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SOCIAL AND ECONOMIC FACTORS AFFECTING POPULATION TRENDS IN
LATIN AMERICA

Prepared by ECLA/CELADE

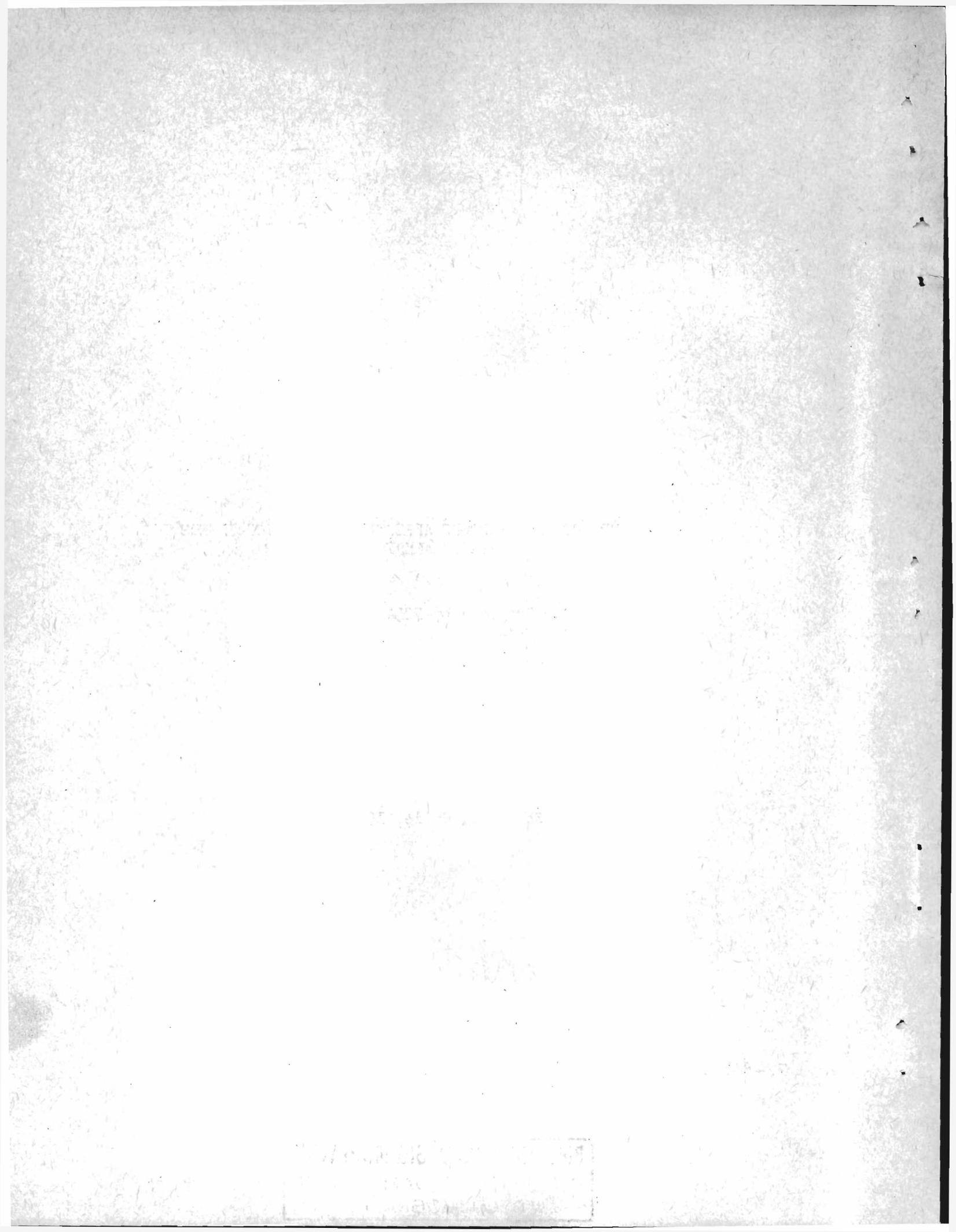
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BIBLIOTECA "GIORGIO MORTARA"
CENTRO LATINOAMERICANO
DE DEMOGRAFIA

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I. INTRODUCTION

Recent patterns of population growth and redistribution in Latin America have attracted world-wide attention due to the unprecedented intensity of current demographic transformations and to their significance for development perspectives. Initially, mortality rates declined precipitously while fertility levels remained largely unaltered thus yielding the fastest rates of population growth ever recorded. Simultaneously, massive movements of population have been registered in the region and the cities experienced a surging expansion in size and number. In the last few years, migration and urban growth have continued at an accelerated pace but signs of a slow-down process in population growth rates have been detected; although the latter phenomenon so far affects but a few countries or internal regions, the prognosis of an eventual overall decline in the fertility component is plausible.

The object of the present paper is to account for the rapid transformations which the Latin American population is currently undergoing. Such an endeavour faces two primary methodological problems. On the one hand, basic information on trends in the elemental components of demographic phenomena are dated or simply non-existent in many countries of the region. Researchers are thus forced to fall back on projections, estimates and the like, which, although they provide a fairly-acceptable overall picture of trends, do not define particular situations with the clarity and recency propitious to the analysis of underlying factors.

An additional obstacle to the analysis of socio-economic factors affecting population trends in Latin America derives from the very heterogeneity of situations and influences in the region. That there are twenty Latin Americas rather than one has become a platitude.

/Depending on

Depending on the level and depth of analysis pursued, the figure could be multiplied still further by the number of sub-regions having clearly-defined particularities.

For our purposes, at least three broad groups of countries can be defined with respect to their socio-economic and demographic situation. The early-modernization countries of the Southern cone as well as Cuba are well into the last stage of their demographic transition while Ecuador, Bolivia, Paraguay and all the Central American countries except Panama and Costa Rica have only recently experienced (or in the case of at least Haiti, have yet to experience) the initial mortality declines characteristically associated with passage from the first to the second stage of the demographic transition. The remaining countries, which contain the majority of Latin America's population are currently found in the second stage of the transition and their current fertility and mortality rates, though varied, nevertheless place them in a position midway between the other two groups. In light of this great diversity of situations, practically any generalization which one might make on underlying factors has limited applicability.

Cautioned by this variety as well as by the shortcomings of the data and of the theoretical foundations, we will successively discuss some of the principal factors affecting migration and urbanization, fertility and mortality. Each of these sections is fairly self-contained in the sense that the approach and key questions vary from one to the other. Emphasis is placed on fertility and migration-urbanization since these demographic sectors are particularly affected by socio-economic transformations and, in turn, are of greatest consequence for future population trends. By contrast, mortality patterns are much less dependent on social change and, moreover, future declines in this segment
/will be

will be of less significance for population trends in the majority of countries.

II. MIGRATION AND URBANIZATION

The progressive concentration of population in urban localities and particularly in large metropolises is a salient feature of Latin American societal transformation. This phenomenon is evidently associated with, and to a considerable extent, the product of, mass transfers of population from rural to urban localities. The purpose of the present section will be to provide a brief discussion of some of the principal factors producing these phenomena in Latin American society.

1. Factors and Trends in Urbanization

From a logical standpoint, discussion of the determinants of urban growth and urbanization has to be carried out on a different plane from the analysis of, say, migration factors or fertility determinants. Indeed, whereas the latter processes fluctuate as the collective endproduct of individual motivations and actions, urbanization and urban growth are physical processes of population concentration whose evolution responds to complementary or equilibrating trends in migration and natural increase. Thus, on the one hand, we will have to concern ourselves with the demographic components of urban growth, establishing patterns of interaction between migration and natural increase. But, on the other hand, urbanization can be viewed in a broader sense as an integral part of a global process of structural change which a society undergoes as it passes from a more simple to another, more complex, form of socio-economic organization. Thus, it will be necessary for us to review very briefly some /of the

of the historical antecedents which gave rise to present differential urban configurations, before discussing the more immediate factors of urban growth.

Approaching the problem from a historical standpoint, three broad groups of Latin American countries can be delineated according to the level, timing and dynamics of their respective urbanization processes. Interpretations of the historical transformations vary and hence the broad trends outlined briefly herein have to be approached with caution. At the outset, it would appear that four countries - Argentina, Chile, Cuba and Uruguay - reached an urban threshold towards the end of the 19th century and into the first quarter of this one.

In these countries, urban life began to agglomerate largely as a function of the nature and volume of the prosperity engendered by the external sector. Exports, particularly in Argentina and Uruguay, were heavily weighted towards products which required at least some rudimentary industrial transformation before being shipped out. Hence, urban concentration was based not only on the proliferation of auxiliary tasks appended to the export sector but also on the development of industrial activities and on the formation of a dynamic internal market. In Chile, the de-ruralization of the central region, coupled with the prosperity of mineral exports, improved communications between regions and the shift from export agriculture to internal supply, all favored early urbanization. Cuba had already achieved a high degree of urbanization in the early 19th century, but after a lengthy period of relative urban stagnation, the War of Independence, the inflow of foreign capital and the development of the transport system brought a new surge of city growth at the beginning of this century.

