga and Ortiz, Op.cit., Tables 5 and 6.

226/ Geller, Lucio, Op.cit. This is the third research report submitted by the author. The other two are devoted to develop a general theoretical framework for analysing the problem, and to make a cross sectional analysis of it by Argentinina provinces.

227/ Geller, Op.cit.

illustrations of some of the trends which might be affecting changes in marital fertility in the rural areas of Latin America, they likewise allow to sharpen the questions which future policy-oriented research should attempt to answer, but they are insuficient to prove the prevailing view of how rural changes are affecting fertility, or to allow precise predictions of future trends.

Previous sections of this chapter examined research findings relating specific socio-economic factors to general and marital fertility. In this section an attempt was made of integrating findings allowing to link those specific factors to broader changes in the urban and the rural context as well as to particular social classes and social strata. Although some mention was made in passing to how those changes might have affected the supply of means to control fertility only the demand side has been discussed up to now. In the next section studies on the factors affecting the supply of means to control fertility will be analysed.

F. Family planning and fertility decline

Declines in marital fertility require not only that motivation for smaller families be present, but also that some means of birth control be used. This, on its turn, requires couples or, at least, women, to be taught the use of modern contraceptive practices and to have access to the appropriate means. The task of making knowledge and practice possible has been assigned mostly to government-sponsored and private family planning programs in Latin America.

The first family planning programs in Latin America were organized by private institutions in Mexico (1959), Uruguay (1961), Chile and Honduras (1963). Venezuela (1963) and Cuba (1964) were the first countries to establish governmental programs. They were followed in 1965 by Guatemala and Mexico through activities of their respective Social Security Institutes. Nevertheless in none of these two cases birth control programs were anything but very small and mostly irrelevant efforts until 1967 in the Guatemala case and 1973 in the Mexican case. In fact, it is not until 1966 that governmental family planning

programs start to be rapidly organized in most Latin American countries. By 1975 all countries had either public or private programs in operation, and only Argentina, Brazil, Peru and Uruguay had only private programs.

The generalized presence of family programs in Latin America and the Caribbean[228] has raised a number of questions with respect to the influence they might have had on the detected fertility declines in those regions. Their direct versus indirect affects on fertility declines, their coverage in general as well as for different areas and regions, the characteristics of users, the continuity of use, etc., are some of the questions raised on this respect.

All the available evidence consistently shows that the beginning of fast declines in fertility has occurred in Latin America and the Caribbean at a moment when government-sponsored programs were either non-existent or just starting.[229] This has been interpreted as indicating that fertility in Latin America and the Caribbean started to decline independently from large-scale family planning programs. The widespread practice of abortion and the use of traditional birth control methods would have allowed couples to adjust their marital fertility to changing socio-economic conditions.

Efforts to more precisely evaluate program impacts on fertility at the national level have been made in Costa Rica[230] and Colombia.[231] The conclusion

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228/ For information on the Caribbean see Haxewood, Jack, "Caribbean Population Policy Review", paper prepared for the IRG.

229/ Conning, Op.cit., for the cases of olombia, Costa Rica, Chile, Cuba, Panamá, and other countries with less sharp declines; Oeschli and Kirk, Op.cit., for all Latin American and Caribbean countries; Bilderback, Loy and Bogan, Marc, "The Rural-Urban Differential in Cantonal Fertility Declines: Costa Rica 1964-1973", Instituto de Estudios Sociales de Población, Heredia, Costa Rica: Universidad Nacional, may 1976.

230/ Reynolds, J., "Costa Rica: Measuring the Demographic Impact of Family Planning Programs", paper presented at the Annual Meeting of the Population Association of America, Toronto, 1972.

231/ Comité de Trabajo para el Estudio del Impacto de la Planificación Familiar sobre la Estructura Demográfica, Económica y Social de Colombia, Descenso de la Fecundidad y Planificación Familiar en Colombia, 1964-1975, Bogotá, december 1976.

In other cases the results obtained by family planning programs in specific localities rather than in the country as a whole have been evaluated. KAP surveys conducted before and several years after a program were initiated in a shanty town of Santiago, Chile detected a drop in both fertility and abortion rates which could not be attributed to changes in age at marriage, lesser exposure to intercourse, or higher incidence of sterility. However, the influence of program-supplied services vis-a-vis those offered by other sources could not be determined.[233/]

Similar findings have been reported for Peru,[234/] while in Bogotá, Colombia, Simmons and Cardona noted increases in knowledge and use of family planning methods as a result of the program, as well as a decline in fertility; but no attempt was made to determine to what extent the program was responsible for the changes observed.[235/]

232/ Ibid.

233/ Faundes, A., Rodríguez-Galent, G. and Avendaño, O., "The San Gregorio Experimental Family Planning Program: Changes Observed in Fertility and Abortion Rates", Demography, Vol.5, N° 2, 1968, pp. 836-845.

234/ Sobreville, L., Studies of Population at High Altitude, Final Report on Population Council Grant T 69-63, New York: Population Council, n.d.

235/ Simmons, A.B., and Cardona, R., Family Planning in Colombia: Changes in Attitude and Acceptance 1964-1969, Ottawa: IDRC, 1973.

in Costa Rica was that from 35 to 45 per cent of the drop in fertility was caused by factors other than family planning, and that a large proportion of that attributed to this was the result of activities performed outside the government program.

Two complementary procedures were used in Colombia to estimate the impact of family planning programs. The first is a model, identified as PROJTARG, that allowed to retrospectively identify the amount of contraception necessary to obtain the fertility level observed in 1973. As estimated by this model, family planning programs explain between 39 per cent and 62 per cent of the actual drop.[252] Unfortunately, that range of variation is too wide to make that estimate of any use. The second procedure is based on the model identified as SERES and attempts to directly estimate the individual influence of various factors on fertility during the 1964-1973 period. Forty four per cent of the decline experienced was attributed to family planning programs in this case.

The results of those studies cannot, however, be considered but rough approximations to the real impact family planning programs might have had. As Reynolds has pointed out, other non-program factors such as abortion, sterilization, age at marriage, average age of exposure to the risk of pregnancy, sterility, celibacy, etc., may be as important, or more so, than program -related services in causing the registered declines.

A systematic effort to summarize the information on the attainments reached by family planning programs in Latin America and to design methodologies capable of better evaluating them is presently being conducted by CELADE.[236/]

Direct program influence, defined as the total number of women registered in a particular program over the total number of women in fertile years; program coverage, or the ratio of women active in the program to women in fertile ages; and continuity rates, defined as the number of women who remain active out of allwomen registered in the program, have been estimated by Soto for a number of programs and the period between their initiation and December 1975.[237/] With the sole exceptions of the Costarican program of the Ministry of Public Health, the program of the Chilean National Health Service, the program of the Ministry of Health in Panama and the program of the National Council of Population and the Family in the Dominican Republic, all other programs have a direct influence, defined as above, over no more than 10 per cent of women in fertile

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236/ See, Soto, Zaida, América Latina: Situación de los Programas de Planificación de la Familia hasta 1973, Santiago de Chile, CELADE, 1975; Bocaz, Albino and Soto, Zaida, Tablas de Eficacia de Uso de Anticonceptivos: Su Teoría y Construcción, Santiago de Chile: CELADE, 1976; Soto, Zaida, América Latina: Actividades Desarrolladas por los Programas de Planificación de la Familia, 1974, Santiago de Chile, CELADE, 1976; Bocaz, Albino, Métodos de Tipificación y de Protección Anual de la Pareja (Aplicación a Chile, 1960-1974), Santiago de Chile: CELADE, 1976; Bocaz, Albino and Soto, Zaida, Programas de Planificación de laFamilia: Algunas Tabulaciones Recomendables y su Utilización, Santiago: CELADE, 1976; Soto, Zaida, América Latina: Actividades Desarrolladas por los Programas de Planificación de la Familia, 1975, Santiago: CELADE, december 1977.

237/ Soto, Zaida, Op.cit., 1977, Table 5 A.

As to their continuity rates, only the Chilean National Health Service Program, the Brazilian Bemfam Program and the Guatemalan Program of the Association for the Guatemalan Family welfare have rates close to forty per cent after 10 years, a figure that is considered as acceptable by international standards. In interpreting those results it must nevertheless be beared in mind that they do not include the most important programs in Mexico, Guatemala, Honduras, Colombia and Venezuela.

Methods developed by Bocaz and Soto have allowed the latter to make indirect estimates of the coverage of family planning programs in a number of countries as well as of the percentage that coverage increased between 1970-1975. The results are summarized in the following table.

Table XVI

ESTIMATED COVERAGE OF FAMILY PLANNING PROGRAMS AND RELATIVE INCREASES BETWEEN 1970-1975, IN SELECTED LATIN AMERICAN COUNTRIES

Country	Women of fertile ages (15-44)		Estimated users		Estimated coverage %		Relative Coverage Increases %
	1970	1975	1970	1975	1970	1975	1970-75
Colombia	4 507 104	5 378 583	115 026	722 311	2,6	13,4	415,4
Costa Rica	353 896	434 157	15 165	68 604	4,3	15,8	267,4
Chile	2 118 354	2 421 434	184 548	516 827	8,7	21,3	144,8
El Salvador	689 976	829 374	33 991	97 036	4,9	11,7	138,8
Guatemala	1 085 390	1 281 707	17 242	57 236	1,6	4,5	181,3
Honduras	518 372	604 209	15 466	60 357	3,0	10,0	233,3
Panama	288 331	339 958	4 387	32 653	1,5	9,6	540,0
República Dominicana	860 873	1 031 216	14 150	71 625	1,6	7,0	337,5

Source: Soto, Zaida, 1977, Table 12, p. 41.

Thus estimated, although coverage has experienced impressive increases during that five year period, it was still rather small in all countries, Chile, Costa Rica and Colombia being those with the highest coverage. Stycos pessimistic view that Latin American family planning programs would be reaching less than 10 per cent of fertile-age women,[238] seems only slightly exaggerated in most cases. But at the same time, it cannot be ignored that of the three countries with highest coverage one (Chile) already experienced important fertility declines after the program was iniciated, and that the other two are precisely the countries that have recently shown the fastest drops in fertility. Panama, the country that experienced the highest increase in program coverage, and Dominican Republic, second only to Panama and Colombia in coverage increments, are at the same time two countries showing sharper drops in fertility between 1970-1975 than what previous trends led to expect.[239] On the other hand, wider program coverage has not affected fertility in El Salvador, Guatemala and Honduras.

Examining those data it would seem that high increases in coverage (over

300 per cent in the five year period) would at any coverage level have a significant influence on fertility, and that smaller increases would also be significant if coverage is larger than fifteen per cent at the end of the period. This, of course, is only a way to summarize the data presented in the above table. More cases and an identification of the factors explaining why this occurs would be required for it to have any predictive power.

Women entering the programs for which CELADE has information in 1975 are of a lower mean age than women of fertile age. At the same time, those who entered the program during that year are younger and have a lower number

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238/ Stycos, M.J., Clinica, Contraception, Communication: Evaluation Studies of Family Planning Programs in Four Latin American Countries, New York: Appleton-Century-Crofts, 1973.

239/ CELADE, América Latina: Evaluación de la Situación Demográfica en el Quinquenio 1970-75. Comparación de las Estimaciones Previas con las que Resultan de Datos Recientes, Santiago de Chile, april 1977.

of children than their counterparts of previous years: in most cases their mean age is around 25-27 years old and they have between two and three children when entering the program.[240] Wider coverage would thus be related to changes in the characteristics of users which would, on its turn, lead to a stronger impact of family planning programs have on fertility.

Unfortunately we do not have good data at this moment about other characteristics of users, such as their educational levels, the socio-economic group to which they belong, their birth control practices before entering the program, etc.

Nevertheless, with respect to the socio-economic groups the programs are reaching all the available information suggests that women belonging to the poorest social stratum have been mostly absent from them. For instance, it has been consistently found that women belonging to those strata are in a disadvantaged position with respect to access to health and social security services, where most family planning programs are located.[241] Directly with respect to participation in birth control programs the results of studies conducted in Colombia,[242] Dominican Republic,[243] Ecuador,[244] El Salvador,[245] Mexico[246] and Peru,[247] summarized by Keller,[248] and in Chile by Tacla and

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240/ Soto, Ibid., Tables 6 and 7.

241/ Public Policies, Population and the Family. A First Approximation to the Latin American Case, prepared by CELADE to the Symposium on Population and Family, Honolulu, 6-15 August 1973, and the literature mentioned in it.

242/ Stycos, M.J., The Clinic and Information Flow, Ithaca: Cornell University International Population Program, 1974.

243/ Ibid.

244/ Jaramillo, G.H., Primer Estudio de Aceptación de Métodos de Planificación Familiar en el Ecuador, Quito: Unidad de Evaluación de Programas de Planificación Familiar, 1971.

245/ Asociación Demográfica Salvadoreña, Censo de Usuarias de los Consultorios Centrales, San Salvador, n.d.

246/ Fundación para Estudios de la Población, Características de las Pacientes de la Fundación hasta 1971, Mexico: 1972, mimeographed; Ibid. Características de las Usuarias de la FEPAC: Un Perfil de las Nuevas Usuarias de 1972, Mexico: 1973, mimeographed.

247/ Centro de Investigaciones Sociales por Muestreo, Evaluación de Programas de Planificación Familiar, Lima: Servicio de Empleo y Recursos Humanos, 1969.

248/ Keller, Alan, "Status of Research in Latin America with Direct Implications for Family Planning Programs" ...

Tacla[249] show that the users have been mostly lower middle or upper-lower class urban women with primary school education. In other words, women belonging to high fertility groups would have been only slightly reached by family planning programs in those countries.

Such findings cast doubts on the efficacy of present family planning programs for reaching the main target groups in a fertility-reducing population policy. Structurally conditioned weaker motivation to participate in these programs, combined with difficult, if any, access to them would be conspiring against more significant participation of women from particularly high fertility groups in them. The impressive changes in program coverage experienced in recent years will no doubt change the situation depicted by the findings already mentioned. The gradual extension of the programs to other areas and social groups is having and will have indirect effects on women not included in present programs. However, those indirect effects might still be rather weak if not supplemented by socio-economic policies oriented to remove these structural features here identified as conditioning low motivation for birth control practices.

In other words and summarizing all the discussion above, socio-economic development, through all the processes sketched in previous sections of this chapter, would have increased the use of the available means to control fertility and the demand for other more efficient means. Once the motivation is present, availability of means through massive programs should accelerate previous downward trends. The effect of these programs thus becomes a function of the level of development reached by the countries where they are being implemented. As Oeschli and Kirk have suggested, medium stages of development are probably those where birth control programs are most effective; at lower levels motivation and demand would not be strong enough to make the programs accepted by those requiring them most, while at higher levels natality decline will take place regardless of a government-sponsored program.[250]

249/ Tacla, Jimena and Odette Tacla, Fecundidad. Regulación de la Fecundidad en 1.200 Mujeres Controladas en el Area Sur de Santiago (Chile), 1974-1976, Santiago: Imprenta INE, 1977.

250/ Oeschli and Kirk, Op.cit., p.116

IV. INTERNAL MIGRATION AND POPULATION DISTRIBUTION

Regional and urban-rural differentials in natural growth and migratory movements between regions and areas are the demographic components of the spatial distribution of the population. The relative importance of each of them has been widely discussed in the literature and, although no consensus has been reached regarding which of the two is most important, nobody is in a position to deny that urban rates of natural growth are playing an important role in the growth of the Latin American urban population.[251/]

That nowithstanding, all the available evidence show that internal migrations have played and are playing a decisive role in the massive redistribution of the Latin American population which were briefly summarized in the first chapter to this paper. In this section an attempt will be made to review and summarize the main findings of recent empirical studies on the subject in Latin America. The discussion will cover four main topics: types of internal migration and the migratory process; direct determinants of internal migration; development and the structural conditioning of the migratory process; and consequences of migration at individual and aggregate levels.

251/ See, for example, John J. Macisco Jr., Robert Weller and George Martine, "Migraciones, Urbanización y Fecundidad en América Latina", CELADE, Serie D, N°73, marzo, 1972; César Peláez, "La Urbanización en América Latina; Aspectos Demográficos", CELADE, Serie D, N°65, 1971; Zulma Recchini de Lattes, "El Proceso de Urbanización en la Argentina", Temas de Población de la Argentina, Aspectos Demográficos y Desarrollo Económico, Buenos Aires, Vol. 12, N° 48, 1973; Luis Unikel, "El Proceso de Urbanización en México", "Distribución y Crecimiento de la Población Urbana", en Demografía y Economía, México D.F., Vol. II, N°2, 1968; Eduardo Arriaga, "Components of City Growth in Selected Latin American Countries", Milbank Memorial Fund Quarterly, Vol. XLVI, N° 2, april 1968.