/In all

In all of these countries, to a greater or lesser extent, foreign immigration also played an important role in early urbanization. For instance, immigrants made up as much as three-tenths of Argentina's resident population in 1914. Immigration takes on particular importance in this context because the new arrivals tended to concentrate in a restricted number of localities and because it would appear they brought with them levels of skills and aspirations which made them particularly apt to assume innovative roles in the transformation of the economy.

The present-day urban configuration of these countries reflects the early urbanization process brought on by a particular economic, political and demographic evolution. As early as 1950, more than two-fifths of their collective population lived in localities of 20,000 or more inhabitants that is, on a level with Europe and with the average for the world's major developed regions at the same period. ^{1/}

^{1/} It should be noted that, throughout this presentation, we will be utilizing a definition of "urban" based on population size criteria alone; that is "urban" populations are those residing in centres containing at least 20,000 inhabitants. Obviously, other lesser concentrations would also qualify as urban were we to possess information permitting a more discriminatory classification of population nuclei according to their economic function, occupational composition or socio-cultural characteristics. In its absence, we are forced to adopt this somewhat arbitrary operational criterion, conscious of the inevitable discrepancies thereby created. In this context, the remainder of the population (i.e., that not living in centres of 20,000 or more) is qualified as "rural" more for the sake of convenience in expression than for accuracy in description.

/This proportion

This proportion increased to 61 per cent in 1950—again comparable to urbanization levels in more developed nations. The urban population grew at an annual rate of 3,8 and 2,9, respectively, during the 1950-60 and 1960-70 periods but of perhaps greater significance is the fact that the absolute number of rural inhabitants actually diminished in Argentina and Uruguay during the 1950's and in both these countries plus Chile in the 1960's. ^{2/}

One of the more salient features of recent trends in countries of early urbanization is the marked concentration of the total and urban population in large cities, particularly in the capitals. For instance, the proportion of the total population residing in cities of half a million or more inhabitants rose from 28 per cent in 1950 to 38 per cent in 1970. The capital city, meanwhile, contained from 55 to 80 per cent of the urban population in each country as of 1950. Since then, the number of cities in the four nations has increased from 89 to 186 and hence the acuteness of primacy phenomena has diminished somewhat during the period. Nevertheless, the major city still tends to concentrate a disproportionate share of the total and urban population.

^{2/} The data on which this section is based are provisional results from an ongoing study of urbanization and urban growth in Latin America being carried out by the Social Development Division of ECLA. Summary presentations of recent trends in three groups of countries are found in Tables 1 and 2.

Table 1

SUMMARY OF URBANIZATION AND URBAN GROWTH IN THREE GROUPS OF
LATIN AMERICAN COUNTRIES, 1950-1960, 1960-1970

Countries a/	Average rate of growth						Rate of urbanization	
	Total population		Rural population		Urban population		50/60	60/70
	50/60	60/70	50/60	60/70	50/60	60/70		
Group I	2.1	1.6	0.4	-0.1	3.8	2.9	1.6	1.3
Group II	3.0	3.1	1.9	1.5	6.3	6.1	3.2	2.9
Group III	2.6	3.0	2.1	2.3	5.7	5.9	2.9	2.8
<u>Total</u>	<u>2.8</u>	<u>2.8</u>	<u>1.7</u>	<u>1.4</u>	<u>5.4</u>	<u>5.2</u>	<u>2.5</u>	<u>2.3</u>

/Table 2

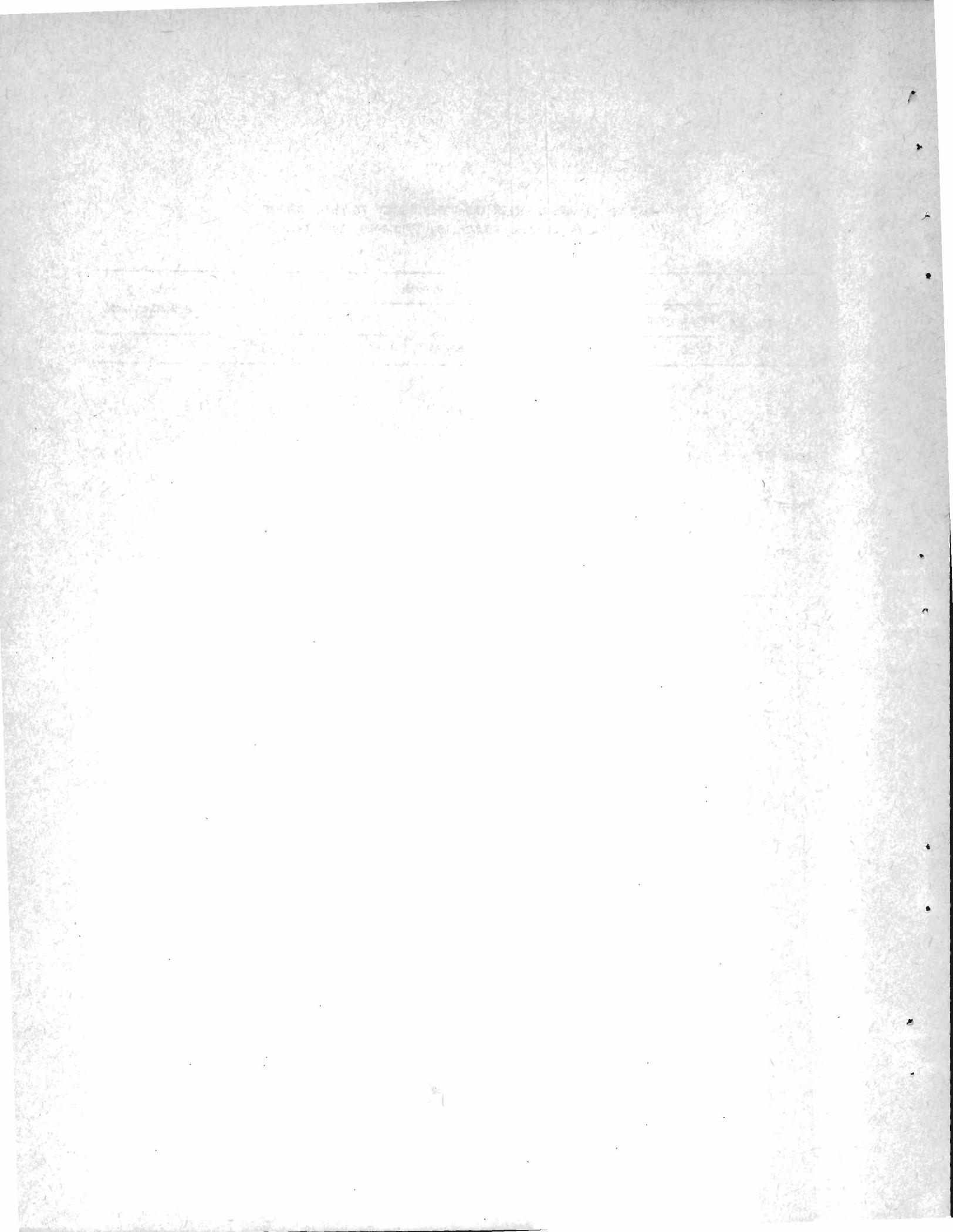


Table 2

NUMBER OF CITIES AND DISTRIBUTION OF THE URBAN POPULATION BY CITY SIZE IN THREE GROUPS OF LATIN AMERICAN COUNTRIES, 1950-1970

Countries and city size class	Number of cities			Total urban population (thousands)			Total population in each size class (percentage)			Urban population in each size class (percentage)		
	1950	1960	1970	1950	1960	1970	1950	1960	1970	1950	1960	1970
Group I												
1 million and over	3	4	4	7 304	11 555	14 619	23.6	30.5	33.0	51.7	56.7	54.0
500 - 1 million	2	2	3	1 391	1 261	2 116	4.5	3.3	4.8	9.9	6.2	7.8
100 - 500	13	15	19	2 902	3 472	4 188	9.4	9.2	9.4	20.5	17.0	15.5
50 - 100	11	22	36	661	1 475	2 510	2.1	3.9	5.7	4.7	7.2	9.3
20 - 50	60	84	124	1 860	2 625	3 634	6.0	6.9	8.2	13.2	12.9	13.4
Total urban	89	127	186	14 118	20 388	27 067	45.7	53.8	61.1	100.0	100.0	100.0
Group II												
1 million and more	4	7	12	9 046	18 366	37 140	8.6	12.9	19.2	38.5	42.4	47.4
500 - 1 million	3	6	9	1 945	4 124	6 177	1.8	2.9	3.2	8.3	9.5	7.9
100 - 500	27	47	87	5 660	9 196	16 073	5.4	6.5	8.3	24.1	21.2	20.5
50 - 100	42	70	117	2 931	5 159	8 185	2.8	3.6	4.2	12.5	11.9	10.5
20 - 50	129	98	349	3 901	6 499	10 711	3.7	4.6	5.5	16.6	15.0	13.7
Total urban	205	528	574	23 483	43 344	78 286	22.3	30.5	40.5	100.0	100.0	100.0
Group III												
1 million and more	-	-	-	-	-	-	-	-	-	-	-	-
500 - 1 million	-	-	5	-	-	3 306	-	-	9.2	-	-	41.8
100 - 500	9	10	9	1 868	3 088	2 201	9.0	11.5	6.1	72.6	69.2	27.8
50 - 100	5	13	16	325	632	1 061	1.6	2.4	2.9	12.6	14.2	13.4
20 - 50	12	34	36	381	742	1 346	1.8	2.8	3.7	14.8	16.6	17.0
Total urban	26	57	66	2 574	4 462	7 914	12.4	16.6	22.0	100.0	100.0	100.0
Total Latin America												
1 million and more	7	11	16	16 350	29 921	51 759	10.4	14.5	18.9	40.7	43.9	45.7
500 - 1 million	5	8	17	3 336	5 385	11 599	2.1	2.6	4.2	8.3	7.9	10.2
100 - 500	49	72	115	10 430	15 756	22 462	6.6	7.6	8.2	26.0	23.1	19.8
50 - 100	58	105	169	3 917	7 256	11 756	2.5	3.5	4.3	9.7	10.7	10.4
20 - 50	201	316	509	6 142	9 866	15 691	3.9	4.8	5.7	15.3	14.4	13.9
Total urban	320	512	826	40 175	68 194	113 267	25.6	32.9	41.4	100.0	100.0	100.0

In a second group which can be termed "countries of recent urbanization" - the urbanization process began to take on more significant proportions between 1930 and 1950. Most of the region's larger or more populous countries - Brasil, Mexico, Colombia, Peru, Venezuela - are included in this category, along with Panama and Costa Rica. In most of these, large towns and cities existed since early in the colonial history and many of them experienced accelerated urban growth at different periods of their history. Nevertheless, the population of urban areas as a whole generally increased at a pace commensurate with the growth rate of the total population and hence urbanization remained at relatively low levels until the 1930's.

In most cases, the initial impulse to accelerated urban growth in the countries of this group was provided by a severe crisis in the world market for agricultural products during the 1930's. This crisis, soon to be accompanied by an acceleration of population growth rates deriving from declines in mortality, led to the formation of a demographic surplus on the land while the migration of important contingents of agricultural labour towards existing nuclei was heightened. The decadence of the agricultural export sector favored the intensification of the search for other easily exploitable primary products and/or to a policy of import substitution. In either case, the absorptive capacity of non-urban employment structures was diminished thereby inducing massive urbanwards migrations.

A distinctive feature of the urbanization takeoff in countries of recent urbanization and one which contributed significantly to the dimensions of migratory movements as well as to the rate of urban growth is the fact that the takeoff coincided with the beginnings of the most explosive stage of the demographic transition. Nourished by rapid population growth, the
/urbanization process

urbanization process in some of these countries continues to be extremely diffuse and all-encompassing. As of 1950, slightly more than one-fifth of these countries' entire population lived in cities of 20,000 or more inhabitants. By 1960, this proportion had increased to three-tenths and by 1970 to two-fifths. During both decades, rates of urban growth and of urbanization in this group were the highest in Latin America.

The number of cities jumped from 205 to 574 between 1950-70 yet the urban population of these countries is, on the aggregate, much more highly concentrated in large cities now than at the beginning of the period. Particularly noteworthy is the concentration in cities of a million or more inhabitants; these had 38.5 per cent of the urban population in 1950 and 47.4 per cent in 1970. Meanwhile, the proportion of the total population living in cities of such size rose from 9 to 19 per cent in the interim, thus attesting to the pace at which metropolitan centers are expanding.

The third group, formed by Ecuador, Bolivia, Paraguay, Nicaragua, Honduras, Haiti, El Salvador, Guatemala and the Dominican Republic, includes countries which can be characterized as being in an incipient stage of the urbanization process. As of 1950, none of these countries had as much as one-fifth of their total population residing in urban areas; many of them only reached this mark in the late 1960's and others still have not attained it. In brief, the acceleration of urban growth rates has begun only in recent years.

Characteristically, this has occurred less in response to structural changes in the economy than to the modification of population growth patterns. To be sure, these countries also suffered the same profound crisis in their traditional export sector which elsewhere had provided

/the initial

the initial impulse to urban growth. But, given the over-specialized nature of the external sector, the lack of alternative easily-exploitable resources, the persistence of an unproductive latifundio-minifundio complex and the absence of a basic network of towns and cities, the world crisis did not generate substantive changes in economic policy nor in the spread of urbanization.

Hence, demographic pressures stand out as the most important factor in the determination of the urban takeoff in countries of late urbanization. Although the data are admittedly sketchy, it would seem probable that the urban areas of this group of countries underwent a mortality decline before their rural counterparts. Thus, the rate of urban growth is more than two and a half times greater than that of rural areas in both the 1950-60 and 1960-70 decades. In part, the differential undoubtedly reflects intensive urbanwards movements of population but, as will be demonstrated in a later section, urban mortality is considerably lower than rural and this, coupled with differential age composition, probably means higher rates of natural increase in the cities.

In any case, the outcome of these several trends was that the aggregate urbanization level increased from 12 to 22 per cent between 1950 and 1970. The number of urban localities meanwhile tripled from 26 to 66 and the number of cities having more than 500,000 inhabitants increased from zero to five. Concentration of the urban population in the major city has always been extremely high in countries of late urbanization and, as late as 1970, only Ecuador (which has a bipolar concentration), had less than 50 per cent of its urban population centered in one city. Thus, as a result of the increase in the number of cities, the acute primacy configuration has tended to diminish but it remains an outstanding characteristics of late urbanization.

/In short

In short, urbanization is proceeding at a varying pace and with distinctive features in different groups of countries. Even the briefest outline of urbanization history indicates that the distinctive characteristics of the urbanization process have structural roots in the historical development of economic and demographic configurations in each bloc of countries. The next section will discuss somewhat more immediate factors of urban growth, concentrating in particular on the factors behind rural-urban movements of population.

2. Immediate Factors in Urbanization

The impressive pace of Latin American urban growth in recent decades has prompted varying interpretations concerning the components of this process. Observed increases in the population of urban localities are due to variable combinations of positive natural increase, net in-migration and reclassification of "rural" places as "urban" (either through annexation or through the growth of rural communities to urban sizes). Present data conditions do not permit a rigorous account of the relative contribution of each factor yet illustrative estimates would indicate that reclassification accounted for some 15 to 20 percent of all observed urban growth in Latin America during both the 1950-60 and 1960-70 decades. ^{3/} Provisional estimates would indicate that natural increase in urban areas (which includes natural increase among both natives and migrants) accounts for a greater proportion of the remainder than net in-migration. Moreover, the contribution of internal migration would appear to be diminishing - a trend which is consistent with the notion

^{3/} These data (Not Shown) are again based on preliminary figures from an ongoing study being carried out in the Social Development Division at ECLA.

of urbanization as a finite process.

Beyond these general patterns, however, the dynamics of city growth do not appear to reflect any systematic tendencies from country to country by either level of development or city-size class. In absolute terms, it is unquestionable that the largest cities in each country receive a disproportionate share of national urbanwards migrants. Yet, in terms of the proportionate contribution to urban growth, it would seem that in a number of countries, the smaller cities actually owe more of their increase to migration than larger cities. Further analysis of the components of urban growth, however, await improvements in the data. ^{4/}

In any case, although the information on which estimates are based is tentative and the patterns vary considerably, one point is eminently clear, namely, that urbanwards movements of population are intense in Latin America. ^{5/} The socio-economic determinants of such movements are somewhat less evident, however. That is, there seems to be general agreement on the broad factors underlying population flows but little

^{4/} For an analysis of city growth processes at the national level, in three countries, cf. Eduardo Arriaga - "Components of city growth in selected Latin countries", Milbank Memorial Fund Quarterly, 46:237-252, 1968. For more detailed analyses at the level of individual cities, cf. George Martine - "Migration, natural increase and city growth: the case of Rio de Janeiro", International Migration Review 6(2):200-215, 1972; and "Migrant fertility adjustment and urban growth in Latin America." IUSSP General Conference, Meeting 2.4. Liege, August 1973.

^{5/} It is worth emphasizing that although rural to urban movements are being focused on exclusively here, they are not the only, nor necessarily the most important type of population flow in certain contexts. Rural to rural and urban to urban migrations can take on precedence in given regions and the latter type of movement will inevitably take on increasing importance as Latin America becomes more urbanized.

empirical analysis as to their concrete influence. The rapporteur's statement at the session on internal migration in the 1965 World Population Conference concluded that: "there are several problems in the field of internal migration which should receive the immediate attention of research workers, but those related to factors affecting rural-urban migration in Asia, Africa and Latin America seem to be the most urgent. ^{6/} It is a fair comment that despite this exhortation, few attempts have been made at providing an integrated picture of migration determinants even when the scope of discussion is limited to rural-urban movements. ^{7/}

Except for a few isolated instances wherein migration factors have been studied in a given local community of outmigration or of destination, formulations tend to be of a broad sweeping nature, backed by scanty empirical information. Moreover, given the emphasis on cityward movements, analysts have generally concentrated on describing "push" factors in rural

^{6/} K.C. Zachariah - "Statement of the Rapporteur", World Population Conference, 1965, volume 1, p. 168.

^{7/} Perhaps the most significant effort in this sense is that being made by a special study group in the Consejo Latinoamericano de Ciencias Sociales (CLACSO). Several papers reflecting these efforts are presented in Migración y Desarrollo: Consideraciones Teóricas, CLACSO, Serie Población, Informe de Investigación, 1972.