3. Types of internal migration and the migratory process

Five types of migratory movements can be analytically distinguished: seasonal, permanent rural-rural, permanent rural-urban, urban-urban and return migration. At a more directly measurable level, migration between administrative units (states, provinces, departments, communes, etc.) which may be of any of the above types, must also be mentioned. This section will be devoted to summarize briefly the empirical knowledge already acquired about those types and the way they interrelate in a more general migratory process.

Inter-censal migration in six Latin American countries has been analysed by Arévalo.[252/] Examining those data in conjunction with broader information about those countries, a United Nations report comes to the following conclusions:

a) movements occur from less developed to more developed provinces (or departments);

b) only a few provinces serve as places of destination for migratory movements, those where the major metropolis is located attracting the highest proportion of in-migrants;

c) the countries with wider socio-economic differences between provinces have a wider variability in migration rates than those with smaller regional differences;

d) colonization policies seem to have had a strong positive effect on migration to the provinces involved, as shown by the high positive migratory rates to them.[253/]

252/ Arévalo, Jorge, Migración Intercensal en Seis Países de América Latina, Santiago de Chile, CELADE, Serie A, N° 127, november, 1974.

253/ CEPAL, El Desarrollo y la Población ..., Op.cit.

Some of those conclusions are intriguing and deserve further scrutiny, but unless the type of migration involved be specified, it is difficult to use that information as a guide for policy decisions, except in very broad terms. Nevertheless, the empirical measurement and analysis of those types present different degrees of difficulty and our knowledge about them is far from satisfactory, as we shall see immediately.

Seasonal migrations constitute the first analytical type. They are composed of massive movements of peasants and other kinds of workers, usually in the company of one or more family members, from their communities of residence to other regions, for participating in seasonal works such as harvesting, zafras, etc. Although they are difficult to quantify, the studies available indicate that they are particularly important in Central America, the Caribbean, Colombia, Brazil, the Argentinian sugar cane region, and the Bolivian eastern region.[254/]

The studies available allow to identify two different subtypes of seasonal internal migration. The first is rural to rural seasonal migration, composed mostly of minifundia owners or members of indian communities, who leave their small plots of land and move to regions of commercial agriculture to work as temporary wage laborers. This is by far the quantitatively most important subtype.

Another subtype may be labeled seasonal urban-rural, and is composed of former peasants or rural laborers who return to their communities of origin

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254/ CEPAL, Desarrollo y Población; CEPAL, Tenencia de la Tierra y Desarrollo Rural en Centro América, Editorial Universitaria Centroamericana, EDUCA, 1973; Centro de Estudios Sociales Centroamericanos, Op.cit.; Lopes, J.R.B. et.al., Op.cit.; Reboratti, Carlos E., "Migración Estacional a la Zafra Azucarera en el Noreste Argentino y su Repercusión en la Estructura Agraria. El Caso Específico de Santa Victoria", paper submitted to the Seminar on Interrelations Between Population Dynamics and Agricultural Structure and Development, held in Cuernavaca, Mexico, november 1974; Solmid, Lester J., "El Papel de la Mano de Obra Migratoria en el Desarrollo Económico de Guatemala", Madison, Wisconsin: University of Wisconsin, Land Tenure Center reprint number 46-S.

for helping their relatives in the harvest season, or in other seasonal activities. Its number seems to be not very significant.

For the structural reasons briefly mentioned in another section of this paper, seasonal migrations of one or another type have always been present in the Latin American countryside. Because they provide some additional income to the families of those participating in them, they are considered to be a deterrent for rural-urban migration. But, at the same time, all the studies available mention the trend for commercial agricultural firms to prefer seasonal rather than permanent workers and, when possible, foreigners instead of natives, both because they pay them lower wages and avoid trade union pressures. The shift from permanent to seasonal labor is forcing a higher number of rural workers than before to migrate to the cities, if we accept the findings of the field studies already mentioned.

The second type is permanent rural to rural migration. Although our knowledge about this type is, with a few exceptions, rather impressionistic, we can also distinguish two main subtypes: migrations to agricultural frontier regions, and migration from plantations and haciendas to rural hamlets and villages.

An important part of total rural migration falls into the first subtype. Usually it is composed of independent peasants and their families for whom extreme land division or high land concentration in large farms have made impossible to have access to land, who spontaneously or as a consequence of government policies move to frontier areas. Although migrations of this type are present in many Latin American countries, they have particular significance in Mexico, Central America, Bolivia and Brazil, the best documented being those occurring in the second and the last cases mentioned. In Central America they are considered to be more important than rural to urban migration,[255/]

255/ Centro de Estudios Sociales Centroamericanos, Op.cit.

while in Brazil they have played an important role in the Amazonian region.[256]

Nevertheless, in both cases it appears that seasonal rural to rural migration is now replacing permanent migrations to frontier areas, as a consequence of the exhaustion of the frontier and the establishment in previous areas of colonization of technologically advanced plantations or haciendas hiring a small number of permanent workers. In at least one Central American country, Guatemala, it seems that seasonal migration has almost completely replaced permanent rural-rural migration.[257]

The second subtype of rural-rural migration is that which takes place from plantations and haciendas to hamlets and small villages, involving rural laborers displaced as a consequence of the use of more capital intensive production techniques. Although migrants of this kind are an important component of these rural marginal groups that are begining to call the attention of governments and social scientists, this subtype of migration seems to be, for the moment, an unexplored problem.

The third type is rural to urban migration. Nobody doubts the massive characters this type has had and is having in Latin America, but its exact magnitude can only be estimated since the population censuses do not provide information allowing to determine it directly.

One method for making those estimates consists of assuming that there are no urban-rural differences in rates of natural population growth, for then using one of national rates to determine the expected rural population at the end of the period analysed. Using that method, Dunoff found that the rural areas of Latin America had been able to retain 63 per cent of the natural

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256/ For a detailed description and analysis of the role of rural to rural migration in that region see CEBRAP, Amazonia: Desenvolvimento Socio-Econômico e Politicas de Populacao, 1975; for the same type of migration in the State of Sao Paulo, see Lopes, J.R.B., et.al., Op.cit.

257/ Bataillon and Lebot, Op.cit.

population growth they experienced in the period 1940-1950, a percentage that decreased to 51 per cent for the period 1950-1960.[258]

Gatica has used the same method to examine the problem for the 1960-1970 inter-censal period.[259] He found that the rural areas of Latin American have decreased even more (to 42.1 per cent of the expected natural growth) their capacity to retain population.

All the information available indicates that individuals migrating directly from the rural areas to Latin American metropolis are only a small fraction of total migrants to them, while the highest proportion is composed of people who come from other urban centers.[260]

Even though it may be assumed that increasing urbanisation is contributing to make urban to urban migration a very important type, and in the most urbanised countries possible the most important type, we know very little about the characteristics it is having, or about the ways through which different types of national urban systems are affecting its patterns. Most of the information handled at this moment on the subject is based on indirect inferences from migration between major administrative units identified as seats of urban centers, from the trends toward urban concentration and metropolitanization, or from the answers given by migrants to metropolitan areas.

The fifth type is return migration. The difficulties in getting the relevant information with census data make it impossible to have a quantitative estimation of how many migrants return to their communities of origin. Besides, survey studies on migration usuallydo not refer to the subject, or touch it

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258/ Duncoff, Louis, "The Role of Migration in the Demographic Development of Latin America", paper read at the Conference on the occassion of the 60th. anniversary of the Milbank Memorial Fund, New York, 5-7 april, 1965.

259/ Gatica, Fernando, "Panorama de la Urbanización Latinoamericana, 1950-70. Diagnóstico y Areas Criticas para Politicas, unpublished.

260/ Albert, J., Op.cit., According to the Data analysed by this author that generalization would not be true for Lima, since the highest percentage of migrants to this city were found to come from villages with a population less than 5 000.

only slightly. Of those devoting more attention to the poblem, one conducted in two Mexican communities placed at the opposite extremes of economic development -Monterrey and Cedral- found that in the growing metropolis as well as in the stagnant rural community a substantial proportion of the adult male population were return migrants.[261] In that study as well as in a Colombian survey where return migration received some attention,[262] it was found that return migrants had higher income, education and occupations than non-migrant natives, while the differences with respect to these variables between return migrants and those who had not returned were almost negligible. On the contrary, in a study of return migrants to the Chancay Valley in Peru, wider differences in education and income were found between migrants to Lima and return migrants than between these and non migrants. The above findings are suggestive, but an interpretation of them in a broader context will have to wait until more information about this type of migration is collected.

The description of the five types of migratory movements has revealed the close interrelationship existing among them, and the complexities involved in the analysis of the migratory process. However, the analyses and interpretations of that process have up to now been limited to the links between rural-urban and urban-urban migration, disregarding all the other relations and unduly simplifying the problem.

Within this simplified view, the fact that rural migrants only exceptionally move directly to the metropolitan areas has allowed to conclude that the well known stepwise migration model is also found in Latin America. Nevertheless, there are alternative explanations to the nature of the processes involved. For some, rural out-migrants go first to towns closer to their communities of

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261/ Feindt, Waltraut and Browning, Harley, "Return Migration: Its Significance in an Industrial Metropolis and in an Agricultural Town in Mexico", International Migration Review, Vol. VI, 1972, pp. 158-165.

262/ Simmons and Cardona, "Selectividad ...", Op.cit.
Chi, Peter S.K., and Bogan, Mark U., "Estudio sobre Migrantes y Migrantes de Retorno en el Perú", Notas de Población, Año III, December 1975, pp. 95-116.

origin, some of them making later a second move to larger cities. For others, the stepwise process does not mean that individual migrants make more than one movement but that rural-outmigration flows to smaller towns push natives out to larger cities.[263]

The surveys conducted in Latin American metropolitan areas show that most immigrants to them arrive directly from their communities of origin but, that, with the only exception of migrants to Lima, around 40 per cent have moved to two or more places before arriving.[264] This could be considered as proving the most conventional interpretation of the stepwise migratory process, but since those who move directly to the metropolis may have done it pushed by the arrival of rural immigrants to their cities of origin, the second alternative cannot be rejected (or accepted) on the basis of those data.

Still within this simplified view of the migratory process, the number of previous movements has been found to be directly related to the number of cities between the communities of origin and the metropolitan areas,[265] thus lending support to the hypothesis independently formulated by Elizaga[266] and Browning, that the lower the urbanization level of a country and the less developed its urban hierarchy, the less it conforms to the stepwise migration model.

According to some, distance and transportation facilities partially explain how different types of migration will combine into a migratory process. Rural migration would be oriented toward smaller towns and medium size cities or to large urban centers depending on the distance and transportation facilities existing between the communities of origin and those alternative places

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263/ The first variant is widely known. For a presentation of the second variant of the stepwise process see, Singer, Paul, "Migraciones Internas. Consideraciones Teóricas sobre su Estudio", in Consejo Latinoamericano de Ciencias Sociales, Op.cit., pp. 45-65; also Mc Greevey, William, "Causas de la Migración Interna en Colombia", in Centro de Estudios sobre Desarollo Económico, Universidad de Los Andes, Empleo y Desarrollo en Bogotá, Colombia, Ediciones Universidad de Los Andes, 1968, pp. 211-221.

264/ Alberts, J., Op.cit., Table 13, p. 22.

265/ Alberts, J., Op.cit., Table 15.

266/ Elizaga, J.C., Migraciones a las Areas Metropolitanas de América Latina, Santiago, CELADE, 1970.

of destination. Studies in Mexico,[267] Brazil,[268] Bogotá and Colombia,[269] Lima and Caracas,[270] support that assertion. However, in other cases such as Chile and Costa Rica,[271] distance has no significant relation with migration.

There is also some evidence showing that the degree of integration of a rural community to the national society, through educational, economic and religious institutions, is positively related to migration from them to the urban areas.[272]

While this simplified view of the migratory process and the alternative explanations to it are important for correctly assessing the consequences of migration, future analysis cannot fail to include all the types of movements involved and relate them to structural changes and socio-economic processes taking place in the nation as a whole as well as in the rural and urban areas and in specific regions.

267/ Browing and Feindt, Op.cit.
268/ Sahota, Op.cit.
269/ Cardona and Simmons, Op.cit.
270/ Alberts, J., Op.cit.
271/ For Chile, Alberts, J., Ibid.; for Costa Rica, Carvajal and Geithman, Op.cit.
272/ Conning, Arthur, "Rural-Urban Destination of Migrants and Community Differentiation in a Rural Region of Chile", International Migration Review, Vol. 6, Summer 1972, pp. 148-157.

2. Determinants of internal migration

The previous analysis has shown that the process of population redistribution now taking place in Latin America is the final outcome of different types of movements, all of them interrelated in a complex and until now not very well known migratory process. An understanding of those movements as well as the selection of policies adequate to reorient them, if that isddeemed necessary, requires that their links with socio-economic changes now taking place in the region be established. This, on its turn, requires that as a first step those factors more directly affecting the different types of migratory movements be identified. This will allow that, as a second step, the relationships between those factors and broader social and economic changes be established, thus giving a firmer and wider basis for policy interventions as well as for evaluating the actual and probable impact of past and present policies on population distribution.

A. Direct migration determinants

Previous reviews of internal migration studies in Latin America, have concluded that the size, composition and destination of the migratory flows are determined by the employment opportunities available at different regions and areas; by the standard of living prevailing in them, particularly as indicated by wage and educational level differentials between regions and areas, by the opportunities for upward mobility they offer, as well as by the perception individuals have of those opportunities and conditions, and by cultural and socio-psychological factors affecting either those perceptions or the aspirations individuals have for themselves and their children.[273/] Recent studies

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273/ See Muñoz, Humberto and De Oliveira, Orlandina, "Migraciones Internas en América Latina: Exposición y Crítica de Algunos Análisis", Migración y Desarrollo, CLACSO, 1972, pp. 5-31; Cardona, Ramiro and Simmons, Alan, "Hacia un Modelo General de La Migración en América Latina", in Cardona Ramiro (editor), América Latina: Distribución Espacial de la Población, Bogotá: Corporación Centro Regional de Población, 1975; Brigg, Pamela, "Migraciones a las Areas Urbanas", in Cardona, Op.cit., pp. 117-194.

on the subject partially confirm those findings and allow to further specify how those factors are affecting migration, thus facilitating to arrive at more policy-relevant conclusions, and providing a firmer basis for identifying research gaps.

a) Earning levels and employment opportunities as migratory factors. Most of the Latin American studies concluding that employment opportunities and earnings differentials between areas, regions or particular cities explain internal migration either make the common sense assumption that this is so, or refer to the reason for migrating given by individual respondents, thus mixing actual opportunities with the perception individuals have of them. These explanations are neither scientifically strong nor adequate for guiding policy decisions. Fortunately, a number of econometric studies conducted in recent years have approached more directly the problem at the socio-economic level and allowed to confirm as well as to specify that conclusion.

The first to mention is Sahota's study of inter-state birth-residence migration of the Brazilian male population, using data from the 1960 census, plus other government statistics.[274] With respect to the factors we are interested in here, the author concluded that internal migration was highly responsive to earning differentials and had a weaker but significant relation with the rate of growth of income, using the latter as a proxy for the expansion of income and employment.[275]

Two additional studies by Carvajal and Geithman allow further specifications of the relationship of employment opportunities and earning differentials with internal migration. The first[276] is a study of wage and salary earning household heads selected from the 1960 Dominican Population and Housing Census, including four independent variables as hypothetically associated with out and in-migration in urban and rural areas: local wages, unemployment rate, educational level, and crowding in housing.

274/ Sahota, Gian S., "An Economic Analysis of Internal Migration in Brazil", Journal of Political Economy, March-April, 1968, pp. 218-245.

275/ Ibid., p. 243.

276/ Carvajal, M.J., and Geithman, David, T., "Migration Flows and Economic Conditions in the Dominican Republic", Land Economics, Vol. 52 (May 1972) Nº 2, pp. 207-219.

The four sets of migration regression equations tested in that study showed the independent variables taken together as accounting for more variation in immigration rates than in out-migration rates. The hypothesized relations were generally found to be stronger for urban immigration than for urban out-migration, and for rural immigration than for rural out-migration.

With respect to the variables we are here interested in, it was found that higher wages attract migrants, but that they are far less attractive in the countryside than in the cities. On the contrary, while low earnings stimulate out-migration from the cities, they have a far weaker effect on rural out-migration. At the same time, employment opportunities in the cities, as shown by low rates of city unemployment, are a definite attraction to urban immigrants, but the study failed to find a significant effect of high unemployment in the countryside on out-migration from it.