/areas and 11

areas and "pull" factors at urban destinations. Other insightful approaches have been suggested ^{8/} but have not, as yet, spawned nationally representative analyses so that the following discussion will center on general attraction and repulsion factors, complemented by information on the personal motivations involved in the decision to migrate.

The factors causing migration are complex, difficult to define and probably differ radically from region to region. Nevertheless, the

8/ Touraine, for instance, distinguishes three types of migratory movements:

- a) displacement - wherein migration is the result of fortuitous circumstances or pressures rather than personal decisions.
- b) departure-migration involves a conscious intention of the part of migrant.
- c) mobility - migration is motivated by upward mobility aspirations

(cited in G. Germani - "Sociología de la Modernización", Paidós, 1969, chapter 4). Germani suggests that migration be analyzed at three levels: the objective level which includes factors of attraction and repulsion as well as the nature of communications and contact between rural and urban areas; the normative level through which objectives conditions are screened, and, the subjective level which considers concrete individual attitudes, attitudes and behaviour. (Germani, Ibid). Germani's framework is applied with interesting results in an anthropological study of the migration process in an Argentine out-migration community and an urban destination area. (Mario Margulis, Migración y Marginalidad en la Sociedad Argentina, Paidós, Buenos Aires, 1968). Forni-Marmora formulate a set of interesting hypothesis concerning the propensity of various types of communities to attract or expulse migrants. Migratory behaviour thus will be dependant upon the characteristics of a given community's socio-economic structure (land values, land tenure, land division, technological development) as mediated by the intervening variable of "social climate" (open-closed with respect to acceptance of change, integrated-desintegrated with respect to norms and expectancies of social behaviour). (F. Forni and L. Marmora, Migración Diferencial en Comunidades Rurales. Cuadernos del Centro de Estudios Urbanos y Regionales, N° 10, Buenos Aires, 1967).

/list of

list of factors purported to be resulting in the expulsion of population from rural-agricultural areas is fairly repetitive from country to country and from author to author in the migration literature. ^{9/} Primary among these is the nature of the agrarian structure which is incapable of generating new employment or of absorbing a growing labor force. This is true for both the latifundio and minifundio landholding systems and for different combinations of both types. On the one hand, the latifundio tends to be characterized by a rigid class structure and poor wages, by a low rate of utilization of natural resources and by reduced productivity. But even where the latifundio is reasonably productive, it is usually unable to absorb additional manpower and to the extent that technology is introduced, manpower needs may be reduced even further. On the other hand, most minifundio are characteristically given over to subsistence farming and even when they are highly productive, they tend to have a very limited absorptive capacity. More radical agrarian reforms such as in Mexico and

^{9/} General discussions of migration factors in Latin America can be found in the following papers: Giorgio Mortara - "Factors affecting rural-urban migration in Latin America: Influence of economic and social conditions in these two areas", World Population Conference, 1965, Vol. IV, pp. 509-512; Douglas Butterworth - "Migración rural-urbana en América Latina: el estado de nuestro conocimiento", América Indígena, 31 (1): 85-105, 1971; Sergio Bagu y E. Palermo - "Condiciones de vida y salud de los trabajadores migrantes y sus familias en América Latina", Cuadernos Americanos, 25 (2): 15-34, 1966; ECLA, Social Affairs Division - "Rural settlement patterns and social change in Latin America" Economic Bulletin for Latin America 10 (1): 1-22, 1965. José Pastore - "Migração, Mobilidade Social e Desenvolvimento", in Migrações Internas no Brasil, Manuel Costa (ed.), IPEA-INPES, Brasil, 1971, pp. 59-93. Moyses Poblete Troncoso - "El exodo rural, sus orígenes, sus repercusiones", América Latina, 5 (1-2): 41-49, 1962. Examples of somewhat more specific studies dealing with migration factors on a national or sub-national level are plentiful but discussions on a country by country basis would unduly lengthen this presentation.

Cuba, have apparently succeeded in rooting people to the land but the general experience has met with failure in this endeavor. ^{10/} The defects of the socio-economic structure in agricultural areas are reflected in unemployment and underemployment, in low living standards, lack of health, educational and recreational facilities, all of which can become translated into a migration motive.

The agrarian structure's influence on migration is closely linked to the conditions of the external market, to rapid population growth, to the social abandonment of the rural sector and sometimes to climactic or civil disasters. Demands of the external market abruptly impose changes in the type of production and thus favor the substitution of certain crops for others. Migration becomes particularly intensified when international prices decree the substitution of mechanized production methods for labor-intensive agriculture. The imbalance between prices of primary and manufactured products on the international market and the types of demands arising in importing countries also exert considerable influence on the region's population movements.

Droughts, monsoons and other natural disasters have also exerted considerable influence on migration. The classical illustration is provided by the outflows of population from the Brazilian Northeast where periodic droughts have caused residents to flee from the "drought polygon" as if from the plague. Climactic disasters in these instances accentuate the defects and precarious nature of the area's agricultural production. Of similar characteristics are the population movements provoked by violence

^{10/} Preliminary analysis of a study being carried out in rural areas of Chile indicates that the newly-formed agrarian production units called Centros de Reforma Agraria (CERA) have considerably lesser proportions of workers favoring migration or planning an actual move than are found on traditional fundos. (Cf. Omar Arguello - "Modernización de la estructura agraria y migraciones internas", (mimeo), Seminario Evaluación del Programa de Intercambio ECLAS-CELADE, Santiago, July, 1973.

/and civil

and civil strife in various countries of the region.

Most of the above conditions are generally aggravated by rapid population growth in rural areas. Regions of heavy out-migration are invariably characterized by strong demographic pressures which foster unemployment and underemployment within existing economic structures. That population pressures are largely defined by the nature of regional economies rather than by population size is evidenced in the lack of correlation between density and propensity to migrate. Nevertheless, all other things being equal, higher rates of population growth lead to labor excess and stimulate out-migration.

Lastly, it is worth noting that all of the previous conditions, with the possible exception of relative overpopulation, were observable long before the fairly recent rural exodus came to light. Rural facilities in health, education and welfare have long been deficient by urban standards and rural poverty is by no means a prerogative of the last few decades. Nevertheless, it is only in this latter period that they have led to mass movements. Part of the answer to differences between past and present patterns could probably be attributed to the new demographic growth rates but the principal factor possibly lies in the nature of changed rural expectations, coupled with improved transport and communications. The mass media have propagated notions of alternative life styles to heretofore isolated nuclei at a time when non-traditional options are increasingly accessible.

The several conditions classified as factors of repulsion in the dynamics of rural to urban migration are, in principle, allied to the attractive force exerted by large cities. Development strategies in past decades have allocated a greater share of social overhead and

/investment capital

investment capital to urban areas and have concentrated on raising economic production through an expansion of the industrial sector. Theoretically, emphasis on the urban-industrial sector by public and private authorities has resulted in the creation of greater job opportunities and higher wages therein. Substantial progress has in reality been registered in the secondary sector of most countries and since this has been paralleled by growth (whether productive or unproductive) in tertiary employment, the absorptive capacity of the urban-industrial sector has greatly increased. Whether or not the growth of productive employment opportunities keeps pace with the growth of the urban labor force, the fact that jobs are being created exerts a tremendous attraction on prospective migrants.

The allocation of an important share of the social overhead in urban areas has also brought about an accentuation of rural-urban imbalances in the provision of social welfare, education, recreation, health and sanitation facilities, housing subsidies and so forth. Moreover, whatever headway has been made by way of labor legislation, social protection and assistance, has been heavily concentrated in urban localities. The possibility of benefitting from several of these services (whether or not these aspirations are eventually realized), is sure to form an important part of the migrant ethos. Moreover, family and locality ties with previous migrants may help form migration chains which are partly or completely independent of specific economic purposes.

In short, the attractions which urban areas hold for potential migrants may be largely illusory. Jobs may be difficult to obtain or impermanent, levels of real income may be considerably lower than expected and moreover corroded by inflation, social security may be precarious

/and housing

and housing unavailable. The influx of migrants in itself contributes heavily to the pressure and inability of existing institutions to provide for the population. Yet, the fact remains that migrants, particularly if they come from rural areas, are apt to enjoy, on the average, superior living conditions or at least some fringe participation in urban social benefits which is sufficient to prevent massive return movements.

As convincing as the foregoing generalizations on factors of attraction and repulsion might be, it must be recalled that the actual concrete influence of structural conditions in receiving and sending areas is mediated by the values, attitudes and motivations of potential migrants. As Germani correctly points out:

"Bajo condiciones desesperadamente malas, la gente no emigra. Por otra parte, frente a situaciones más aceptables, la gente emigra. Lo que pasa es que los factores llamados objetivos se filtran a través de actitudes y decisiones de los individuos. Las decisiones impersonales no deciden la migración. Ellas son personales y condicionadas por las actitudes de los individuos." ^{11/}

Thus, the investigation of personal motivations plays an important complementary role in our understanding of migration determinants. Unfortunately, what empirical investigations have been carried out on migrant motivation have encountered serious difficulties; survey questions generally force the compression of post-hoc rationalizations or of imprecise and complex motivations which the migrants themselves may not be able to articulate, into pre-established and rigid categories.

In any case, when subjective motivations leading to the decision to migrate are investigated, the results tend to corroborate the general

^{11/} Quoted in Butterworth, op.cit., p. 87

lines suggested by the foregoing analysis of push-pull factors. Again, most of these studies have been carried out in urban destination areas but then the sampled populations necessarily include migrants originating from all types of localities. In all these studies, the motive most frequently adduced by adult migrants are "economic" or "work" reasons.^{12/} In Monterrey, more than two thirds of respondents gave work aspirations as the principal reason for moving.^{13/} In Santiago 62 per cent of males and 56 per cent of female adduced similar motives; in this survey, the interesting point is made that migrants from rural areas and smaller nuclei as well as manual workers are more likely to migrate for work reasons than non-manual workers or migrants originating in larger urban center.^{14/} In Lima, one half of male and three tenths of female migrants stated economic reasons as their motive for migrating to the Peruvian capital; again work reasons were significantly higher among manual workers and among migrants of low educational status although size of place of origin was not significantly related to motivations.^{15/}

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- ^{12/} Juan C. Elizaga, Migraciones a las Areas Metropolitanas de America Latina, CELADE, 1970, pp. 88-95.
Mario Margulis, "Análisis de un proceso migratorio rural-urbano en Argentina" Aportes N° 3, 1967, pp. 73-128.
CELADE, unpublished tabulations from survey of Metropolitan Lima (1965-1966). Harley Browning and W. Feindt - "The socio-economic context of migration to Monterrey", in Latin American Urban Annual, Vol. I.F. Rabinowitz and M. Trueblood (eds), Sage Publications, 1970 .
- ^{13/} Browning and Feindt, op.cit.
- ^{14/} Elizaga, op.cit. pp. 88-95.
- ^{15/} CELADE, op.cit.

An investigation carried out in an Argentine rural out-migration community and in Buenos Aires asked respondents a different question - why do people (in general) migrate? More than nine-tenth of respondents in both the community of origin and that of destination answered that people migrate because they're looking for work.^{16/}

In brief, there is considerable agreement on the fact that migrants consider the search for employment or for a better job as the main stimulus to migration. Secondary motives include educational needs, family problems, health and other assorted reasons. Yet these findings, although consistent from study to study are not altogether satisfactory. Aside from the aforementioned methodological problems involved in measuring motivation, it is probable that the lack of controls between migrants and non-migrants, the time lapse between the decision to migrate and the actual survey date, and, the disjunction between stated motives and the actual configuration of displacement determinants, all conspire to reduce the significance of results. Moreover, the discovery that migrants are looking for work isn't particularly discriminative since it does not differentiate between the unskilled peasant who was unable to make a living elsewhere, the university graduate coming to work in an engineering firm, the clerical worker being promoted to another city, and the teenage girl coming to look for her first paid job in domestic services.

Another approach to the investigation of migration determinants might be the analysis of factors accounting for migration selectivity. It is well known that migrants do not constitute a random sample of the population

^{16/} Margulis, op.cit.

in either sending or receiving areas and hence, by ascertaining the specific composition of migration streams we might be able to infer as to the circumstances most conducive to migration. Actually, beyond the type of findings discussed above wherein migration motives are classified according to educational or other socio-economic groupings, very few studies have explicitly attempted to relate selectivity characteristics to migration etiology. Moreover, the only selectivity generalization valid for the majority of Latin American urbanwards migration streams concern age-sex composition; young adults tend to be more mobile than the general population and females, particularly in younger ages and short-distance moves, tend to be more migratory than males. Besides from these characteristics, migrants to Latin American cities are an extremely heterogeneous group in respect to education, occupation and social characteristics and hence it is difficult to appraise the significance of these characteristics in terms of migration determinants.^{17/}

Overall, we thus find considerable consistency and complementarity between the literature on objective factors of repulsion and attraction on the one hand and studies investigating subjective motivations in the decision to migrate on the other. Nevertheless, existing generalizations are, to some extent, sweeping and self-evident. True, it is possible to find instances of more penetrating analyses of migration factors in specific local circumstances and it would seem that this type of analysis linking objective conditions in receiving and sending areas to individual motivation within the broader processes of national and regional development holds most promise for future investigations. To improve on

^{17/} For a review of existing generalizations with respect to migrant characteristics, cf. Harley Browning - "Migrant selectivity and the growth of large cities in developing societies", in Rapid Population Growth, Baltimore, The John Hopkins press, 1971. pp.273-314.

existing broad generalizations, however, is somewhat more problematic if we consider that urbanwards migration streams contain a wide range of social types who vary not only in terms of their migration experiences but in terms of their socialization and pre-migration status.

III. SOCIAL AND ECONOMIC PROCESSES AFFECTING FERTILITY CHANGE IN LATIN AMERICA

1. Introduction

The fertility experience of Latin American countries over the recent period shows considerable heterogeneity in both levels and trends. On the whole, fertility rates remain very high but recent studies have made much of the fact that, after long periods of high and even rising birth rates, a slight decline has been registered in approximately half of the countries in the region. (Cf. Figure 1). The significance of the decline lies not in its magnitude but in the probability that it is the precursor of a more sizeable and continuous descent. Further, available information would seem to indicate that the declines are not simply attributable to the effect of changing age and sex distributions, but rather to a modification of fertility-related knowledge, attitudes and practices in given socio-economic groups. The object of this section will be to summarize existing information on the influence which socio-economic factors exert on fertility levels, trends and differentials in Latin America.

2. Organizational Framework

Despite a plethora of recent studies oriented to the explanation of fertility determinants, it is a fair statement that a clearly-defined theoretical framework within which to outline the important socio-economic processes influencing fertility in Latin America has yet to be formulated.

/In its

In its absence, it will be expedient to utilize a simple organizational framework within which salient factors can be discussed. Underlying this framework is the assumption that social and economic forces do not directly affect the biological processes of reproduction but rather act upon a set of variables which determine the risk of exposure at each of the stages in biological reproduction -- sexual relations, conception, gestation and parturition.^{18/} In this light, the examination of how social and economic processes in Latin America affect fertility levels, trends and differentials thus requires analysis of the effect of these processes on the intermediate variables within the specific historical experiences of the countries.

Following established practice, the intermediate variables can initially be separated into: a) those involving nuptiality; and, b) those that affect fertility within unions. Although the forces that act on both sets of variables might be similar, the distinction between them is still justifiable since the manner of their action on the two sets of variables is different. Moreover, at the individual level, the decision to form a union, whether made by the couple or the parents, is not usually made only on the basis of future childbearing perspectives,

^{18/} The set of eleven intermediate variables were originally formulated in a classic paper by Judith Blake and Kingsley Davis - "Social structure and fertility; an analytical framework", Economic Development and Culture Change, Vol. IV, N°3 April, 1956.