The analysis by the same authors of inter-county (cantones) migration in Costa Rica, using data from the 1963 population census[277] also includes level of local wages and salaries, and local unemployment rate among the five variables constituting the migration model they use. As expected, they found that in Costa Rica, higher local wages stimulate immigration. At the same time, they were able to specify that the average wage level for all occupations was more attractive to migrants than wage levels in the same occupational category. They failed to find a statistically significant relation between local unemployment rates and immigration to cities and towns, while a negative relation between those rates and immigration to rural areas turned out to be significant.

A study of inter-state migration in Venezuela using the 1961 population census[278] provides additional data and analyses for an interpretation of the findings we have summarized. Starting from the assumption that people move as

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277/ Carvajal, M.J., and Geithman, David T., "An Economic Analysis of Migration in Costa Rica", Economic Development and Cultural Change, Vol. 23, N° 1 (October 1974) pp. 105-122.

278/ Levy, Mildred B. and Wadycki, Walter J., "What is the opportunity cost of moving? Reconsideration of the effects of distance on migration", Economic Development and Cultural Change, Vol. 22, N° 2 (January 1974), pp. 198-214.

a consequence of rational decisions where costs and returns (economic or otherwise) are taken into account, the authors include forgone opportunities available at alternative destinations as a cost of moving. These are avowedly inspired in Stouffer's theory of intervening opportunities and are defined as the "best" opportunities with respect to expected income, probability of earning it, and size and diversification of the labour market. These forgone opportunities are hypothetically considered as crucial for explaining the proportion of total out-migration from a given state to a specific destination state. They found that better alternative opportunities did significantly reduce migration to a given destination. The average wage rate (as a proxy for expected income at the destination) was found to have the strongest influence, followed by the unemployment rate at alternative destination (as a proxy for probability of earning expected income), and by the market size, in the same order.

Although not conceptualized in this way by the authors, a study by Bataillon and Lebot on internal migration in Guatemala [279/] lends additional support to the alternative opportunities factor. This study is basically a detailed description and analysis of a particular Guatemalan Municipio (Sajcabaja) in the Department of Quiché, but the authors ingeniously combine field work with data derived from the 1964 and 1973 population census, as well as secondary data from other sources, to reconstruct the links between changes in wages, employment opportunities and a whole array of other variables, with concomitant changes in migration flows. Three of the many conclusions they arrive at are particularly important at this point. The first is that internal migration in Guatemala has been determined by the changing structure of occupational opportunities, as shaped by technological, social, and political factors. When these factors were so combined as to provide ample opportunities in the Banana and Pacific Coast agricultural regions, permanent rural to rural migration to these regions was a very important type. But now that these factors have been modified so as to restrict opportunities for permanent employment in

279/Bataillon, Claude and Lebet, Ivon, "Migración Interna y Empleo Agrícola Temporal en Guatemala", Estudios Sociales Centroamericanos, Año V (january-april 1976), N° 13, pp. 35-67.

those regions, migration to Guatemala City has become the most important type of permanent migrations, while seasonal migration is the only remaining type in the rural areas.

The second conclusion is that the strength of the relationship between low income and out-migration is contingent upon the culture predominating in the particular region of origin (indian or ladino, that is, mestizo) and the quantity and quality of communication channels between origin and destination: it is weaker among indian dominated and isolated regions than in the others. Finally, in agreement with the alternative opportunities hypothesis, they found that the presence of a major city in the region of origin was an important deterrent for out-migration.

b) Local educational levels as migration determinants. As we shall see in a later section of this paper, the search for wider educational opportunities is one of the main reasons given for out-migrating in Latin America. However, the relationship between local educational levels in places of origin and of destination with migration is not easy to determine, and empirical studies have come to inconclusive results.

Nobody questions that urban areas provide more educational opportunities than rural areas, and that among them the larger cities may offer both quantitatively and qualitatively better education than smaller towns. If the role of education as a pull or push factor were dependent only on the objective opportunities available, one would predict that out-migration would be inversely related to the local educational level while in-migration would have a direct relationship with it.

Nevertheless, it is difficult to find a straightforward relation between those variables because, as it is known, increases in educational levels also increase educational and occupational aspirations. As revealed by the empirical studies undertaken in Latin America, both the urbanization process and the gradual expansion of elementary education to the rural areas have

provoked a more than proportional rise of those aspirations.[230] Since occupational opportunities do not grow in the same proportion that aspirations, and in the rural areas they may be either stagnant or decreasing, as we shall see in a later section, better educational levels in them may not affect out-migration from them, or even be positively correlated with it.

The findings reported for Brazil, Dominican Republic, Costa Rica and Chile confirm the ambiguous relationship between local educational levels and migration. In the first country, Sahota found that education attracted migrants both in the origin and destination regions.[231] In the Dominican Republic, Carvajal and Geithman found that higher educational levels were related with both in-migration and out-migration, although the relationship was higher for urban in-migration than for urban out-migration, and this, in turn, higher than for rural out-migration. In Costa Rica, the same authors could only find infrequent and inconsistent relations between local average educational level and in-migration. Finally, in Chile, the average percentage of the provincial male illiterate population was found to have a negative but non-significant relationship with rural emigration.[232]

Summarizing what we have seen regarding socio-economic determinants of migration, it seems that more recent findings provide a general confirmation to the conclusions reached by previous reviews on the subject (that income differentials and employment opportunities are the most important of those determinants) but, at the same time, they pose some problems when viewed from a policy perspective. At first sight, all the studies mentioned lead to the interpretation that the "pull" factors are more important then the "push" factors in explaining migration, and particularly rural-urban migration. If this were so, little action through changes in employment rates and wage levels could taken to decrease out-migration from the countryside, since few

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230/ Urzúa, Raúl, Op.cit.
231/ Sahota, Op.cit.
232/ Shaw, Paul R., "Land Tenure and the Rural Exodus in Latin America"; Economic Development and Cultural Change, Vol. 23, N° 1 (october 1974), pp. 123-132.

policy-makers would attempt to increase urban unemployment or decrease urban earnings for reaching such goal.

Fortunately, neither the interpretation nor the policy conclusions are wholly correct. In the first place, wage levels and employment opportunities differentials are explaining differences in immigration rates for particular urban areas or regions within a general context of very high rural out-migration rates which, being constant whatever the values those variables reach, cannot be explained by them. To explain high overall rates of rural out-migration to any urban area -and not differences in immigration between them- it is necessary to introduce the push factors. Secondly, in one of the countries analysed (Costa Rica), high current urban unemployment rates did not preclude high urban immigration rates, thus suggesting the presence of other pull factors and of socio-economic conditions in the countryside which force out-migration, whatever the opportunities available in the urban areas.

A more adequate interpretation has been advanced by Carvajal and Geithman for Costa Rica, namely that "as long as substantial wage differentials between urban and rural employment exist, the potential migrant must balance the probability and risks of urban unemployment or intermitent under-employment for some periods of time against the favorable urban rate differential".283/ Restricted as it is to the economic factors determining internal migration, that conclusion can be generalized to other countries and has the advantage of showing that policies attempting to decrease rural-urban migration should be aimed primarily at improving wages and at widening employment opportunities in the countryside. The problem, of course, is how can this be achieved given the style of development adopted by the Latin American countries. In fact, the prospects for this to occur are quite dim.

A second line of action open by the above findings has to do with the direction of the migration flows within the urban areas. If we accept the reported findings, and particularly Levy and Wadycki's contribution, the opening of opportunities for employment and better wages at alternative urban

283/Carvajal and Geithman, "An Economic ...", Op.cit., pp. 120-121.

places would considerably re-orient migration flows and decrease immigration to the main cities of destination.

Although this has proven to be true in a number of Latin American countries, the impact of other socio economic determining factors may blurr somewhat the final outcome of policies inspired in those findings. Among them a brief mention must be made to the fact that major urban centers may might keep attracting a large proportion of migrants even though employment opportunities may be growing at faster rates in minor centers. This seems to be the present situation in Brazil, at least with respect to industrial employment opportunities, as reported by Faría[284/] and as it may be inferred from Levy and Wadycki's finding of the importance of population volume for explaining in-migration in Venezuela.[285/]

c) Socio-psychological factors as determinants of migration. The set of migration determinants reviewed up to now are socio-economic differentials between areas and regions of origin and destination. They are, in a sense, objective factors which need to be experienced and pondered by prospective migrants, except in those cases of natural catastrophies where the population is forced to leave its place of residence.

The reasons for migrating given in all surveys conducted in Latin America fall basically into four main categories: low income in the place of origin and expectation of increasing it in the place of destination; unemployment, under-employment or insatisfaction with present job in place of origin, and expectation of better employment opportunities in place of destination; search for educational levels higher than those available in place of origin; and a number of "family" reasons, such as marriage, death of a member,

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284/ Faría, Vilmar, "El Sistema Urbano Brasileño", in CEBRAP, La Urbanización en el Brasil: Aspectos Demográficos, Sociales, Económicos y Políticos; paper presented to the Seminar on Urban Planning and its Relations with National Economic Planning, organized by the Instituto Latinoamericano de Planificación Económica y Social (ILPES) in Bogotá, Colombia, June 14 and 15, 1976.

285/ Levy and Wadycki, Op.cit.

etc. Of these four categories, the first two are unanimously mentioned by all previous reviews on the subject as being the most important, but education closely follows them.[236]

Whatever the problems that answers to questions on the reasons for migrating may have, they closely correspond to the socio-economic characteristics of places of origin and destination previously identified as the most important factors affecting internal migration.

It would be useful for scientific and policy objectives to identify the order of importance of those reasons for migrating for different socio-economic groups or social strata in the places of origin, as well as for different types of migration. The analysis of the reasons for migrating given by respondents of different sex, age, places of origin, occupations in place of origin and present educational level of immigrants to Monterrey (Mexico), Santiago (Chile), Lima (Peru) and Caracas (Venezuela) done by Alberts[237] allows a first approximation to the subject.

With respect to age at arrival, the data from Lima and Caracas show that, with the only exception of men 50 years old and over in Caracas, employment and income opportunities (labeled "economic reasons" by Alberts) are the most important reasons at all ages, but that education and family reasons have more or less relative importance depending on the stage in the life cycle of the individual at which migration took place: as it could be expected, education is more important at younger ages and family reasons at older ages. On the

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236/ Simmons, Alan and Cardona, Ramiro, Op.cit.; Briggs, P., Op.cit.; Alberts, Joop, Migración en Areas Metropolitanas de América Latina: Un Estudio Comparativo, Parte II, Santiago de Chile; CELADE, IPI/5, march 1975; Herrick, Bruce, "Urbanization and Urban Migration in Latin America: An Economists's View", in Rabinowitz, Francine F. and Trueblood, Felicity M. (Editors), Latin American Urban Research, Vol. 1, Beverly Hills, California, Sage Publications, 1971; Muñoz, H. and Oliveira, O., Op.cit.; Lira, L.F., "Educación y Migraciones Hacia las Areas Urbanas de América Latina: Revisión de Algunos Estudios", Notas de Población, Año II, Vol. 6, december 1974, pp. 113-133.

237/ Alberts, J., Op.cit.

contrary, among women of all ages family reasons are the most important (with the only exception of migrant women to Lima arriving between 15-19 years old, who do it mainly for economic reasons). Economic and educational reasons are in this case more important at younger ages, while family reasons increase steadily with age at arrival.

Alberts also found small differences among male migrants to Monterrey, Santiago, Lima, Caracas with respect to the importance of economic factors, when rural or urban origins were considered, but that women from rural areas migrated mostly for economic reasons. On the other hand, education came out as the most important reason for urban-urban migration, irrespective of sex.

Turning to the occupations migrants had at the place of origin, Alberts found that economic reasons are strongly associated with blue-collar or agricultural jobs, and that only a small percentage of those having them recognized education as a reason.

Finally, as it could be expected, those with higher levels of education at the time of the survey gave education as a reason for migrating to the metropolis more often than those who at that time had attained a lower educational level.

Valuable as it is, Alberts' effort can be taken only as a first attempt at specifying how people of different ages and socio-economic origins, or living in different areas, conceptualize the reasons they had for changing place of residence.

More generally speaking, the emphasis given to survey studies and, within them, to measuring reasons or motivations for migrating has not made us learn much about the complex interrelations between cultural, socio-psychological and contextual factors which are involved in a decision to move. Field studies in the communities of origin including all those types of factors would be particularly important in this respect, if we wanted to have a better grasp of

how different groups will react to changing socio-economic conditions and policy measures. This would require at the same time that the analysis of the broader structural changes which are affecting earning levels, employment opportunities, levels of living, etc., and the perceptions and reactions of people from different groups be introduced in our discussion. The evidence with regard to both points will be reviewed in the following sections.

B. Structural change and migration determinants

A number of authors have attempted to link the processes of population redistribution now taking place in Latin America with the characteristics adopted by the development process. Although phrased differently depending on the more general perspective adopted by the authors, and varying as to how some specific processes are interpreted, most students of the subject stress the importance for Latin America population distribution and re-distribution of the trend towards an ever growing concentration of industrial development in one or at the most a few pre-existing large cities, while the rest of the country remains largely non industrialized. These few centers would not only grow at a faster rate than the rest of the country, but they would continually diversify their social and economic structure. On the contrary, all the other internal regions of the Latin American countries would remain undiversified and with economies based mostly on the explotation of raw materials and, at the most, some industrial processing of them. This type of internal division of labor where a center constantly diversifies its activities while the rest of the internal regions remains ith specialized economies creates, according to the authors accepting this view, a-symetric relations between the one or few industrial centers and the rest of the country. The kinds of relationships existing between the industrialised and the less developed countries at the international level would then be repeated within the countries, thus making

possible to speak of "center-peripheric" relations or of "internal colonialism".288/

Once this type of relationships is established employment opportunities would tend to grow faster, wages and salaries would tend to be higher, the social structure would be more open for upward mobility, educational opportunities would be higher and, in general, all migration determinants would have more positive values at the center than at the peripheries. This inequality of opportunities originated by a center-peripheric type of development would be the most general explanatory factor for the Latin American massive movements to a few urban centers. Industrial concentration, primate urban system, urban concentration and unequal regional population distribution would then be inextricably interwoven and mutually reinforcing processes.

The former is a useful starting point for analysing empirically the interrelations between national and regional development patterns and migratory movements. Concrete cases will of course more or less closely coincide with the ideal typical relations suggested above, depending of the historical and structural conditions found in each country (the presence or absence of large numbers of native population, climatic conditions, the allocation of raw materials, the degree and type of insertion in the international market, the characteristics of the pre-existing urban population, etc.). Besides, the relations postulated are supposed to operate in the absence of corrective measures taken by the State. Although authors are in general skeptical of

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288/ For a more detailed presentation of this view see Di Filippo, Armando, "Desarrollo y Distribución Espacial de la Población", Notas de Población, Año III, Vol. 7, april 1975, pp. 43-70; Di Filippo, Armando and Bravo, Rosa, Los Centros Nacionales de Desarrollo y las Migraciones Internas en América Latina: Un Estudio de Casos, Chile, Comisión de Población y Desarrollo, CLACSO, Unidad Central PISPAL, CELADE, Documento de Trabajo Nº 16; De Mattos, Carlos, Algunas Consideraciones sobre la Movilidad Espacial de Recursos en los Países Latinoamericanos, Documento B/5, VI curso de Planificación Regional del Desarrollo organizado por ILPES con la colaboración de CEPAL y el CFI, Buenos Aires, 16 de junio al 5 de diciembre de 1975; Geisse, Guillermo and Coraggio, J.L., "Areas Metropolitanas y Desarrollo Nacional", Revista Eure, Vol. 1, Nº 1, 1970; Rofman, Alejandro, Desigualdades Regionales y Concentración Económica. El Caso Argentino, Buenos Aires, ediciones SIAP, 1974.

the success these measures might have in completely reversing trends towards unequal regional development within the countries and, consequently, in altering the volume, composition and direction of the main migratory streams, they are not that pessimistic as to the possibility of changing them rather significantly.

The empirical analysis of the problems mentioned above has been subject of great concern for economists working in Latin America. However, most of those analyses have been centered on the strictly economic aspects of the problem, at most mentioning in passing their interrelations with population distribution and redistribution. The importance attributed to population and development problems during the last years and the high priority given by Latin American governments to population redistribution policies are fortunately changing the situation. The adequacy of current interpretations of the development-population distribution inter-relations have recently been analyzed or are been presently analysed in a number of Latin American countries.

A detailed theoretical and empirical evaluation of the "center-peripheric" approach to those interrelations for the Brazilian case is due to Faria.[289] His most general conclusion is that a process of inter-urban division of labor by which the metropolitan areas of Rio de Janeiro and Sao Paulo concentrate modern secondary and tertiary activities while the other cities specialize themselves in market and service activities has indeed occurred, but that distribution of the urban population throughout the system of cities remains balanced by classes of city size. In other words, instead of increasing city primacy, economic development has been accompanied by a trend toward lognormality in modern Brazil. The especialization of cities other than the main metropolis in the performance of low productivity, more labor-intensive tertiary activities, due to capital shortages, is offered as the main explanatory factor for these divergent trends in population and modern economic activities distribution.

289/ Faria, Vilmar, Occupational Marginality, Employment and Poverty in Urban Brazil, a thesis presented to the Department of Sociology, Harvard University, June 1976).

In contrast to Faria's findings, an exploratory study of Chilean data done by Di Filippo and Bravo[290] found confirmation for two of the main theses of the center-peripheric approach: the more dynamic character of economic activities and the opening of more employment opportunities at the center, and the high predominance of migration movements to that center. Work now in progress by the same authors for the Argentinian case has come to the same conclussion.

Discrepancies in findings from different countries have prompted FISPAL to prepare a research project on the interrelations between development, migration and city primacy from a comparative perspective. Started in 1977 and coordinated by CELADE, this project aims at examining how national and regional development trends and policies in the last twenty five years have affected migration to the capital cities and to other alternative urban centers of Argentina, Colombia, Chile, Paraguay, Peru and Uruguay, as well as to examine the viability of policies to re-orient migratory streams. The first phase of the project is scheduled to be finished by october 1978.

Another recent line of research on the same topic centers on the identification and analysis of government policies with redistributive effects on the population. The Colombian Corporación Centro Regional de Población has been the pioneering Latin American research center on this respect. The first study done by this center is an analysis of development strategies and policies of population distribution in Colombia.[291] Although the published results are rather general, the study provides some useful information on industrial concentration, urban and housing policies, colonization policies, etc.

Taking advantage of the experience gained in that study, the same center is now engaged in a collaborative project on development strategies and

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290/ Di Filippo and Bravo, Op.cit.,

291/ Cardona, Ramiro et.al., Estrategias de Desarrollo y Políticas de Distribución Espacial de la Población en Colombia, Bogotá, Corporación Centro Regional de Población.

policies of population distribution, including case studies of Argentina, Bolivia, Brazil, Colombia, Chile, Cuba and Paraguay. The project was initiated in 1976.

Comparative and collaborative projects such as those mentioned above will surely allow to understand better the processes involved in population distribution and redistribution in Latin America today and to widen the scope of policy alternatives. At the same time they will help us to clarify the role played by past and present trends in urbanization and by the inherited characteristics of the urban network on the pattern and shape of national and regional development and, indirectly, on present and future trends in population distribution.

The importance of these trends and characteristics stems in the first place from the influence they exert on where different productive activities are allocated. But this is by no means their only influence. On the contrary, their structure and the role played by each of their component urban centers are determining the intensity of rural-urban contacts and the interactions and communications between centers of different sizes. The way different urban centers are distributed along the territory; the distance separating them and the quantity and quality of highways and transportation networks between them; the flow of goods and services between them; the difussion of mass media from larger centers to smaller ones and to rural areas, finally their changes through time, have been mentioned as affecting the characteristics of the migratory process as well as the perceived changes in migrant selectivity. Likewise, they are affecting the more socio-psychological determinants of migration. Increased contacts and interactions between urban and rural populations contribute to change motivations, attitudes, beliefs and aspirations of families and individuals, as well as to allow them to evaluate their opportunities in different alternative places.

Concentration of industrial activities and economic opportunities in a few or, most of the time, one urban center and characteristics of the urban

network are two macro-structural factors that are orienting the migratory process and provide a more general explanation for the processes of urban concentration and metropolitanization in Latin America. However, they are not the only ones and each type of migration would require to include other more specific factors as well as to examine how those two are operating at more concrete levels. Rural-rural and rural-urban migrations require that structural changes in the rural areas be specifically considered.

C. Structural changes in the rural areas and the migratory process

As it was remembered when reviewing recent socio-economic changes in Latin America, modernization of agricultural production has deeply changed labor relations in the area and has decreased, on the whole, occupational opportunities in them. At the same time, there are indications that income distribution in the rural areas has become more unequal as a consequence of the organization of large capitalistic firms with a small number of comparatively well paid wage workers while the majority of the labor force has either been displaced by increased mechanization or finds only seasonal employment.

The above are two push factors contributing to massive emigration from the rural areas. To them it must be added the trend detected in many countries of the region for technologically advanced agricultural firms to hire seasonal rather than permanent workers, so as to minimize costs and avoid labor conflicts. This trend has displaced permanent workers while at the same time it has increased seasonal work opportunities for independent peasants. One type of rural-rural migration is due to this trend, since many times the available labor force in the neighboring areas is not sufficient to satisfy the temporary demand; in some cases, even when there are available workers in the area, entrepreneurs prefere to hire those coming from distant places, or even foreigners, since they accept lower wages and have less organizational ability.

As it was already mentioned when discussing types of migratory movements, some countries have opened the agricultural frontier through colonization programs, while in other cases spontaneous private programs have achieved the same result. Permanent rural-rural migrations are due mostly to these colonization programs. Nevertheless, exhaustion of the agricultural frontier in some of those countries, high costs of the operation in others, and the organization of modern commercial farms in former areas of colonization, have either restricted that type of migration or made it be replaced by seasonal migration.

Other structural factors affecting migration mentioned in the literature are of a more political nature. Among them are broad political changes, such as an increasing political mobilization of peasants and rural laborers, attempts at implementing agrarian reform programs, educational and communications policies, etc. which either reinforce structural changes in the rural sectors, weaken the obstacles to migrate, or increase the knowledge and attraction of alternative places of residence.292/

The empirical basis for linking structural changes as those mentioned above with internal migration rests mostly on "meaning fully adequate" interpretations of indepent findings. Nevertheless, a few research projects recently

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292/ The above generalizations are based on Urzúa, Raúl, Estructura Agraria y Dinámica de la Población, CELADE-PISPAL, Documento de Trabajo N° 7, april 1975, and on the findings of the following PISPAL projects: Development, Agrarian Structure and Migration in Brazil (CEBRAP); Socio-economic Characteristics of Argentinian Rural Areas, Rural Employment, and Migration Streams (CEUR); Demographic Changes in Different Mexican Rural Socio-economic Contexts (CEED, El Colegio de México); Population, Rural Development and Migration in Middle America (CSUCA, Costa Rica); Population Dynamics in the Rural Sector of Uruguay (CIESU); The State, Agrarian Structure and Population (CEBRAP); Population Stocks, Labor Force and Capital Accumulation in Brazilian Agriculture (CEBRAP); Interrelations between Agricultural Development Potential, Agrarian Structure, Regional Development and Migration (Ximena Aranda, Chile); see also, Shaw, Paul R., Op.cit.; Long, John F., Rural Out-migration in Chile from 1952-1960 and from 1960-1970: Quantity and Causes, Ph. D. Dissertation - Department of Sociology, University of North Carolina, Chapel Hill.

finished or still in progress in the region have attempted to tackle more directly the problem. Because of the importance of rural out-migration in most countries, the main efforts up to now have been toward a clearer understanding of how structural changes in the agricultural sector affect it. A few of them will be mentioned below as an illustration of the different approaches which are now being tested.

The first to mention is Paul R. Shaw's effort to develop a model seeking to identify the causes of high rates of male rural emigration in Latin America, and his attempt to test it empirically for the cases of Chile and Peru.[293/] The key predictor variable used in this study is an "index of population pressure and agricultural inopportunity", both in a stock and flow form, including a number of the structural factors most mentioned with respect to rural out-migration, such as: latifundio owners in each province, owners of intermediate size farms in each province, provincial arable land held by latifundio owners, average rural family size of each province, provincial rate of rural natural increase, total provincial arable agricultural land, and provincial rural-agricultural population. Together with these, several hypotheses bearing on those factors we have identified as socio-economic (urban-rural wage differentials, education, housing, quantity and quality) were also tested.

The main results of Shaw's study were that: 1) in both countries the variables measuring provincial differences in land tenure and population growth consistently demonstrate the highest degree of association with the measure of rural emigration; 2) there was a high positive correlations between the stock and flow indices and male rural emigration; 3) the stock index of population pressure and agricultural inopportunity explained a higher proportion of the variance in rural emigration in both countries; 4) except for the case of average provincial agricultural wage, 1952-60, and availability of transportation facilities, socio-economic factors were not significantly related, when taken individually, with rural emigration.

293/ Shaw, Paul R., Op.cit.

Shaw's findings provide support for the view that structural factors are important to explain rural emigration. Further support comes from Lira's study of rural emigration from the Central provinces of Chile between 1952-1970.[294] In it, changes in the agrarian structure of Chile, as revealed by the last three analysed agricultural censuses (1936, 1955, 1965) were related to rural out-migration between 1950-1960 and 1960-1970, from both the provinces in the central region of that country, and from the internal administrative divisions of two of those provinces. Among Lira's most important empirical findings are the followings:

- As expected, the degree of agricultural land concentration in a province is positively related with rural emigration rates and negatively related with the growth of the labor force employed in agriculture. The positive relation between land concentration and rural emigration is higher for the young adult population group (15-34 years old).

- Again as expected, the higher the degree of mechanization in Chilean provinces, the lower the growth of the labor force employed in agriculture. At the same time, the higher the use of fertilizers, the higher the growth of the labour force, a finding which contradicts the negative relationship often assumed by social scientistis in Latin America that improved technologies inevitably restrict labor force demand.

- The intensity and type of land use have an impact on out-migration, this being smaller the higher the proportion of cultivated land and the higher the proportion of orchards and vegetable gardens.

- Higher proportion of sub-family size holdings is associated with a higher growth of the labor force employed in agriculture and with lower rural out-migration. On the contrary, a higher proportion of family and multi-family size holdings is linked to higher rates of rural out-migration.

294/ Lira, Luis Felipe, Estructura Agraria, Crecimiento de la Población y Migraciones: El Caso de la Zona Central de Chile: 1952-1970; PISPAL, Documento de Trabajo N° 14, june 1976.

- At the communal level, a model including percentage increase in land being held by sharecroppers and of land given as privileges to inquilinos (colono-type workers); percentage growth of wage workers; percentage growth of land using fertilizers; percentage growth in the number of tractors per hectare; and percentage growth of land under cultivation explained 92 per cent of the growth in the labor force employed in agriculture.

Shaw's and Lira's studies are important for the substantive results they reached as well as for attempting to solve the difficult problem of operationalizing with census data many highly complex theoretical concepts. A third much more ambitious research project, both for the number or countries and variables involved, and for the attempt at combining quantitative analyses of census data with qualitative and historical explanations, is that on population, rural development and internal migration in Central America made by an interdisciplinary group of social scientists from the Central American Program of Social Sciences of the Central American Confederation of Universities, under the general direction of András Opazo.[295/] It is impossible to summarise in a few paragraphs the wealth of descriptive information and analyses made in such a wide-encompassing project, but a few comments can be made on the main hypotheses, the ways they were operationalized, and the principal or most general findings.

At a theoretical level, the presence of a marked structural heterogeneity inherited from the colonial past and deepened by the capitalistic organization of production, and the emergence of wage labor as the predominant type of labor relations are seen as the central explanatory factors for rural migration.

More concretely, but still at a theoretical level, the authors distinguish between a rural sector which, because both wage labor and market orientation prevail, is called the capitalistic sector; another where production is market oriented but where labor is absent, called the "autonomous" sector by the

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295/ See Programa Centroamericano de Ciencias Sociales-CSUCA, Población, Desarrollo Rural y Migración Interna en Centro América. Un Análisis Estructural, Tomos I, II, III y IV, Serie Informes de Investigación, april 1976.

authors; and finally a third one called subsistence sector, where neither market orientation nor wage labor are found. The kinds of interrelations between these sectors is seen as shaping the amounts and types of rural migration, be it rural-rural (the most common in Central America according to the authors) or rural-urban.

The authors could not keep the three sectors distinction at the empirical level, because the censuses do not provide information on market oriented production, forcing them to use a dichotomic "capitalistic" - "not capitalistic" distinction, which could be empirically defined with census data (land use, per cent of large farms; export oriented production, wage labor, farm mechanization, etc.).

Differing from other less sophisticated studies, the authors did not postulate that capitalistic or non-capitalistics structures always attract or expel population, but rather that they can do either thing, depending on the type of crop, the existence of uncultivated "frontier" land; the man-land ratio, etc.

After the indicators for the variables were selected, two kinds of quantitative analyses were made: a path analysis, including wage relations, land concentration, land use, availability of land, as variables; and a regression model including five types of agrarian structures.

The path analyses with 1950 data failed to give meaningful findings, mostly due to problems with the indicators used, according to the authors. However, those with 1960 data showed that wage labor and land concentration were the most important explanatory factors of migration.

On the other hand, the results of testing a regression model using the logarithm of the immigrants/outmigrants ratio as a dependent variable and different types of agrarian structures as independent variables were

interpreted by the authors as satisfactorily close to what they expected the impact of those variables would be.

The rest of the analysis included in the published report of that project is mostly an interesting description of structural changes occurring in different types of departments in each Central American country, and of how they are related with rural in or out-migration.

Although some of the conclusions they reach are open to debate, and the analyses done require further elaboration, there is little doubt that this study is the best source of information available today on the interrelations between the process of structural change in rural Central America, its impact on the socio-economic determinants of migration, and rural in and out-migration.

An approach similar to the one used in the Central American project but making use of a wider battery of techniques for data collection has been followed by Juares Rubens Brandao Lopes and his collaborators at CEBRAP in their series of studies on development and agrarian structure in Brazil.296/

The methodology followed in this case was to start constructing a typology of rural areas in Brazil from the viewpoint of the agrarian structure predominating in them, according to two basic criteria: organization of productive activities, and their role in the national social division of labor. The first criterion, was applied to agricultural firms. With additional sub-criteria of lesser importance, including the type of labor relations predominating in them (presence or absence of hired workers; payment in cash or kind), plantations, peasant holdings, family farms, and capitalistics firms were distinguished in this case.

296/ Lopes, Juares R.B., Desenvolvimento e Estructura Agraria no Brasil, I parte, Tipos de Areas Rurais no Brasil, Sao Paulo: CEBRAP, 1975; Lopes, Juares R.B., Caldeira Brandt, Vinicius; Muller, Geraldo, Desenvolvimento ..., II parte, Estudio de Duas Areas Agricolas, Sao Paulo, CEBRAP, 1975.

The second criterion led to a typology of rural areas (not of firms) according to the destination of their production. This typology includes three areas of market agriculture (garden farming, old commercial, and pioneering commercial) and four only partially of market agriculture (two with a mixture of market and subsistence agriculture but differing as to how old the mixture is; and two with subsistence agriculture of different date: old or recent).

The next methodological step was to classify Brazilian micro-regions according to the second criterion, and in some of them, to classify agricultural firms according to the first criterion. This implied the analysis of large amounts of statistical data, monographic studies and field work. The third step was to make in-depth analyses of selected micro-regions. The most relevant of those for the clarification of how structural change effects migration is the study of agricultural changes and the emergence of a labor market in Alta Sorocabana de Assis, a region in the State of Sao Paulo that in a period of less than thirty years has changed from receiving large numbers of migrants to expelling rural population. In it, a careful and detailed analysis of economic, demographic, social and political data for a period time starting, in some cases, at the beginning of the XX century, has allowed to establish how changes in the kinds of crops, modifications in the ways productive activities are organized, extension of the area under cultivation (exhaustion of the agricultural frontier) capitalization of firms, labor and social security government policies, and other less important factors, have contributed and are contributing to the proletarianization of the agricultural worker, the consolidation of a more capital-intensive production, the decrease in the number of permanent laborers (replaced by seasonal laborers), and consequently, to massive out-migration from the region.

The approach followed in the study we have been commenting has the adventage of combining a national perspective with careful examinations of

the situation in particular regions. This makes them cautious to claim that the findings are generalizable to other regions, and the study of a contrasting region in the same state of Sao Paulo (Na Baixada do Ribeira), although with almost no mention of migration, proves they are right, at least with respect to those factors which have appeared as more relevant for explaining in and out-migration to rural areas. If the demographic variables are explicitly used in the analysis, as it was done in the first region, this type of study whould prove particularly useful for understanding the complexities involved when corrective migration policies are intended.