/Figure 1

1910 1915 1920 1925 1930 1935 1940 1945 1950 1955 1960 1965 1970

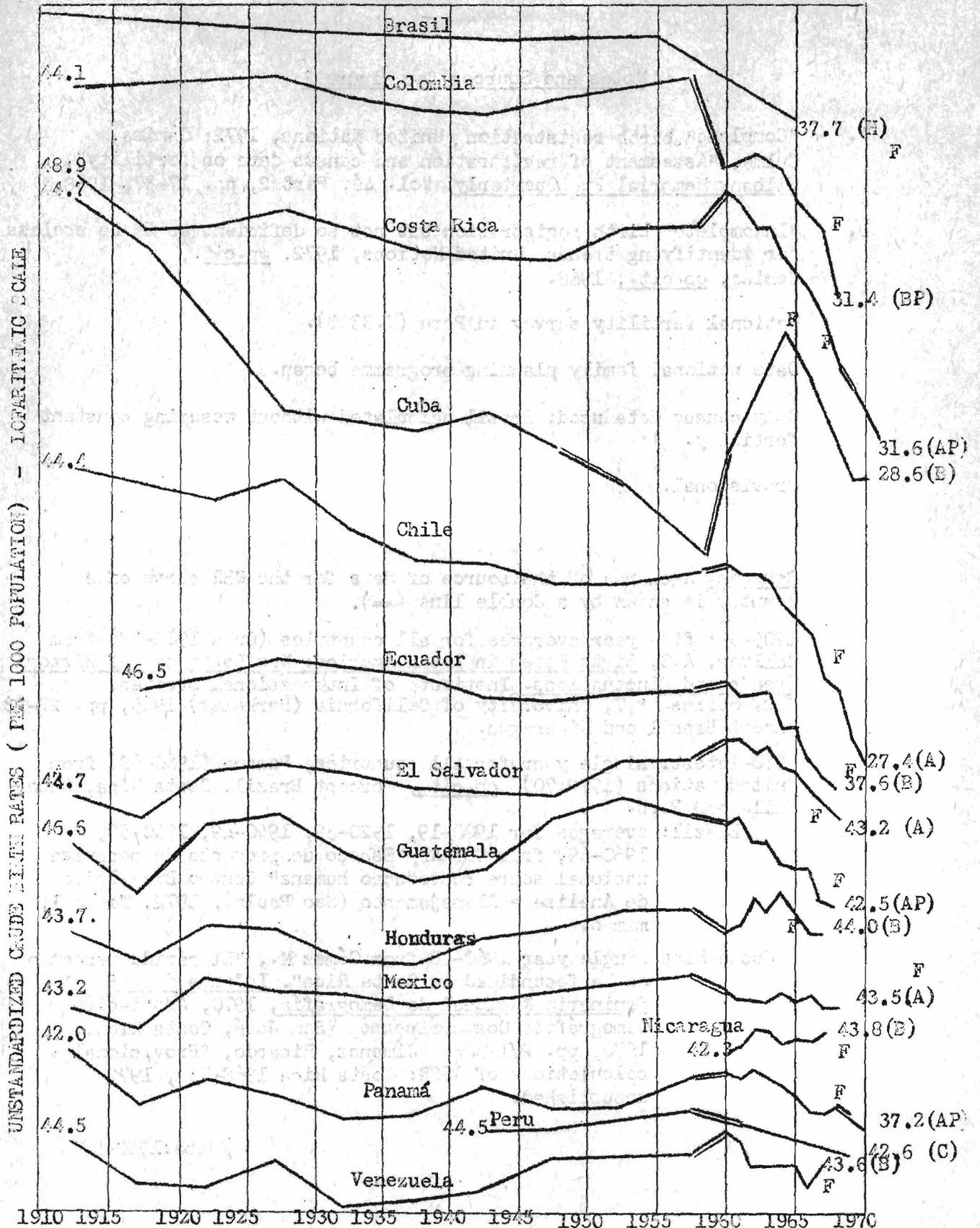


FIGURE 1. UNSTANDARDIZED CRUDE BIRTH TRENDS IN SELECTED LATIN AMERICAN COUNTRIES, 1910-1970

The CERS are shown for the first and last point on each curve; the symbols in parenthesis refer to the 1960-70 data quality. P - last CER is provisional. F - approx. date when national family planning began. See notes and sources for Figure 1.

Notes and

Notes and Sources for Figure 1

- A. "Complete" birth registration, United Nations, 1972; Camisa, Zulma, "Assesment of registration and census data on fertility", Milbank Memorial Fund Quarterly, Vol. 46, Part 2, pp. 17-37, 1968.
- B. "Incomplete" birth registration but not so deficient as to be useless for identifying trends, United Nations, 1972. op.cit., Camisa, op.cit., 1968.
- C. National fertility survey in Peru (N.3300).
- F. Date national family planning programme began.
- H. Only census data used; Brazil calculated without assuming constant fertility.
- P. Provisional.

Graph 1

Sources. A change of the source of data for the CBR curve of a country is shown by a double line (==).

1905-59: five year averages for all countries (Cuba 1905-49) from Collver, A.O, Birth Rates in Latin America: New Estimates of Historical Trends and Fluctuations. Institute of International Studies, Res. Series N° 7, University of California (Berkeley) 1965, pp. 27-28, except Brazil and Nicaragua.

1960-latest: single year for all countries, Panama (1960-68) from United Nations (1972:70) op.cit., except Brazil, Costa Rica, Cuba, Chile and Peru.

Brazil: averages for 1900-19, 1920-39, 1940-49, 1950-59, 1960-69, from CEBRAP, "Esboço de proyecto da pesquisa nacional sobre reproducao humana" Centro Brasileiro de Analise e Planejamento (São Paulo), 1972, Table 1, mimeo.

Costa Rica: single year 1960-68 from Gómez M., "EL rápido descenso de la fecundidad en Costa Rica", Informe del 5° Seminario Nacional de Demografía, 1970, Asociación Demográfica Costarricense. (San José, Costa Rica), 1970, pp. 271-308. Jiménez, Ricardo, "Provisional calculations of ASFR: Costa Rica 1968-71", 1972 unpublished.

/Cuba:1950-59

Cuba: 1950-59 five year averages from Miró, Carmen, "The Population of 20th Century Latin America", in Population Dilemma in Latin America, Stycos J. and Arias, J. (eds.) Pctomac Books, Washington, 1966, p.5. and single year 1960-70 from Cuba, Unpublished Report from Dirección de Estadística, Ministerio de Salud Pública, 1972.

Chile: single year 1960-70 from Zubicueta, S., "Chile: XIV Censo de Población de 1970. Evaluación y Ajuste y Proyecciones de Población 1970-2000 en base a la muestra de adelanto de cifras, CELADE, 1971, Table 34.

Panama: single year 1969-70 calculated from ASFR, Mascarín, F. "Calculations for Panama using 1970 census", CELADE, Santiago, 1972, unpublished. and provisional results of 1970 Census.

even though marriage and childbearing are intertwined.

It is convenient to separate further the intermediate variables relevant within unions into two additional categories: b1) those that are involuntary and primarily health-related such as spontaneous abortion or involuntary infecundity; and, b2) those which involve some conscious action to control childbearing such as contraception or induced abortion. This analytical separation of the intermediate variables into a total of three sets allows the net effect of historical societal processes on the fertility of groups to be systematically analyzed through a consideration of the effects of these processes on each of the sets of intermediate variables.

Since the societal processes affecting the level of conscious control of fertility must operate through the actions of individuals or couples it is logical to consider the processes in terms of their effect on the preconditions required for control by individuals. These preconditions may be defined as involving the motivation, instrumental capacity and legitimacy for controlling family size. The degree to which groups within societies attempt to control their fertility depends on the level of all of these preconditions.

Utilizing this organizational framework, the following sections discuss research and hypotheses that consider the social and economic processes affecting the three sets of intermediate variables. It should be noted that neither the framework nor the discussion that follows attempt to explain the socio-economic processes in a historical and structural context, since that would require a theory which has not yet been formulated. It is expected, however, that when theoretical developments permit explanations for various countries of Latin America, the organizational framework will permit the connection of the more

/abstract theoretical

abstract theoretical concepts to specific phenomena concerning fertility.

Since observed fertility differentials and changes in fertility levels result from the net and sometimes countervailing effects of social and economic processes on fertility determinants, the relative importance of the changes in the determinants on the resultant fertility levels is not directly treated.

3. Nuptiality Determinants of Fertility

A. Nuptiality and Fertility

The fertility level of a society or social group at any given time is a function of the number of births per women in marital unions and of the proportion of all women in the childbearing ages living in such unions. Although Latin American data on union formation are rather sketchy, it is beyond doubt that for the purposes of investigating fertility trends in this region, the term "marital union" should include not only institutionalized unions but also common-law relationships. In addition other types of relatively permanent or otherwise relevant non-cohabiting unions are sure to be of significance but since their prevalence and effect are largely unknown we will be concerned primarily with cohabiting unions in this context.

The importance of distinguishing the nuptiality component of overall fertility from marital fertility is illustrated by Collver's calculation that the level of fertility in Latin America around 1960 remained at about half the biological maximum through women being single, separated, widowed or divorced. ^{19/} Furthermore, changes in nuptiality-related intermediate variables may act on fertility in the same directions as marital fertility

^{19/} Collver, 1965 op.cit., p. 47

determinants or they may act in opposed directions. For example, during the 1960's both a decrease in the nuptiality rate and a decrease in marital fertility contributed to falling-overall fertility in Costa Rica,^{20/} while in Chile the crude nuptiality rate may have been going up from 1962 to 1965 just as various fertility measures were indicating the start of a long decline.^{21/}

Unfortunately, relatively little attention has been devoted to the study of nuptiality in Latin America. In part, this is due to the fact that a large proportion of women do not live in legal unions. By definition, they are not recorded in marriage registers and, on censuses, they are often reported as never-mated, particularly when they are separated. (For these reasons authors such as Dixon,^{22/} exclude Latin American countries from explanatory comparative studies of nuptiality). Consequently, trends in nuptiality and their effect on fertility are difficult to obtain in many countries although some work on nuptiality trends has been done by Gamisa^{23/} and Arretx^{24/} who analyzed data from the 1950 and 1960 censuses.

^{20/} Gómez, op.cit. p. 298-299

^{21/} F. Flores, Estudio de la nupcialidad en Chile: Análisis en el tiempo y en el espacio, CELADE (Santiago) 1972, typed.

^{22/} R. Dixon, "Explaining cross - Cultural variations in age at marriage and proportions never marrying", Population Studies, 1971, Vol. 25, pp. 215-233.

^{23/} Z. Gamisa, La nupcialidad femenina en América Latina durante el período intercensal 1950-1960, CELADE, AS/10 (San Jose, Costa Rica) 1971.