Finally, there has been attempts to determine through survey research the impact of structural changes on migration, the best known of which is Arguello's study of agrarian modernization and rural out migrations in Chile.297/ The main objective of this study was to determine the relationships existing between the different forms of organizing agricultural production, and particularly between those forms created by the agrarian reform program of the last two Chilean government, with the predisposition to migrate of the labor force participating in them. The area of analysis was a commune in a predominantly agricultural province of Central Chile. Two types of data were collected: a) objective information on a number of characteristics of firms falling into one of three types: "fundos" or market-oriented, medium or large size, private firms making use of hired labor (predominantly wage labor); land reform settlements, that is, a form of organizing production in which the land is cultivated cooperatively, all the members participate in the decision-making process and all share the benefits; and centers of agrarian reform, with an organization very similar to that of the land reform settlements of the previous government, but ideologically defined as a socialistic way of

297/ Arguello, Omar, Reforma Agraria, Participación y Migraciones, Santiago de Chile, Programa de Actividades Conjuntas FLAS-CELADE (PROELCE).

organizing production; b) answers of a sample of individuals from each of their types on a number of issues, and among them on their predisposition to migrate.

One particularly noteworthy and, in Latin America, uncommon characteristic of this study is the inclusion of both structural and socio-psychological factors in the analysis. The importance of the latter was empirically found to depend on the particular structural context. Different indicators of "traditionalism" and "modernism" failed to discriminate in the reformed context, but those with more propensity to migrate in the unreformed context were found to be young adults with higher values in the "modernism" indicators.

The most general finding was that agricultural workers who were members of the types of firms originated in the process of agrarian reform were less prone to migrate than those who remained laboring in capitalistics firms, a finding which the author interprets as indicating that agrarian reform programs are effective means toddecrease the rural exodus.

The final conclusion reached by the author might be wrong, in as much as it generalises to the agrarian reform program as a whole what was shown to be true for those individuals actually favored by the agrarian reform process, but not for peasants and rural laborers who could not integrate any of the newly created firms, or lost their jobs in the capitalistic firms as a consequence of the owners' heavier reliance on mechanization to avoid labor problems. The study is, nevertheless, an imaginative attempt at tackling empirically a set of relationships between variables operating at very different levels, instead of relying exclusively on more or less convincing ex-post interpretations.—

The five examples reviewed above illustrate some of the approaches which are now being tried in Latin America for establishing empirically the relationships of structural change, socio-economic factors, and individual factors, with migration. None of them is without problems, as a more careful examination

would show, but although there is a number of methodological difficulties to be solved, they suggest that those problems are not unsurmountable and that the causal chains between the three levels of migration determinants and migration itself can be disentangled at the empirical level.

3. Migrant selectivity

Migrant selectivity provides a reasonable good approximation to an identification of the degree to which men and women at different ages, and differentially placed in the social structure, are being subject to the impact of structural and socio-economic determinants, or are able to surmount the obstacles to migration. In other words, through the study of migrant selectivity it is possible to start specifying the promptness with which different groups of the population subject to the risk of migrating will react to changes in the determining factors.

Studies in Latin America have established beyond doubt that migration is a selective process by age and sex, the highest rate being found in the 15-30 years old group women predominating in rural to urban migration.[298/]

It has also being found that rural to urban migrants tend to have a higher educational level than non-migrants in the place of origin.[299/]

Finally, there is evidence showing that income elasticities (how much does immigration increase percentage wise if income is increased in a certain

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298/ Elizaga, J.C., Tasas de Migración Rural Urbana por Edad, Aspectos Metodológicos y Resultados para Colombia y Venezuela, Santiago de Chile, CELADE; Elizaga, J.C., Migraciones a las Areas Metropolitanas de América Latina, Santiago de Chile, CELADE, 1970; ONEC and INP, La Población del Perú, 1974; Alberts, J., Op.cit.; Cardona and Simmons, Op.cit.; Muñoz and De Oliveira, Op.cit.

299/ Simmons and Cardona, "La Selectividad de la Migración en una Perspectiva Histórica", in Actas, Conferencia Regional Latinoamericana de Población, Herriek, Bruce, Urban Migration and Economic Development in Chile, Cambridge, Mass., The MIT Press, 1965; Harley Browning and W. Feindt, "Contexto Social de la Migración a Monterrey", in Movilidad Social, Migración y Fecundidad en Monterrey Metropolitano, México, Centro de Investigación Económica de la Universidad de Nuevo León; Alberts, J., Op.cit.; ONEC and INP, Op.cit.

percentage) are higher for migration to cities of professionals, managers, and white collar and industrial workers,[300] and that, in general, migrants to cities tend to have a higher occupational and social status than non migrants in their communities of origin.[301]

From a more dynamic perspective, it has been suggested that migrant selectivity has decreased in recent years.[302] Two interpretations to this have been advanced. One of them, advanced by Browning and Feindt, puts emphasis on the prioneer character which previous rural out-migrations had, making only the best qualified, more daring and more entrepreneurial to take the decision of moving to the cities, while in latter periods migration would have become a routinized process open for everybody.

Others have pointed out that the decrease in educational selectivity is due to an expansion of educational services to the countryside, and to the increase in the absolute educational level of the rural population, which that expansion has made possible.[303]

Both interpretations are not contradictory and allow a further exploration of the links between structural changes, socio-economic determining factors of migration and migrant selectivity. When examining the relationships between structural factors and migration, it was pointed out that the evidence indicates a decrease in the demand for permanent workers which cannot but force the young adult population to migrate. At the same time, the urbanization process has provoked the gradual diffusion of urban life patterns from the metropolis to smaller urban centers, from them to rural communities with easier access to cities, and finally from these to far removed corners in the countryside. Although the latter may still be considered as comparatively isolated from the major urban centers, physical and cultural obstacles to migration have certainly decreased and, consequently, the psychological costs of moving have

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300/ Carvajal and Geithman, "An Economic Analysis ...".
301/ Simmons and Cardona, Op.cit.; Briggs, Op.cit.; Alberts, J., Op.cit.
302/ Browning and Feindt, Op.cit.; Simmons and Cardona, Op.cit.; Alberts, Op.cit.
303/ Simmons and Cardona, Op.cit.

also diminished, migration thus becoming more rutinary. In one sentence, the benefits of staying in the countryside have decreased but the costs of migrating have also decreased.

Within this broader context, the expansion of educational services to the rural areas is only one aspect of the higher integration at the national level derived from the urbanization process. Although that expansion might have disproportionately favored the urban centers and their surrounding hinterland, more distant rural areas have quite probably improved somewhat their availability of educational services, at least at the level of elementary education. Even if modest, these improvements may partially explain the decrease in selectivity since without an improvement of facilities for secondary education the educational level at the communities of origin cannot but become more even.

Thus, the two interpretations to changes in migrant selectivity are more complementary than contradictory and, if we take them together, provide some hints as to how structural, socio-economic and individual factors are jointly influencing the migration process.

4. Consequences of internal migration*/

A review of this issue must start by establishing a distinction between the real or alleged consequences for the individual migrants and those social, economic, demographic and/or political consequences which are considered to affect the nation as a whole as well as the places of origin and destination of migrants.

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*/ In writing this section I had the benefit of consulting the first draft of a bibliographical review of the political consequences of internal migration in Latin America, prepared by Raúl Atria and J.C. González of PISPAL's Central Unit.

A. Consequences at the individual level

Much of the literature until a few years ago, in Latin America as well as elsewhere, was characterized by a pessimistic view about the possibilities city-ward migrants had at their places of destination. Their difficulties to adjust themselves to the urban environment and culture, their economic disadvantages with respect to the native population, their inability to move upward in the cities, their frustration and the political radicalization derived from it, were continually mentioned.

Viewed from the perspective of what empirical studies have been reporting in recent years, as well as from a more careful analysis of past surveys, that pessimistic image appears as lacking factual support, highly exaggerated or empirically wrong. A distinction between migrants-native socio-economic differences, their socio-psychological correlates and the resulting political behavior allow a better grasp of our present state of knowledge regarding these issues.

One of the most common assumptions about migrants' adaptation to their new environments was that they encounter many difficulties in finding employment. The evidence indicates that this is not so, at least for the majority of them, and that not only their search for employment is not as long as it was expected but also their unemployment rates are comparatively low. To cite some evidence, Alberts found that approximately 95 per cent of those migrating for economic reasons to Lima, Santiago and Caracas got a job within the first year after arrival and, among them, the majority did it immediately or within the first three months. However, those with a rural origin had more difficulties than those who came from an urban environment.[304/]

Another piece of evidence is provided by a study based on the 1960 census of Jamaica which found that, in nearly all parishes, the unemployment rate among

304/ Alberts, J., Op.cit., Part II.

migrants was lower than among non-migrants.[305] The same was found in another study of eight major cities in Colombia; in Santiago de Chile; in Lima, Perú, and in Costa Rica.[306]

We also have information about the type of occupation migrants have in the cities of destination. In general, the available findings tend to support the idea that migrants are relatively disadvantaged, when compared with their native counterparts, with respect to their occupational status. Data from Mexico City and Monterrey,[307] Bogotá, Colombia,[308] Lima, Perú[309] Buenos Aires, Sao Paulo, Rio de Janeiro, Santiago, Belo Horizonte, Juíz de Fora, Volta Redonda and Americana,[310] Santiago de Chile,[311] Panamá, Paraguay, Nicaragua and Argentina[312] confirm this, but at the same time show that the differences are very slight and that they tend to disappear or even be more favorable for migrants when education and age are controlled.

305/ Tekse, K., Internal Migration in Jamaica, Jamaica: Department of Statistics 1967, quoted by Peter Peek and Pedro Antolinez, Migration and the Urban Labor Market: The Case of San Salvador, International Labour Office, Geneva: World Employment Programme Research, Working Paper, december 1976.

306/ For Colombia, A.R. Berry, "Open Unemployment as a Social Problem in Urban Colombia: Mith and Reality", Economic Development and Cultural Change, Vol. 23, N° 2 (1975), pp. 276-291; for Chile, Bruce H. Herrick, Urban ...; for Lima, J. Clother and A. Laquian, "Lima", in A. Laquian (ed) Rural Urban Migrants and Metropolitan Development: Toronto: Inter-Metropolitan Studies Series, 1971; for Costa Rica, Carvajal and Geithman, "An Economic ...".

307/ Muñoz, M., Migraciones Internas ..., Op. cit.

308/ Simmons and Cardona, "La Selectividad de los Migrantes ...".

309/ Miers, J. and Appelbaum, Oscar, "La Migración en el Perú. Un Inventario de Proposiciones", Estudios de Población y Desarrollo, Vol. 1, N° 4, Serie Original N° 2.

310/ Bock, Wilburg, and Iutaka, Sigyyama, "Rural-urban Migration and Social Mobility: The Controversy on Latin America", Rural Sociology, Vol. 34, N° 3, september 1969.

311/ Raczynski, Dagmar, "Migration, Mobility and Occupational Achievements: The Case of Santiago, Chile", International Migration Review ...

312/ CEPAL, El Desarrollo y la Población ..., Op.cit.

Turning now to the mobility barriers which migrants would be experiencing in the cities of destination, our state of knowledge on the subject has been summarized by a recent study in the following terms:

- only that small minority of migrants to the capital cities who have arrived from rural or semi-rural communities and had agricultural occupations before migrating have a lower mobility than non migrants in those cities;

- the first occupation migrants had in the place of destination conditions future opportunities: they are in relative disadvantage with respect to natives of the same occupational status when they have entered the labor market of their new community of residence as either unskilled or semiskilled worker. On the contrary, those whose first occupation was either skilled or white collar have more opportunities for upward mobility than non-migrants;

- urban migrants to medium-size cities have more upward opportunities than non migrants, but these have higher opportunities than rural migrant.[313/]

The information on income differentials between migrants and natives is more scarce than on the other points, but the three studies available come to the same conclusion. The first is one of Brazilian migrants, comparing their average monthly income with that of non migrants. The main finding was that the former were earning at least as much as the latter, when differences in education and age were taken into account.[314/] The second is Carvajal and Geithman's study on migration in Costa Rica.[315/] They found that recent migrants had higher income than settled migrants, and these higher than non

313/ CEPAL, Desarrollo y Poblacidn, Op.cit., p. 36.
314/ Yap, Lorene, "Internal Migration and Economic Development in Brazil", The Quarterly Journal of Economics, Vol. 90, N° 1, february 1976, pp. 119-137.
315/ Carvajal and Geithman, Op.cit.

migrants, but they also found that the distribution of wages and salaries was more unequal among recent migrants than among settled migrants, and among these more unequal than among non-migrants. At the same time, "relative income" (the ratio of the individual actual income to the income normal for his or her socio-economic reference group: same occupation, economic sector of employment, age, sex, formal education, and rural-urban location) was higher for settled migrants, followed by recent migrants, and these by non-migrants. Finally, Peek and Antolinez found that migrants in San Salvador, "taken as homogeneous group have income levels comparable to urban natives, but rural-urban migrants taken as a separate group are substantially much worse off than the other migrants ... earnings of the rural migrants with the longest period of urban residence are only 72 per cent as high as the earnings of urban natives, while the urban migrants with the same length of residence earned 24 per cent more than the urban natives".316/

In sum, comparisons between migrants and non-migrants with respect to a number of socio-economic characteristics show that the former as a whole are not in a disadvantaged position vis-a-vis those who were born in the city of destination. In this sense previous generalizations stating the opposite have proved to be wrong. At the same time, those comparisons make clear that rural migrants to the cities are disadvantaged with respect to urban migrants and natives. Previous generalizations would still be valid for them, although even in this case differences are not as dramatic as it was usually believed. Finally, it must be remembered that rural migrants to metropolitan areas, which are the most important communities or arrival for internal migration, are a very small percentage of those migrating to them.

The evidence is not more favorable for the hypotheses about the social and psychological maladjustment migrants would be suffering in their new environments. A review of the empirically based studies on the socio-political consequences of urban migration undertaken by Cornelius317/ covering 65

316/ Peek and Antolinez, Op.cit., p. 13.
317/ Cornelius, Wayne, "The Political Sociology of Cityward Migration in Latin America: Toward Empirical Theory", in Rabinovitz and Trueblood, Latin American Urban Research, California: Sabe Publications, 1971.

different studies and 11 Latin American countries, included an analysis of this topic and, particularly, of the available findings with respect to the following migrants attitudes or behavior patterns: felt deprivation, frustration of socio-economic expectations; personal and/or social disorganization, maladjustment, anomie, insecurity, primary group breakdown; alienation, non-supportive legitimacy orientations; and mass "availability", atomization of social relations, felt reintegration need. The results of his review classifying the findings positive (with respect to the hypothesis), negative, or inconclusive, ambivalent or unrelated, are as follows:

	Positive	Negative	Ambivalent
1) Felt deprivation, economic frustration	1	27	9
2) Disorganization, maladjustment, etc.	12	25	2
3) Alienation, non supportive legitimacy orientation	10	7	1
4) Mass "availability"	1	10	

Note: Calculated from dCornelius, Op.cit., Table 2.

Of the four attitudes or behavior patterns reviewed, in only one there was more evidence in favour than against the hypothesis: migrants do seem to be slightly more anomic than non-migrants, but this, if we accept Cornelius interpretation, is valid only for some of the indicators used, while others failed to discriminate between the two groups.

A number of reasons for the failure to find serious social and psychological problems among migrants to the cities may be derived from the empirical studies themselves. In the first place, the hypothesis assumes that migrants experience much more economic problems in the cities than what is actually the case, as we have already seen. In the second place, it is well documented at this

moment that kinship ties and traditional family relations are compatible with urban life and, according to some, even reinforced in the poorer strata of the cities.[318] In the second place, since most migrants to the metropolis arrive from smaller cities or from less distant rural villages, they have had contacts with urban life previous to their arrival.

In other words, the hypothesis of the psychological problems experienced by migrants to the cities was logically derived from a series of assumptions about the economically disadvantaged position they were supposed to have in their new communities of residence. Since these assumptions have been disproved for the majority of the migrant population, the hypothesis about their psychological effects could not but be also disproved, at least in the general terms it had been formulated.