^{24/} C. Arretx, "Nuptiality in Latin America", Proceedings of General Conference of IUSSP, London, 1969, Vol. 3

Campanario used these data to calculate indices which separate the overall fertility trends based on all women into nuptiality and marital fertility components. His data show, for example, that while fertility within unions decreased slightly in Brazil between 1940 and 1950, nuptiality changes acted in the opposite direction.^{25/}

Some research has been conducted into types of unions and their effect on fertility primarily in the English speaking Caribbean,^{26/} These studies, have tended to find that the more stable the union the higher the fertility; that is, legal unions have the highest fertility followed by consensual and then visiting unions, the last being a union without cohabitation.^{27/} In Latin America, although Yaukey, Thorsen and Onaka,^{28/} using data from seven metropolitan areas,^{29/} found that women in consensual unions lost far more time through separations than those in legal unions, the differentials between the types of union varied in direction from

- ^{25/} P. Campanario, "Factores que influyen en la fecundidad: los factores Maltusiano y Neomaltusiano", Serie C/142 - CELADE (Santiago) 1972.
- ^{26/} W. Mertens, "Investigación sobre la fecundidad y la planificación familiar en América Latina", Proc. of the Latin American Regional Conference, 1970, Vol. 1 (Colegio de Mexico): 193-235. For a summary cf. pp 200-202.
- ^{27/} G.W. Roberts, "Fertility in some Caribbean Countries", Proc. of the General Conference of the IUSSP, London 1969.
- ^{28/} D. Yaukey, T. Thorsen and A.T. Onaka, "Marriage at an earlier than ideal age in six Latin American cities", Population Studies, Vol. 26-2 pp. 263-272. 1972.
- ^{29/} A. Conning, (Encuestas comparativas de fecundidad en América Latina: Algunos aspectos metodológicos; Document presented to the 24th Annual Reunion of the Sociedade Brasileira para o Progreso de Ciencia, Sao Paulo, 1972.) provides a description of these data.

/city to

city to city.^{30/} Generally women in consensual unions tended to have higher fertility than the legally-married in cities in which the consensually-mated formed a high percentage of the total mated population. Miró and Mertens,^{31/} however, warn against concluding too much without more precise and sophisticated surveys. It should also be noted that care must be exercised in studying fertility by type of present union since consensual unions tend to be legalized as women get older and this may affect fertility levels apparently associated with legal unions.^{32/} In surveys in the rural and small urban areas^{33/} unpublished tabulations at CERIADE also show that a large percentage of women in a second union are those who continued to live with the same husband but changed to a legal union.

B. Socio-Economic Processes Affecting Nuptiality.

There is a general lack of explanatory research on nuptiality.^{34/} In Latin America, the lack of data and descriptive analyses of nuptiality is naturally accompanied by a general lack of research on the socio-economic factors and processes generating the mating patterns and changes in them.

Some research has been devoted to age at first union differentials; for example, Yaukey, Thorson and Onaka found that more educated women

^{30/} C. Miró and W. Mertens. "Influences Affecting Fertility in Urban and Rural Latin America", Milbank Memorial Fund Quarterly, 1968. Vol. XLVI-3 Part 2, pp. 89-117.

^{31/} Ibid, p. 102.

^{32/} W. Mertens op.cit. p. 201

^{33/} These data are described in Conning, 1972. op.cit.

^{34/} J. Heeren, "Marriage as a Demographic Variable", Proceedings of the General Conference of the IUSSP, Liege 1973, pp. 9-17.
Hawthorn, Geoffrey, The Sociology of Fertility, Collier-McMillan, London 1970.

in the seven city PECFAL-Urban surveys tended to have higher ages of first union and then attempted to explain, without much success, real ages of marriage in terms of women's ideal ages of marriage.^{35/} At the aggregate level, Collver has argued that economic conditions during the first half of the 20th Century led to differences in marriage rates in many Latin American countries which in turn caused fluctuations in the birth rate. Furthermore, he found circumstantial evidence to support the argument that the countries more dependent on exports and foreign capital suffered greater declines in their crude birth rates during the 1930's Great Depression, presumably because of the effect on nuptiality rates.^{36/} Flores found that marriage rates and inflation rates in Chile seem to vary together and that there was a clear correlation with important political events like presidential elections but he did not attempt to explain the relationships in detail.^{37/} There appears to be some evidence that the marriage rate increased after the Cuban Revolution in 1959 which, in part, may have accounted for the large increase in the previously falling crude birth rate. It went from around 27 per 1000 in 1958 to about 37 in 1962. In part, both the birth rate and the marriage rate changes were probably related to increases in the welfare of the majority of the population over the same period as total employment increased by a large percentage,

^{35/} Yaukey et al 1972. op.cit.

^{36/} Collver, 1965 op.cit. p. 33-36 and A.O. Collver, "Current trends and differentials in fertility as revealed by official data"; Milbank Memorial Fund Quarterly, XLVI, Part 2: p.42. 1968

^{37/} F. Flores op.cit. Estudio de la nupcialidad en Chile: Análisis en el tiempo y en el espacio, CELADE (Santiago), 1972. Typed.

urban rents were cut by half and various other similar measures were put into practice; when economic conditions began to get more difficult in 1962, the birth rate began to fall again^{38/}.

More research must be devoted to the study of nuptiality with the emphasis put both on more adequate measurement of levels and trends and on the study of factors affecting these trends. Because postponement of marriage (i.e. changing the age of marriage) in response to or in anticipation of, specific economic or social conditions is possible without changing underlying factors, it is important to try to distinguish short term from long term trends. One would expect that higher levels of formal schooling and adult education, increasing political awareness and participation, changes in the levels and distribution of income, more efficient birth control methods (decreasing forced unions due to pre-marital pregnancy), increasing labor force participation by unmarried women as well as their participation in higher status jobs and, in general, changes in the roles and status of women, all will lead to long-term higher ages of first union in these groups which now have relatively low ages of first union.

4. Marital Fertility Determinants

A. Bio-health and Conscious-control Variables .

In accordance with the organizational framework proposed earlier, we shall now focus on marital fertility (that is, fertility within legal or consensual unions) to the exclusion of nuptiality-related considerations.

^{38/} Barent Landstreet, Jr., "Marxists", in Ideology, Faith and Family Planning in Latin America, J.M. Stycos (ed.) Mc Graw Hill (New York). 1971.

To this purpose, one could simply try to ascertain the effect of socio-economic factors on marital fertility itself, but, as argued previously, such an approach makes explanatory analysis imprecise since the social and economic processes do not affect fertility directly but rather through their influence on the intermediate variables.

Concentrating on the explanation of the intermediate variables rather than on marital fertility itself is important for two reasons. First, a large percentage of the variance in fertility levels among individuals may be accounted for by biological and accidental factors making it difficult to study the direct effects of complex social changes on fertility, particularly at the individual level.^{39/} Second, an alternative approach might lead to the conclusion that certain social or economic changes are not affecting fertility when, in fact, they are differentially affecting distinct intermediate variables or otherwise cancelling each other out. For example, a change in the economic level of a social group might lead to a decrease in the rate of spontaneous abortion thereby exerting a positive influence on the fertility rate^{40/} but at the same time it could also result in more extensive use of contraception and thus to lower fertility. Conceivably, the net outcome of these contradictory influences on fertility might be zero, at least in initial stages of the transformation.

^{39/} P.C. Sagi and C.F. Westoff, "An Exercise in Partitioning some components of the Variance of Family Size"; Emerging Trends in Population Research, Milbank Memorial Fund Quarterly, 1963, pp 130-140.

^{40/} F. Flores, Efectos de los cambios de la mortalidad sobre la fecundidad aplicación de un modelo de simulación; CELADE (Santiago) 1971. To be published by CELADE.

As indicated in the outline of the organizational framework, it is convenient to subdivide the intermediate variables acting within unions into two general categories: the bio-health variables including abstinence for reasons of illness, involuntary infecundity and spontaneous abortion; and the conscious-control variables^{41/} comprising abstinence such as in the rhythm method of control, contraception, sterilization for reasons of birth control and induced abortion.^{42/} Whether a given action is placed in one category, rather than the other, may depend on the circumstances. Prolonged lactation may exist in a society for reasons other than birth control in which case it would be considered as temporary "involuntary" infecundity; if used to avoid pregnancy it would be considered as a conscious measure to reduce fertility. The application of the bio-health vs. conscious action distinction to certain concrete situations might be problematic but it remains a useful analytic distinction. Variations in the bio-health variables account for differences in levels of "natural" fertility and also in populations which have only recently begun to exert some form of birth control. The conscious action variables are more sensitive to socio-economic change and satisfactorily account for past fertility declines.

B. Uncontrolled ("Natural") Marital Fertility

For reasons outlined earlier, information on marital fertility levels in Latin America is deficient, particularly with respect to specific

^{41/} Despite its awkwardness, this term is preferred over "voluntary control" to avoid the ambiguities of the latter.

^{42/} Coital frequency has not been included in either of the two categories because of inadequate information.

sub-groups within countries. Nevertheless, it is reasonable to assume that these levels are high in most countries since national rates (which include all women in childbearing ages) are generally elevated.^{43/} In addition, it is highly probable that in most countries, even those with intermediate fertility levels, high-fertility subgroups of substantial proportions will be found. Hence, analysis of the socio-economic factors affecting marital fertility must be preceded by a consideration of uncontrolled or "natural" fertility; this has been defined by Henry as that which exists in unions wherein reproductive behaviour is not altered by the number of children already borne.^{44/} By definition, conscious control actions are not practiced in natural fertility populations. Because natural fertility is the result not only of inherent biological levels of fecundity but also of the biological effects of socially-determined variables such as health and nutrition^{45/} and of the unintentional fertility reduction practices of a population, it is understandable that natural fertility levels have been found to vary from society to society. However, while there is variation in the level, the age-specific rate schedules tend to have a form which is independent of the level.^{46/}

^{43/} A.M. Conning, "Latin American Fertility Trends and Influencing Factors"; Proc. of the General Conference of the IUSSP, Liege 1973, pp. 125-147.

^{44/} L. Henry, "Some data on natural fertility", Eugenics Quarterly, Vol. 8, N°2, 1961.