The political radicalization experienced by migrants as a consequence of their frustration in the city environment was for some time another common theme among social scientists. An informal content analysis of recent discussions of socio-political consequences of urban migration by developmental theorists and Latinamericanists made by Cornelius found that theme mentioned in 27 out of the 41 studies analysed.[319] Nevertheless, again in this case, the available findings do not give much support to the hypothesis attributing more political radicalism to migrants than to non-migrants in the cities. Quite the contrary, the analysis of 65 empirical Latin American studies found that in only 2 of them there was evidence that migrants were significantly more radical, politically, than natives.[320] Furthermore, the review of the political consequences of migration now under way in the Central Unit of

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318/ See, among others, Gurrieri, Aldo, et.al., Estudios sobre la Juventud Marginal Latinoamericana, Santiago de Chile: Editorial Universitaria, 1971; Margulis, Mario, Migración y Marginalidad en la Sociedad Argentina, Buenos Aires, Paidos; Browning, H. and Feindt, W., Movilidad Social, Migración y Fecundidad en Monterrey Metropolitano; Duque, Joaquín and Pastrana, Ernesto, Las Estrategias de Supervivencia Económica de las Unidades Familiares del Sector Popular Urbano: Una Investigación Exploratoria; Santiago, Programa de Intercambio ELAS-CELADE, 1973.

319/ Cornelius, Op.cit.

320/ Cornelius, Ibid.

PISPAL (see the reference at the beginning of this section) has come to a number of conclusions confirming those previously advanced by Cornelius for Latin America and by Nelson for new nations.321/

According to it, there is very little empirical support for the hypothesis that migration increases the politicalization of the individual migrants; on the contrary, the most common finding has been that migrants have less political knowledge than non migrants and that although they increase that knowledge with more time in the city, it always remains comparatively low. Also, more often than not, no significant differences between migrants and natives as to participation in political organizations has been reported, according to the same PISPAL review. The tentative conclusion reached by its authors is that the sequence rural to urban migration ——→economic disadvantages ——→ relative deprivation ——→ frustration ——→ agression ——→ politicalization and political radicalism, as explaining political instability in Latin America has been disproved by empirical research, and that if migration has some effect, it is probably indirect and must be sought at supra individual levels. Unfortunately no empirical study at that level on this subject has come to my knowledge, although a couple of PISPAL projects now under way could, perhaps, provide some indirect hints about it.322/

What is said with respect to the assumed political effects may also be true for the economic and social effects. A review of the empirical studies on the effects of migration at the national level as well as in the places of origin and of destination thus becomes necessary for interpreting migration consequences.

321/ Nelson, Joan, Migrants, Urban, Poverty and Instability in New Nations, Cambridge, Mass., Harvard University Press, 1969.

322/ I am referring to the studies on working class and the economic structure in Argentina between 1952 and 1972, in charge of the Center for Urban and Regional Studies of that country; and on labor market and trade unionism in Argentina, in charge of the Argentinian brach of the Latin American Faculty of Social Sciences (FLACSO).

B. Consequences at the national and regional level

An analysis of the consequences at those levels should include careful examinations of the interrelations between demographic, economic, and social effects in places of origin and destination, as well as an assessment of the overall impact they have at the national level. As we shall see, our state of knowledge on those consequences and their interrelations is, at this moment, very far from that desiderate. Each of those effects will now be reviewed separately.

a) Demographic consequences of migration. Two types of demographic effects of migration are usually distinguished. The first is the direct impact it has on the rates of population growth of both regions of origin and destination. The second includes all those effects derived from migration selectivity and migration differentials, such as effects on the age and sex structure of the place of origin and destination, as well as on the nation as a whole. The second type also includes the effect those changes produce on mortality, nuptiality, fertility and, indirectly, the rates of natural growth at the three levels just mentioned: community of origin, community of destination and national level.

An estimate of the proportion of the increase in natural growth the rural areas of Latin America have lost through migration has already been mentioned in another section of this paper. On the other hand, the percentage of urban growth directly attributed to rural-urban migration has been found to vary between 71 per cent, for the case of Venezuela, and 43 per cent, for Mexico, in the period 1940-50.[323/] For all Latin American, Ducoff estimated that migration explained 42 per cent of total urban growth during that decade.[324/]

323/ Naciones Unidas, División de Población, Departamento de Asuntos Sociales, "Aspectos Demográficos de la Migración en América Latina", in Philip. M. Hauser, La Urbanización en América Latina, UNESCO: 1972.

324/ Ducoff, Louis, Op.cit.

The same author came to the conclusion that the contribution of migration to urbanization had slightly increased for the period 1950-60, in Latin America as a whole. Estimates by Gatica for the last inter-censal period[325] show that the same trend was still present for the 1960-70 period. Nevertheless, an analysis by country shows wide variations as to the relative importance of rural-urban migration in urban growth, as well as to the trend they reveal with respect to it. In nine countries (Colombia, Haiti, Honduras, Peru, Dominican Republic, Bolivia, Brazil, Guatemala and Nicaragua) rural-urban migrations contribute more than natural growth to urban growth, but while the first three show a tendency for that contribution to decrease from the 1950-60 to the 1960-70 decades, rural-urban migration has become more important in the latter six countries. On the contrary, in the other eleven Latin American countries rural-urban migration contribute less than natural growth to urban growth. With the only exceptions of Chile and Costa Rica, all countries in this category show a trend for cityward migrations to become less important through time.

A number of explanations have been advanced for these findings.[326] The urbanization level reached by the country, the stage in the demographic transition, and the size of the cities are among the most mentioned. Nevertheless Gatica found no significant zero order correlations between urbanization or rate of population growth and relative importance of rural-urban

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325/ Gatica, Op.cit.

326/ Arriaga, Eduardo, "Components of City Growth in Selected Latin American Countries", in Milbank Memorial Fund Quarterly, Vol. XLVI, N° 2, april 1968, Part 1.
For other estimates see: Camisa, Zulma, "Effects of Migration on the Growth and Structure of Population in theCities of Latin America", United Nations, Proceedings of the World Population Conference, Belgrado, 1965, Vol. IV; Davis, Kingsley, "The Urbanization of Human Population", in Cities, New York; Alfred, A. Knopf, 1968; Weeks, John, "Urban and Rural Natural Increase in Chile", The Milbank Memorial Fund Quarterly, Vol. XLVIII, N° 1, january 1970; Recchini de Lattes, Zulma, "La Migración en el Crecimiento de la Población Urbana: El Caso Argentino", in Consejo Latinoamericano de Ciencias Sociales, Migración y Desarrollo. Consideraciones Teóricas y Aspectos Socio-económicos y Políticos; for a critical analysis of previous studies, see, Recchini, Zulma, La Población de Buenos Aires, Buenos Aires: Editorial del Instituto, 1971; Weller, Robert, Macisco, John, Jr. and Martine, George, "The Relative Importance of the Components of Urban Growth in Latin America", Demography, Vol. 8, N° 2, may 1971, pp. 225-232.

migration of urban growth. The relative importance of one or another components of city growth will influence the kinds of policies most adequate for modifying urbanization trends. It seems important then to more systematically examine in the future the factor which are determining that relative importance.

Although the second type of demographic consequences derived from internal migrations are always mentioned, there are few empirical studies on the subject and they arrive at different results as we saw when discussing rural-urban fertility differentials. At the same time, while data on age-sex migration selectivity and differentials are usually available, the impact they have at the national level as well as for communities or origin and or destination has been an almost neglected subject up to now.327/

However, the study of the demographic consequences of migration is a highly relevant subject for those who are preoccupied with population and development interrelations from a policy viewpoint. In particular, the direct and indirect contribution migration is making to the growth of cities of different sizes, and especially to large metropolis, is an important information to ascertain the relative impact that policies aiming at changing the direction of main migration flows might have on urban concentration and metropolitanization, and the probable time-lag between the adoption of such policies and their effects. Furthermore, an assessment of the demographic consequences of migration is necessary for estimating future needs, governments will have to satisfy with respect to education, housing, and basic social services, as well as for allowing them to evaluate the costs of alternative policies.

Finally, those consequences are closely related to the economic and social consequences of migration, as we shall see immediatly.

327/ For an effort to determine those impacts for the metropolitan region of Caracas, Lima and Santiago, see Alberts, Op.cit. Vol. III.

b) Economic consequences. As we saw when reviewing the data regarding economic consequences of migration at the individual level, the evidence indicates that they are more positive than negative. Lack of empirical studies on those consequences at the aggregate level does not allow any conclusion at this moment. In fact, to the best of my knowledge, aside from the brief references to the subject made by Martinez in his study of internal migrations in Peru,[328/] and the interpretations advanced by Chi-Yi Chen in his analysis of Venezuelan migration,[329/] the only detailed empirical study conducted in the continent is Yap's use of simulation techniques to quantify the impact of migration on the growth of the Brazilian national product for the period 1950-1960.[330/] For the Peruvian case, changes in age structure in the communities of origin due to selective migration are considered as contributing to the economic stagnation of the rural areas, since migrants are precisely those with more skills and at the peak of their productive years.

A more balanced interpretation is made in the case of Venezuela. On the negative side, the arguments advanced for Peru are here repeated. But, at the same time, the need to distinguish between different types of migration is also made by the author. With respect to rural-urban migration, he argues that, because those who migrate were usually underemployed in the countryside, their transference to urban centers may have a positive effect on agricultural wages.

The Brazilian study touches upon those and a number of other equally relevant points, from a perspective which attempts to capture the migration

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328/ Martinez, Héctor, "Las Migraciones Internas en el Perú", Aportes, N° 1, october 1968. Similar arguments have recently being advanced by Schuls in a general review of the subject. See Schulz, G.E., "Out-migration, Rural Productivity and The Distribution of Income", paper presented at Research Workshop on Rural-urban Labor Market Interactions, IBRD, Washington, D.C., 1976.

329/ Chi-Yi Chen, Movimientos Migratorios en Venezuela, Caracas, Instituto de Investigaciones Económicas de la Universidad Católica Andrés Bello, 1968.

330/ Lorens, Yap, Op.cit.

effects both on the rural and the urban areas, and on capital as well as on labor force growth. A three sector model (modern urban, traditional urban, rural) was used and the transfer of labor force was described explicitly as a response to sectoral wage differentials. The model was specified for production by sector, labor force and employment, the migration function, private investment, and government investment. Simulation techniques were used to evaluate the impact of three different situations: one in which migration parameters correspond to those empirically found in Brazil for the period covered by the study; a second one where those migration parameters have been reduced by fifty per cent, and a third one with no migration at all.

The author's main conclusion is that efforts to reduce rural to urban migration are likely to be very costly in Brazil and that this country's urban policies whould better be oriented toward alleviating urban poverty rather than toward reducing migration to cities.[331/] A positive relationship between reduction in migration parameters and drop in the average yearly growth of the G.N.P., and a similar relationship between migration reductions and income inequalities between urban and rural sectors are the main findings supporting the conclusion.

Although Yap's findings are interesting and tend to coincide with those found in other regions of the world,[332/] the model used may be criticised on many points when viewed from the perspective derived from our knowledge about migration determinants. One possible weakness is the introduction of wage differentials as the sole determinant of migration: the ommision of the other explanatory factors discussed in previous sections of this paper might have led to an over estimation of the relationship between those two variables. At the same time, although the knowledge we have at this moment is far from

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331/ Yap, Op.cit., p. 137.

332/ For a list and critical analysis of them, see, Gaude, J. Causes and Repercussions of Rural Migration in Developing Countries. A Critical Analysis, Geneva: International Labour Office, Rural Employment Research Programme, Working Paper, october 1976.

satisfactory, our previous analyses have shown that migration determinants tend to produce more or less intensive effects according to the personal and social characteristics of different segments of the population subject to the risk of migrating. In other words, changes in migration selectivity from one to another of the simulated situations may affect the results obtained. In the third place, we also know that the rural sector is far from homogeneous and that a distinction between agricultural and rural activities and, in the former, between different ways of organizing agricultural production must be introduced. This internal heterogeneity of the rural sector and its changes through time are affecting the types of migration and, consequently, the macro-economic effects it produces. Finally, as the author herself recognizes, the probable effects of a decrease of rural to urban migration on the concentration of profits and, more generally, on inter-strata income inequalities, cannot be neglected in future studies on the subject.

c) Social consequences. The attention on this subject has been directed mostly not to say exclusively, to examining the effects that rural to urban migration has for large cities, disregarding the possible consequences they have for the places of origin as well as the probable effects of all other types of migration in both sending and receiving communities. The conclusions reached are thus necessarily partial and subject to more than usual subjective interpretations.

Among those social consequences, it is usually mentioned that while individual migrants are unemployed or under-employed no more than native citizens, are not overly represented among dwellers of shanty towns, and so forth, the directions and volume of migration flows are the main determinants of exaggerated expansion of the metropolitan areas, growth of urban unemployment and under-employment, environmental pollution and deterioration, deficits in housing and basic services, social and ecological marginality, etc., which are plaguing Latin American major cities. In a few cases (Peru, for instance), the relationship between out-migration, in-migration and the presence of some of

those indicators of urban deterioration has been established with an acceptable degree of approximation.[333]

Though the above is the predominant view in Latin America, it cannot be ignored that some authors consider it as too extreme since, they say, rural-urban migration and metropolitanization have only aggravated and made more evident some secular social problems of the region.[334] While is a useful call of attention, no estudies attempting to prove it have come to my knowledge.

In fact, it does not seem possible to reach firm conclusions on this subject without considering at the same time the social effects of all types of migratory movements, and what the consequences of alternative migration volumes and flows might have been for places of origin and of destination. Perhaps the one sure thing that can now be said is that social and environmental problems caused or at least aggravated by massive migrations to large cities are influencing the high child mortality rates found among the most deprived urban social groups and the increases in urban child mortality during the last years reported at least for one country; at the same time, they are very probably determining the comparatively high fertility rates found among the same groups. The social consequences at least partially attributed to the concentration of immigration flows in a few cities thus become fertility and mortality determinants.

333/ See, Herrera, Ligia, La Concentración Urbana y la Dispersión de la Población Rural en América Latina. Su Incidencia en el Deterioro del Medio Humano, Santiago de Chile, CELADE, Serie A, Nº 136, 1976. For a more general review of the effect of rural-urban migration on urban employment, see Todaro, M.P., "Rural-urban Migration, Unemployment and Job Probabilities: Recent Theoretical and Empirical Research", in Ansley J. Conle (ed) Economic Factors in Population Growth, London, Mc Millan, 1976, pp. 367-386.

334/ For a presentation of this view, see Jordán, Ricardo, "La Urbanización en América Latina: Algunas Características Estructurales", in Ligia Herrera, Fernando Gatica and Ricardo Jordán, Consideraciones sobre el Proceso de Urbanización, la Concentración y la Dispersión de la Población en América Latina: Situaciones Críticas, CELADE-Unidad Central PISPAL, Documento de Trabajo Nº 6, april 1975.

V. INTERNATIONAL MIGRATION

The end of World War II and the economic prosperity that followed it start a complete reversal in what had been the main trends in international migration to and from Latin America: after having been migrant receivers for centuries, the Latin American countries transform themselves into exporters of population. At the same time, intra-regional migratory movements, relatively neglibible up to that moment, begin to acquire high quantitative and qualitative importance.

Although this reversal of trends is presently recognised as an important problem in the region, there is a surprisingly small number of studies trying to define its characteristics and identify its implications for sending countries -in the case of emigration from the region- or for sending and receiving countries, in the case of intra-regional migration.

Estimates of international immigration are easier to obtain since national censuses usually include questions on country of birth and time of arrival to the receiving country. On the contrary, there is no census question attempting to measure international emigration. Census based studies on the subject must then rely on data collected by receiving countries as a way of roughly and indirectly measuring emigration. Such a procedure has, of course, a number of deficiences, the most important of them being a probable gross under-estimation of actual immigrants due to illegal migrations, and the fact that not all receiving countries provide information on international migrants, thus making it impossible to determine the total number of migrants from a given country.

Taking due note of those deficiences but as a way of providing at least some minimal empirical basis for the analysis of the problem, CELADE has been developing a program where considerable amounts of census data on Latin Americans residing in countries other than those where they were born has been assembled.[335/] The number of Latin American immigrants to selected countries (those which have provided the information) is presented in the following table:

Table XVII

LATIN AMERICAN IMMIGRANTS IN SELECTED COUNTRIES AROUND 1970

Country of arrival	Census year	Number
Estados Unidos	1970	1 803 970
Argentina	1970	580 100
Venezuela	1971	197 403
Paraguay	1972	64 137
Honduras	1961	47 583
Panama	1970	41 234
Colombia	1964	39 136
Cuba	1970	35 927
Uruguay	1975	34 300
Canada	1971	30 775
Chile	1970	30 295
Guatemala	1973	28 647
Perú	1972	26 105
Mexico	1970	26 076
El Salvador	1971	20 971

Source: Somoza, Jorge L., Una Idea para Estimar la Población Emigrante por Sexo y Edad en el Censo de un País, CELADE, september 1977, dittoed.

335/ For the last figures collected by the Program on International Migration in Latin America (IMILA) see "Principal País de Destino de la Emigración de Cada País de América Latina", Boletín Demográfico, CELADE, Santiago de Chile, Año 10, N° 20, july 1977.

As Somoza comments, even if the total figure of migrants is doubled or tripled to take into account illegal migrants, it would not be very important if compared to the estimated 284 millions estimated as the Latin American total population around 1975. Nevertheless, when individual countries are considered it is found that 10 per cent of the Paraguayan population, 5 per cent of the Cuban population and 3 per cent of the Bolivian population have legally emigrated.[336/] In evaluating these figures it should be beared in mind that at least in one country, Colombia, it has been estimated that only one out of every four migrants has legally migrated.[337/]

The same program has allowed to detect not only that the U.S. is the country attracting more migrants, but also that its importance as a receiving country has increased through time. Thus, while only 117 450 Latin Americans migrated to that country during the 1950-54 period, 661 516 did it between 1965 and 1970.[338/]

With all the problems those data have, they give a rough idea of the magnitude of Latin American emigration. More detailed analyses require that a distinction be made between migratory movements of unskilled labourers, which take place mostly within the region, and those implying the migration of skilled workers, technicians, professionals and scientists outside of the region.

1. International migration of unskilled labourers within Latin America

A review of the subject has identified the following main migratory streams of the type here examined:

336/ Somoza, Op.cit.
337/ Bayona, Alberto, Cobertura del Censo de Población 1973, Bogotá, Pontificia Universidad Javieriana, 1977, as mentioned by Somoza, Ibid.
338/ Somoza, Ibid.

a) migrations to Argentina from neighboring ecountries, and particularly from Paraguay, Chile and Bolivia;

b) Colombian emigration to Venezuela and, in a lesser degree, to Ecuador and Panama;

c) migration among Central American Countries, and among the Caribbean islands;

d) Brazilian emigration to Paraguayan rural areas close to Brazil.[339/]

Most of these are spontaneous migratory movements, although in a few cases the receiving countries stimulate them so as to provide labour force for some particular development project. Middlemen in charge of hiring and transporting the migratory labour force to their destination are not uncommon, when they have not been government sponsored. Migrants of this kind usually enter the receiving countries illegally, thus becoming handicapped for moving freely in search for better wages and economic opportunities. Wage and employment discrimination against this type of workers seem to be widespread although no attempt to tackle the problem systematically has been published.

The IMILA Program of CELADE has been gathering information on wether migrants ten years and older to other American countries have less than or four and more years of formal schooling. If those below the four years level are considered to be unskilled some estimate of the relative importance of legal emigration of unskilled workers is possible. 60 916 out of all 95 800 Bolivian migrants to Argentina detected in the 1970 census were unskilled by this definition. Likewise, 106 605 out of 164 230 Colombian migrants to Venezuela have less than four years of school. Migration of Brazilians to Argentina and Paraguay are also predominantly of unskilled labourers, although the total number of emigrants is much smaller in this than in the other two cases. On the contrary, migration between the other American

339/ CEPAL, El Desarrollo y la Población en América Latina ...

countries for which information has been gathered show either almost no difference in the number of migrants with less than four years of education, or the predominance of migrants with four or more years of school.[340/]

However, these figures cannot be considered but rough approximations which are certainly grossly underestimating the amount and relative importance of a type of migration that is mostly illegal. Besides, the cutting point for distinguishing skill levels is somewhat arbitrary both because many workers with four or more years can be as unskilled as those with less than four years of school, and because some of these might have informally gotten relatively high skill levels. Consequently, it does not seem possible to have at this moment any reliable quantitative estimation of the importance of this type of migration in Latin America.

From a more qualitative point of view, although the same types identified with reference to internal migration could theoretically be found in international migratory movements, seasonal or temporal, and permanent rural-rural seems to be the predominant types of intra-regional international migration in Latin America.

Seasonal international migration is composed of mostly rural labourers and peasants from neighboring nations (Mexicans to the U.S.; Guatemalans to Mexico; Nicaraguans to Honduras; Salvadorians to Honduras; Bolivians to Argentina, etc.). Although without quantifying them, the sources consulted indicate that they have become particularly important in recent times.[341/]

The second subtype is composed of the rural labour force leaving their home countries to work as rural labourers in neighboring countries. Although governments have shown great interest in the analysis of this type of

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340/ CELADE, Boletín Demográfico, Nº 20, table 3.
341/ CEPAL, Desarrollo y Población; CEPAL, Tenencia de la Tierra y ..., Op.cit.; Reboratti, Carlos, Op.cit.; Lopes, J.R.B., et.al., Op.cit., Solmid, Lester, Op.cit.

migration, systematic studies on the subject are just beginning.[342/] The impact of this subtype of migration on wage levels and the labour market in both origin and destination countries, the changes they introduce in the flows of internal migration of both countries, the impact this type of migration may have on the rates of total and natural growth in the countries involved, are some of the problems which Latin American social scientists interested in population and development are beginning to study.

2. The emigration of skilled labour

During the period 1961-1972 the Latin American countries sent to the United States, Canada and the United Kingdom approximately 20 300 highly skilled professionals, 48 per cent of which were scientists and engineers.[343/] Although impressive, this figure fails to show the real magnitude of the exodus since it does not include skilled non professionals.

An idea of the importance of including in the analysis all types of skilled labour is provided by a study on emigration of Latin American skilled labour to the United States.[344/] According to it, 61 000 professionals and other technically trained workers migrated to the United States between 1961-1970. Migration of this type increased steadily until 1968, to start declining after that date, with the only exceptions of those arriving from Paraguay, El Salvador, Nicaragua and the Dominican Republic.[345/] Of course, the figure

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342/ Although covering more than this type of international migrations, three PISPAL projects now under way might provide some useful information on this subject: Factores Condicionantes de las Migraciones Internacionales Intrarregionales en el Cono Sur de América Latina, Flujos Migratorios Chilenos y Bolivianos hacia la Región Guyana, and Proceso de las Migraciones Internacionales de Uruguayos.

343/ UNCTAD, La Transferencia Inversa de Tecnología: Dimensiones, Efectos Económicos y Cuestiones Políticas. Doc. TD/B/.C.6/7, Geneva: 13 october 1975.

344/ Chaparro, Fernando, Emigración de Profesionales de América Latina: Síntesis de la Situación, Washington D.C., Secretaría General de la OEA, 1971.

345/ Chaparro, Ibid., p. 8.

would be much higher if all places of destination were taken into account, but no study of this kind is presently available.

Very little can be said about the consequences of this type of international migration for the sending countries. A systematic analysis of the subject would require that direct economic losses derived from investments made in training the skilled professionals, indirect economic costs derived from the income they stop producing in the country of origin, and the social and political costs of loosing people with more organizing abilities and leadership capacities be properly assessed.

One study provides information on the first subject. The economic effects derived from the migration to the United States, Canada and the United Kingdom of university graduates solely (excluding all other types of skilled labourers) has been estimated in 6 500 million dollars.[346/]

Another study attempted to measure the effects of this type of migration in relation with the level of economic development and the growth potential of the sending countries, comparing the number of migrants with a professional degree with that of university graduates and the sectoral distribution of the economically active population.[347/] Three categories of countries can be distinguished on this respect. The first is that of countries having a high number of professionals but also high emigration of them (Argentina, Colombia, Mexico, Venezuela, Brazil, Chile). The second corresponds to countries with a lesser number of professionals and high migration rates (the Central American countries). Finally, the third category is that of countries with a low number of professionals but at the same time low migration rates (Ecuador, Panama, Paraguay). The highest relative loss is experienced by the Central

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346/ UNCTAD, Op.cit., p. 42.

347/ Unidad de Desarrollo Tecnológico, Algunas Características de la Emigración de Profesionales y Técnicos de América Latina a los Estados Unidos, Washington D.C., Union Panamericana, june 1968.

American countries, the proportion of migrating university graduates in them during the period 1959-1967 fluctuating between 41 per cent in El Salvador and 11 per cent in Costa Rica.[348]

The importance assigned by Latin American governments to this problem and the lack of systematic knowledge about it has activated CELADE to prepare a research project with the general objective of describing the characteristics of this type of international migration, identifying some of the causes for emigrating, both in the sending and receiving countries, estimating some of its economic implications for the sending countries, and evaluating the policies implemented to stop migration outflows. The description of the problem will cover all Latin American and Caribbean countries, but the explanatory phases are planned to be made in no more than five countries selected on the basis of the descriptive data. The study will concentrate on university professionals and only migration to the U.S. during the 1960-75 period will be included. It is now in its beginning stages and is planned to be finished in 18 months.[349]

This study plus those on migration of unskilled workers mentioned in previous pages should substantially enrich our understanding of this problem and allow the formulation and implementation of more efficient policies.

3. International migration in the Caribbean

International migrations are of special importance and acquire a particular flavor in the Caribbean. Figures compiled by Segal make unemployment vary form 15 per cent to 25 per cent of the active labour force,[350] and estimates of underemployment are equally high. Massive emigration both within the area and outside has been a mostly spontaneous, but often times government sponsored, answer to this look of employment opportunities at home.

348/ Unidad de Desarrollo Tecnológico, Op.cit., Table 5, p. 15.
349/ For a description of the project see CELADE, Emigración de Personal Calificado en América Latina, Proyecto de Investigación, april 1977.
350/ Segal, Op.cit.

According to Segal, the most common movements within the Caribbean today are confined to migration of Haitians to the Bahamas, Leeward Islanders to the U.S. Virgin Islands; Windward islanders, especially from Grenada, to Trinidad; and seasonal migrations during harvest to Barbados, Guadeloupe and Martinique from the neighboring smaller island.[351] However, the principal movements have been outside of the region. Some crude estimates by Robert Harroyan and Aaron Segal on the basis of different government statistics make net Caribbean emigration between 1950-1972 to fall in the range of 2 878-2 978 million, or 10 per cent of the total population of the region in 1970. Individually, no Caribbean society, except the Bahamas and the Virgin Islands, has since 1950 less than a 5 per cent net emigration on its total population.[352] United States, the United Kingdom, France, Canadá and the Netherlands have been the main recipient countries, favored until recently by the various forms of political association existing between them and the sending countries.

Legal restrictions have decreased migration outflows within the region and out of it in recent years, particularly for unskilled workers. At the same time, governments have begun to increasingly worry about the loss of professionally qualified persons through emigration. Although no figures are available to quantify the importance of the brain drain from this region, the pattern seems to be one in which the poorer island export unskilled workers to their richer neighbors, and these export professional and technicians to North America, England and Western Europe.

The peculiar flavor of Caribbean emigration is provided by the open tolerance and, in some cases, encouragement that the governments of the region have given to that of unskilled labour. "Whether in Puerto Rico, Barbados, Jamaica, Trinidad after 1960, or the Leeward and Windward Island, mass emigration became a keystone of population policies ... unopposed by churches, trade

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351/ Segal, Op.cit., pp. 9-10.

352/ See, "Apendix, Tables on Caribbean Emigration", in Segal, Op.cit., pp. 219-229. Notice that Segal et.al. include Puerto Rico, Haiti, Dominican Republic and Cuba in the Caribbean while they are excluded in United Nations Demographic Statistics.

unions, or other organized interest groups, government tacit support for emigration -by such measures as encouraging charter flights or travel loan schemes- was a low-risk act".[353] According to the same source, the need to keep open free movements to the metropolitan country is one of the main reasons why a number of theses societies have been reluctant to become completely independent.

353/ Segal, Op.cit., p. 17.

VI. ECONOMIC-DEMOGRAPHIC MODELS IN LATIN AMERICA */

Previous chapters have examined the inter-relations between different components of the population dynamics and social and economic variables. The task of this chapter is to review the attempts at integrating all those relationships into economic-demographic models. Accordingly, those models either constructed by Latin American social scientists or being currently applied in the area will be described and their major similarity and differences will be pointed out.

The first models in Latin America that include demographic variables are the one developed by CENDES (Center for Development Studies of Central University of Venezuela) in Venezuela and the one resulting from a collaborative effort of ILPES and CELADE, both formulated almost simultaneously by the end of the sixties.

CENDES' work was centered in the preparation of a formal analitical framework for development policies and emphazised some aspects that are usually left aside by most models, such as the relations between demographic growth and economic development or the effects of changes in the income distribution module.

Among the group of models prepared by CENDES there is one of population, which parameters are rates of mortality by age, sex and residence; rates of fertility by groups of age of woman and by residence; rates of rural-urban and international migration by age groups and sex, and participation in economic activity coefficients by sex, age and residence. Given these rates and coefficients and the size of the population at the beginning of the period, total population and economically active population are projected. Besides, number and size of families are estimated and afterwards related with the economic model and with the income distribution system. In turn, total

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*/ This chapter was written by Professor Angel Pucaraccio of CELADE.

The ILPES-CELADE model, the study of which was initiated in 1967, includes two submodels: one economic, the other demographic.

The economic part of the model is determined by the demand which in turn is a function of income distribution and population size. The model was designed to test the viability of an import-substitution policy, a regional economic integration policy, a policy directed to enlarge the internal market through alterations in income distribution, and an employment policy which considered alternative uses of technology. The model was structured by sectors and applied to groups of Latin American countries.[354/]

On its turn, the demographic model was prepared so that it could "receive" the results of the economic model. This implied a different design

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354/ See ILPES-CELADE, Elementos para la Elaboración de una Política de Desarrollo con integración para América Latina, ILPES-INST/3/3/L3; Santiago July 1968; chapter VIII.
Fucaraccio, Angel, Un Modelo Económico-Demográfico, ditto, CELADE July 1969, Santiago.

population in each of the pertinent age groups is related with the education submodel through which medical and paramedical professionals incorporated in the health sector model are estimated.

It is necessary to point out that the CENDES model is divided in two parts: one which incorporates the system of equations that measure deaths, births and migration, and one that refers to the links between demographic and economic aspects. The CENDES model is structured in a way that the results of the demographic submodel are inputs for the other submodels, but do not feed back into the equations that measure fertility, mortality and migration. In other words the demographic variables are exogenous and no effort seems to have been made to make them endogenous through their relations with income and educational levels resulting from the respective submodels.

approach than the one chosen by CENDES, so that a differentiation was established from the start between the group of equations which measure demographic variables and those that refer to the relations between these and socio-economic factors.

The parameters of the computing program of the demographic model are: global fertility by residence and/or income group; global mortality by residence, sex and/or social group; rate of participation in economic activity by residence, sex and/or social group, and degree or urbanization. All of these indicators can be linked to the results of the economic model.[355/]

The accounting part of this model is different from the CENDES one in that the use of type tables of fertility, mortality and participation by ages, associated to an ample variation of social indicators, makes the manipulation of the information much easier than in the CENDES model. Through interpolation in these type tables, tables by age corresponding to the global value of each indicator are built.

The Bariloche model incorporated the ILPES-CELADE demographic model with some minor modifications, eliminating in the accounting part the urban-rural cut and reducing the type tables to analitical, non linear functions, with the purpose of limiting the use of computer memory. [356/]

As the two submodels -the economic and the demographic- in the ILPES-CELADE model were run separatedly, the task of linking them in one computing programme in which demographic and economic variables were endogenous, remained to be undertaken. Nevertheless, some analysis of the demographic

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355/ Fucaraccio, Angel and Arretx, Carmen, Relaciones entre variables Económicas y Demográficas: Ensayo de un Modelo, in Los Estudios Demográficos en la Planificación, CELADE, 1975.
Fucaraccio, Angel, Algunos Efectos del Desarrollo sobre la Población, Santiago deChile, Agosto 1977.

356/ Catastrophy or new society? ; A Latin American World Model; IERC-064e, Canada, 1976.

behaviour in which fertility was considered as dependent from the level of national income, its distribution and its rate of growth, were done. In these analyses mortality was treated as an exogenous parameter with the same pattern of variation in all the runs; women participation was endogenous to the levels of fertility, being then a function of fertility determinants.

The current state of the arts in reference to the endogenous links between economic and demographic models may be sinthesised basically in three models: two are formulated in Latin America-Bariloche and SERES[357] and the third one was prepared by ILO-BACHUE.

The three were designed with the purpose of serving as instruments for the formulation of policies; Bariloche's main objective is to show the viability of a society liberated from underdevelopment, oppresion and poverty; in this sense it is explicitly normative. In it the productive system must satisfy the basic needs-nutrition, shelter, education and health- allocating the productive resources -manpower and capital- to each sector so as to maximize life expectancy.

In this model fertility rate is a function of: i) economically active population in the secondary sector; ii) nutrition; iii) housing and urban infra-structure; iv) education, and v) life expectancy. All of these variables have a negative effect on the fertility rate; that means that an increase in any of these variables produces a decrease in the rate of fertility.

Life expectancy at birth is a positive function of the aforementioned variables iii) and iv), a negative function of the rate of births and of size of the economic active population in the primary sector. Birth rates and life expectancy affect initial total population and generate the data on new total population and economically active population.

357/ Prepared by Corporación Centro Regional de Población, Colombia.

By means of a process of optimization work and capital are assigned to the sectors providing for the basic needs, which in turn generate the new data on fertility and mortality. The process is continued with this sequence. It must be mentioned that this is a model geared by production and that the authors make it clear that the relations established are functional and not necessary causal.

The SERES model (Sistema para el Estudio de las Relaciones Económico-Sociales y Demográficas) has as it objective the study of development policies and the implications for the development process of different behaviour alternatives.[358/]

In this model fertility rates are the result of the difference between expected and avoided births. Expected births are a function of education and area of residence. In turn, the education submodel makes the distribution of population by educational levels to depend on income distribution and on government expenditures in education; expected birth, are then a function of lagged income distribution and government expenditures.

The avoided births are estimated by a family planning submodel in which public expenditures are the policy component. The total of deaths is estimated as a function of government expenditures in the health sector and is differentiated by sex but not by area of residence. Migration is an exogenous parameter.

Given certain initial values, the demographic part of the model estimates total population which, in turn, is an input for the health and the education submodels that, together with the family planning submodel, generate new data for estimating fertility and mortality.

358/ SERES Model, Socio-Economic Area, CCRP, Technical Document N° 6, January 1975.

Turning now to the BACHUE model, the gross reproduction rate is in it a function of: i) the rate of women participation in economic activity; ii) life expectancy; iii) the percentage of illiterate women, and iv) the percentage of agricultural employment. Variables i) and ii) affect negatively the gross reproductions rate and variables iii) and iv), positively. In turn the specific rates by age and area of residence are a function of the gross rate of reproduction and of the proportion of married women. This last variable depends on the educational structure and on women's participation in the labour force.

Attention must be called to the fact that in this model the final form of the curve of global fertility is a function of economic and social variables. In other words in the BACHUE model the type tables used in the IMPRS-CELADE and the Bariloche models are replaced by a function that generates said tables.

Life expectancy by area of residence is a function of income distribution -the Gini index is used- and of the per-capita gross product. The specific rates of mortality are obtained through the use of the Coale and Demeny model tables.

Labour force is obtained by multiplying the population by activity rates. Both of these variables are discriminated by age, sex, marital status in the case of women, or head of family or not, in the case of men, educational level and area of residence. Specific rates of participation, with the aforementioned discrimination, depend on the employment structure, income distribution and the youngest child's age.

In the BACHUE model migration is treated with a good amount of detail: there is a micro-propention to migrate which delimits the migratory flows from rural to urban areas, and another function that quantifies the migratory (flows) from urban to rural areas. Both functions are detailed by age and education and depend on the specific rates of fertility, the educational structure, and age. Other two functions refer to a macro-propention to migrate in both ways. These discriminated by educational level and are

dependent on the relative level of salaries in urban and rural areas and on income distribution. Finally, net migration is a function of the micro and macro propention to migrate and of the population of the previous period clasified by age, sex, education and area of residence.

The economic part of the model includes an input-output production matrix and is affected by the demographic system through final demand -government expenditures and family consumption- and in turn affects the demographic system through the indicators already mentioned.

After this panoramic and certainly schematic review it is clear that the current orientation as to the formulation of economic-demographic models, rests on the idea that there is a link between society as a whole and demographic behaviour. Nevertheless, attention must be called to the fact the observed relations may be statistically significant but not necessarily of a causal nature. At least from the point of view of policy formulation it is necessary to understand the dynamics of the relations to be able to predict if certain association will persist when other social aspects change. The knowledge of these dynamics is also required to avoid acting upon variables that either have no effect on population behaviour, or are less effective than other variables.

Finally, this means that there is an urgent need to intensify the efforts being done in social research on population so as to identify possible key variables for policy formulation. This would allow to improve present and future models, as well as to make better use of them in economic and social Planning.[359/]

359/ In this respect, it will be necessary to incorporate into macro economic and demographic models all the advances in the biological studies of human reproduction. Fucaraccio, Angel, "Acerca del Comportamiento de la Fecundidad en los Modelos Macro Económico-Demográficos". Notas de Población, Año V, N° 15, Diciembre 1977, pp. 21-36.

VII. SUMMARY AND CONCLUSIONS

At the first chapter of this paper attempted to show, drastic demographic and socio-economic changes are now taking place in Latin America and the Caribbean. The analysis of present trends in social and economic change done in the same chapter concluded that though the rate of economic growth has been quite spectacular in recent years, that growth has been accompanied by structural heterogeneity, high concentration of industrialization in a few regions and localities, incapacity to provide adequate jobs for a growing labour force, unequal income distribution, and large groups of people living below the poverty line. Underutilization of the labour force, malnutrition, housing deficits, shortages of basic services (health, education, infrastructural services), are some pervasive consequences of those structural features here identified as those that governments and regional international agencies are attempting to solve through socio-economic policies.

The second chapter examined the gradual realization by the governments of the region that those problems are not independent from the prevailing demographic trends and, consequently, that population policies could contribute to their solution and should take them into account. The same chapter ended up summarizing the main population problems recognized by the governments, the institutional arrangements they have set and the actions they have taken to solve them.

Having as a background the information of the first two chapters, the bulk of this paper was devoted to review the state of our knowledge with respect to how social and economic changes are determining population trends, with a view to identify major research gaps and some ways to fill them so as

to allow the integration of population policies with development plans and policies.

The first question that seemed important to answer was the degree to which changes and differences in population growth patterns could be empirically associated to socio-economic changes. A negative answer to that question would have implied that population growth could be stopped in the region only through massive health and birth control programs, while a positive answer leaves the door open for linking population and development policies.

Empirical studies supported the view that population growth rates are not independent from socio-economic development, although the historically known process of demographic transition differs from the Latin American experience, both with respect to the mortality level at which fertility starts to decline (at a comparatively much lower level than in the already developed countries), and to the speed of fertility change, once initiated (much faster than in earlier experiences).

The question as to the "exogenous" or "endogenous" character of demographic changes was raised again with respect to mortality. Social group differences in infant, child and general mortality were found to be larger than rural-urban or intra-country regional differentials. At the same time, the studies reviewed on the causes of death allowed to cast some doubts on the effect that health programs might have in reducing mortality levels, if unaccompanied by measures oriented to substantially improve the levels of living of high mortality groups. A closer scrutiny of social groups differences as to the causes of death, and an evaluation of the "proper mix" of health and socio-economic policies to reduce them constitute a high priority research subject in this area of policy concern.

The relative impact of development-related factors vis-a-vis policies independent from it on demographic change was examined again in a lengthy chapter devoted to the analysis of the factors influencing fertility decline in Latin America. When the general effects of development on fertility were

studied the conclusion was reached that indicators of social development, such as women's participation in the labour force and education, offered less exceptions to the expected negative relationship, than strictly economic indicators. The possibility of determining threshold values for socio-economic change to have a significant effect on fertility was also raised, but no firm conclusion could be reached on this matter. Future studies on this subject will probably be more fruitfull if they pay more attention to the deviant cases (nations and regions) where the negative relationship has not been found and to comparisons between them and those cases where particularly sharp declines have occurred.

In an attempt to specify the different paths through which socio-economic factors may influence fertility, nuptiality-related fertility components were distinguished from marital fertility. With respect to the first, the available evidence about changes and differentials in age at first union, type of union and legal nuptiality was interpreted as suggesting that present trends in social and economic development are moving them in a fertility-reducing direction. Nevertheless, the state of our knowledge regarding this subject was considered too weak to allow firm conclusions. Comparative and longitudinal studies of the interrelations between them and socio-economic change in high and low fertility social groups, including evaluations of how governments policies and legal provisions are affecting those patterns were recommended on this subject.

Marital fertility differentials appeared as strongly related to the couple's educational level, but the amount of schooling required for a significant drop in fertility to take place was found to vary from country to country, and among regions of a single country. Future research on how structural factors are shaping cultural and socio-psychological responses different from those expected from educational improvements, thus reducing the impact of the latter, or are putting barriers to behavioral changes, was considered to have priority in this area of concern.

The common negative relationship between fertility and women's participation in the labour force was also found in Latin America, but some important exceptions were detected. Examining those exceptions and the hypotheses advanced to explain them, it was hypothesized that for the negative relation to be generalized and strenghthened in the future women's employment would have to be changed both in structure and level, but that even if this occurs, formal and informal community help in the care of children may weaken conflicts between the roles of mother and worker.

The studies on family structure were also reviewed. No general relationship between extended family or type of union and marital fertility was found, while equalitarian husband-wife relations and wife's participation in the decision making process appeared as negatively related with them it. Wives's participation in economic activities, higher educational levels, and changes in women's perceptions of their role, all of them concomitant with the industrialization process, were found to be positively related to equalitarian husband-wife relations, but a better understanding of the structural factors associated with it requires that more carefully defined family types be constructed. Present efforts in that direction were considered to be highly abstract and to suffer from a number of methodological flaws.

Starting from the finding that urbanization and fertility are negatively related, but that many urban areas still have comparatively high fertility (not unfrequently higher than that found in rural areas of the same country), an effort was made to disentangle the factors related to urban and rural cultural and socio-economic structures which might explain them.

Although the explanation attributing comparatively high urban fertility rates to rural migrants who would maintain their traditional fertility patterns in the cities was not completely dismissed, its weakness in view of the stepwise character of urban in-migration and of the fact that most female rural migrants arrive unmarried to the cities was pointed out. On the contrary, much stronger explanatory power was given to intra-urban differences by occupational, educational and income strata, and to the structural conditions which appear as

conducive to a weak motivation for regulating fertility. Nevertheless, knowledge of the factors contributing to a comparatively weak demand for means to control fertility, was deemed to be highly speculative, this being another high priority subject for future research.

Likewise, an effort was made to link rural fertility to structural changes occurring in the rural areas of Latin America, especially as they are mediated by changes in family structure and in women's and children's labor. Nevertheless, very few fairly reliable studies dealing with this problem were identified. Although highly inconclusive they clearly suggest that future research on this topic should give emphasis to longitudinal and comparative studies of how rural families are adapting themselves to rural and agricultural changes, and to the factors which are shaping their demographic response to them.

The studies in family planning were also reviewed, albeit less in detail. The information available up to December 1975 shows an impressive growth in program coverage. Nevertheless, the available studies attempting to measure the impact of family planning programs on fertility decline have failed up to now to provide reliable and valid information, mostly for the difficulties in taking into account non-program factors which might be operating, and for not including the indirect effects of the programs. Likewise, data on the cultural and socio-economic characteristics of acceptors, non-acceptors and program defectors are still mostly unknown and deserve particular attention in future research on the subject.

The socio-economic determinants of migration, the characteristics of the migratory process, and the individual, demographic, economic, and social consequences of migration were examined in a following chapter.

With respect to socio-economic determinants of migration, this review confirmed that income differentials and employment opportunities are the most important among them. From a policy point of view, the opening of opportunities for employment and for better wages at alternative urban places was considered

to be highly influential in changing migration flows, but it was also recognised that major urban centers might keep attracting a large proportion of migrants even though employment opportunities may be growing at faster rates in minor centers.

Surveys analysing the socio-psychological factors influencing migration were examined. Although not useless, they do not seem to have taught us much about the complex interrelations between cultural, socio-psychological and contextual factors involved in a decision to move.

With respect to the structural changes affecting migration determinants, the trend toward concentrating industrialization and related activities in a few cities, and the processes of urban concentration and metropolitanization, were found to be leading to differential income and employment opportunities, as well as to wider rural-urban contacts. On the other hand, changes in the ways of organizing agricultural production were found to have decreased employment and occupational mobility opportunities in the countryside. In both cases there are contradictory evidences which require that the problem be further examined. At the same time, an important gap exists with respect to the links between public policies, structural changes and migration determinants, as well as in reference to the political viability of alternative policies.

Migrant selectivity as to age (15-30 years old), education, occupation and sex (more women than men in rural to urban migration), and its tendency to decrease in recent years were also confirmed.

As to the migratory process, the importance of rural to small town, small town to large city stepwise migration was emphasized. At the same time, seasonal rural-rural migrations appeared as particularly important, and the need to examine the ways different types of migratory movements are interrelated was underscored.

An analysis of the studies dealing with the consequences of internal migration found that migrants taken individually are not in a disadvantaged

position with respect to urban natives, except when they have migrated directly from a rural area to a large city. Unfortunately, no firm conclusion could be reached with regard to demographic, economic or social consequences of migration. Studies dealing with demographic consequences in places of destination have reported contradictory findings, while the demographic impact of migration on the places of origin appeared as a neglected subject that must be studied in the future. The same thing happens with respect to the economic effects of migration. Those dealing with its social effects provide a somewhat firmer basis for the interpretation that they are negatively affecting urban life, but counter arguments cannot be dismissed.

The scant information on international migration of both unskilled and skilled laborers and professionals was also reviewed. A general conclusion derived from it is that more descriptive studies about the volume, composition and direction of this type of migration, and studies dealing with the consequences of it for the sending and receiving countries as well as for the individual migrants and their families are particularly necessary at this moment.

Finally, a brief descriptive review of the socio-demographic models which have been or are being applied in Latin America was made. The need to concentrate efforts on the clarification and quantification of the interrelations between the demographic, economic and social variables most susceptible to be modified by policy interventions before trying to integrate them into more general models was stressed here.

How to fill the gaps existing in our knowledge about the policy-relevant interrelations between development and population? Certainly, no single recipe seems to exist, but some broad conclusions about the types of studies appearing as most promising from a policy-relevant point of view can be derived from reviewing the Latin American literature.

The nature of the relationships between socio-economic factors and population trends imposes on us the difficult methodological task of taking into

account and interrelating different levels of analysis. From what we have learned reviewing the Latin American literature, in most cases this implies to include: broad structural changes associated with different implicit or explicit development strategies; socio-economic and environmental factors identified as determinants of population trends (employment, income, education, women's role in economic activities, availability of basic social and health services), but determined at the same time by structural changes and development strategies; social classes and social strata, differentially affected by those socio-economic determinants; cultural and socio-psychological factors operating at the family level and partially determined by the socio-economic determinants (the value of children, educational and occupational aspirations for self and children, basic value orientations, among others), and individual factors, such as age and sex.

Such a wide encompassing task inevitably raises the question whether social science research relevant for population policies can be reduced to a more manageable size. Two reasons can be given to answer it positively. The first is that gaps in knowledge are not equally distributed along the different levels. The second is that not all social groups, classes or strata are equally strategic with respect to the role they play in determining population trends at the national level, or within particular regions and areas.

With respect to the first reason, our review clearly showed the need to orient future research in two different but complementary directions. The first points to the macrostructural and sociopolitical level. We need to know more about how different structures of relationships among the development components, and their changes through time, are influencing demographic changes, but the crucial question is the degree to which those structures can be modified by the State sufficiently enough to produce significant demographic changes in a relatively short time-span. Political constraints, international economic relations, government's capabilities, conflicts of goals, already unavoidable demographic trends, etc., are some aspects to be taken into account when structural changes are proposed.

In the same vein of emphasising socio-political processes and their effects on structural relations, much more can be learned if the effects of specific development plans, at either national or regional levels, on socio-economic determinants of population dynamics are examined.

In brief, emphasis at the macrostructural level should be given to the analysis of the development policies behind socio-economic factors, and to the viability of alternative policies whose probable effects are also examined. This seems to be an unavoidable undertaking if perfect structural malleability is not assumed.

The second neglected direction points to microlevel studies, and particularly to the impact of structural changes and socio-economic policies on the family. The reasons for this were given when reviewing studies on the subject and do not need to be repeated here.

With respect to the second reason for being optimistic about the possibilities of reducing the task to manageable sizes, our present state of knowledge on the interrelations between socio-economic factors and population trends in Latin America allows to specify with an acceptable degree of confidence the social groups, classes or strata presenting the highest (or lowest) levels in those variables governments are interested in modifying, and having a number of members large enough to make a modification of their levels significantly affect national, or at least regional, trends. From our review, peasants and agricultural labourers hired by more traditionally organized farms seem to be the most strategic groups for changing fertility, mortality and migration trends in the rural areas of Latin America. The urban poor, and particularly those who are ecologically marginal or participate more or less permanently in informal labour markets are equally strategic with respect to urban fertility and mortality.

The identification of the most strategic groups, and of subgroups within them, appears as a necessary step toward a more focussed combination of socio-economic and demographic policies. To do it in such cases where they are not