^{45/} J. Sheps, M. Ridley, et al, "The Effects of Changing Mortality on Natality", Milbank Memorial Fund Quarterly, XLV-1:77-97. 1967

^{46/} Thomas Espenshade, "A New Method for Estimating the Level of National Fertility in Population Practicing Birth Control"; Demography, Vol. 8-4, pp. 525-536, 1971.

Recognition of the theoretical and empirical importance of natural fertility is quite recent and thus few attempts have been made at uncovering levels and differentials in Latin American natural fertility. This undoubtedly constitutes an important area for future research and may lead to the discovery of previously unobserved control practices. The point is of some importance since investigators have a tendency to presume that substantial majorities of the population had never known or practiced any form of birth control prior to the advent of modern contraceptive methods. Yet, since anthropologists suggest that nearly all primitive groups understand the interrelation between sexual intercourse and childbearing,^{47/} it is difficult to accept a priori that methods such as abortion or withdrawal were unknown to most Latin American populations, even if they were not normally practiced or practiced inefficiently. Evidence of differential natural fertility levels in otherwise similar populations might indicate the existence of control practices and of basic motivation to fertility regulation.

C. The Control of Marital Fertility.

1) Fertility differential and fertility decline

The prevalence of fertility differentials in many Latin American cities and to a lesser extent, in some rural areas, suggest that certain sectors of the population in most countries of the region may be exerting some control over fertility.^{48/} Verification of differentials, however, is

^{47/} G. Hawthorne, The Sociology of Fertility, Collier-Macmillan, London 1970. op.cit. p.38.

^{48/} Cf. for example, the tables in Mertens op.cit. for contraceptive use and, E. Carrasco ("Incidence of Abortion, Fertility and Contraception in Latin America", Proceedings of the General Conference of the IUSSP Liege, 1973,) for more limited data on abortion.

only a starting point in understanding patterns and changes in fertility. Further progress requires elucidation of the macro-level socio-economic changes that are producing the differentials and of the social-psychological mechanisms through which particular factors act within specific historical conditions. In succeeding paragraphs, we will be examining the socio-economic processes and the mechanisms altering the intermediate variables that involve conscious action, namely, contraception, induced abortion, sterilization and voluntary abstinence.

We do not expect to find universal laws that explain changing levels in the conscious-control of fertility under all circumstances. Certainly, strong generalizations have not yet been found to explain the various European transitions from high to low marital fertility.^{49/} The relevant variables and the processes changing them, appear to vary with the historical conditions. Furthermore, the specific workings of the factors may depend on the forms of social organization. Education in a socialist society such as Cuba is likely to have different implications from education in a society such as the Dominican Republic. Even if education affects fertility in both, the nature of education and the explanation of how it acts are likely to be very different in each of these societies.

While these problems limit the ability to make generalizations without an underlying theoretical framework, they do not make it impossible to define a simple paradigm which sets out the basic pre-conditions that are necessary for fertility control. The pre-conditions allow the known information to be organized and suggest research that is likely to be useful for any theoretical framework that may be developed

^{49/} See, for instance, E. Van de Walle, and J. Knodel, "Demographic Transition and Fertility Decline: The European Case"; Proc. of the IUSSP Conference, 1967:47.

in the future. A consideration of the preconditions also permits a systematic review of the socio-economic processes affecting the conscious control determinants of marital fertility.

2) Pre-conditions for marital fertility control

We begin with the assumption that a significant and permanent change in the marital fertility of a group from natural fertility to some lower value normally requires some form of conscious effort by individuals or couples, however, confused, ambiguous or uncertain the effort. This is true whether coitus dependent or coitus independent methods of control are used although the latter would seem to require less constant motivation. Whatever the method, at least at present, the individual or the couple must take some form of conscious action. The fact that they take such an action means that there are certain pre-conditions or pre-requisites that must exist at the individual level and that these must be fairly widespread in a group if its fertility level is to change. Hence, our interest is in defining the necessary societal conditions that must be present if significant numbers of individuals are consciously to regulate their fertility.

The logical pre-conditions for controlling fertility, which have been stated implicitly by many authors, have been explicitly specified recently, in whole or part, by various authors.^{50/} It seems most

^{50/} R.O. Carleton, Aspectos metodológicos y sociológicos de la fecundidad humana, CELADE Santiago, Serie E/7, 1970.

B.C. Rosen and A.B. Simmons "Industrialization, Family and Fertility: A Structural Psychological Analysis of the Brazilian Case"; *Demography*, 8:49-69, 1971.

A.B. Simmons "Social Economic Factors Influencing Fertility in Latin America"; Working Paper written at CELADE (Santiago), typewritten. 1973a.

A.B. Simmons, "Ambivalencia en la preferencia por familias chicas en América Latina Rural"; CELADE, SIEF Document A1/P1 (S/101/32/73) 1973b.

A. Coale, "The Demographic Transition Reconsidered", Proc. of General Conference of the IUSSP, Liege 1973, pp. 53-72.

convenient to define three preconditions:

Motivation: Controlling fertility must be seen as advantageous by individual couples although the exact motivation may not be entirely clear to the individuals. It has been noted that the changes in motivation may be in direction or intensity or both.

Capacity: The techniques of control must be available, must be known to individuals and they must have the capacity to utilize them. This implies more than just technical capacity; for example, it may require communication between spouses that allows them to identify common motivation and to arrange for the proper use of control.

Legitimacy: Control of fertility must be "within the calculus of conscious choice". This is different from motivation for control, since a couple may feel it has good reasons for not having additional children but may feel that they have no right to interfere with natural processes or must accept fatalistically whatever occurs.

3) The existence and extent of the preconditions in Latin America

All three conditions are necessary for fertility control to take place. However, in societies or groups not controlling their fertility, one or two of these preconditions may be present. Determination of the existence of these preconditions in predominantly non-controlling populations is necessary to understand the movement of groups toward control as socio-economic forces create or retard the remaining preconditions.

/To some

To some extent these preconditions may now exist in all the Latin American societies among certain groups in the larger cities and to a much more limited extent in some rural areas. Review of the indicators of the preconditions seem to indicate that in many of the countries the motivation and capacity preconditions are not widespread. However, the data on instrumental capacity, particularly knowledge of contraceptive methods, has normally been obtained from female respondents and this may underestimate the real knowledge available to couples because men may know more or be more willing to indicate their knowledge. Measures such as family size preferences on the other hand, may overestimate motivation since most of the surveys from which such information has been obtained, tend to presume a clear conception of family size by the respondent and therefore force a single numerical response. In fact, there is evidence to suggest that respondents, at least in rural areas, may often have ambivalent feelings toward both large and small families even when they have a predilection towards one of these.^{51/}

^{51/} A.B. Simmons, 1973b (op.cit.).

5. Societal Processes Affecting the Preconditions for Marital Fertility Control

A. Methodological Considerations

Given underlying differences in social systems and historical antecedents, it is highly unlikely that any set of socio-economic factors is having the same influence over the preconditions in each of the Latin American countries. Hence, there is little point in listing here those variables which have been found to be related with motivation, capacity, legitimacy or fertility. Rather, we will outline briefly some important socio-economic processes^{52/} that are taking place in many Latin American societies and which appear to be affecting one or more of the preconditions.^{53/} Although each precondition is treated separately here, a more sophisticated treatment would attempt to account for their interrelated effects.

Within individual societies, a process, if it is occurring, will take on some "unique" characteristics resulting from the interaction with the particular characteristics and conditions present in each society. This means that the same general process may influence the preconditions through different mechanisms and to a different degree in each society. Moreover, it should be noted that although the dynamic notion of process implied here requires empirical evidence from longitudinal studies, the available

^{52/} The word "process" is being used in a dynamic rather than static sense. In the latter use of the word, process refers to a chain of interrelated events which repeats itself indefinitely without changing characteristics - in that sense the normal biological process of reproduction from conception to parturition is a static process. Here, process is used in the dynamic sense of interrelated changes that bring about a permanent alteration of the society.

^{53/} Some of the ideas presented here were developed during the first Research Training Seminar held at CELADE, Santiago, Chile, Sept. 1972 through Feb. 1973.

materials are from cross-sectional investigations. While some studies may arrive at some approximation of a causal chain, it should be remembered that most of the evidence comes from studies of differentials; these studies normally do not distinguish between the possibility that a given variable "causes" the differential and the possibility that the differential was caused by another factor or existed previously.

B. Processes Affecting Motivation

Defining a number of important societal processes that appear to affect the motivation to control fertility is more difficult than defining the processes affecting the capacity to control. The latter while encompassing more than simple technical knowledge is still relatively specific in content while the motivational aspects are not. Furthermore, the processes influencing motivation are more closely related to the social and economic organization of the individual societies and the complex forces that may be reshaping their structures.

Yet another complication in defining the processes affecting motivation is that the social relationships within communities and societies are such that the processes that initiated the changes in motivation may cease to be important as the processes affect greater segments of the population and certain aspects of behaviour come to be guided by new norms affecting everyone. For example, educational differentials in motivational levels are fairly systematic, with the more educated having higher aspirations for children.^{54/} But as larger proportions of the

^{54/} J. De Jong, "Aceptación de cambios en la posición de la mujer: su valor explicativo en relación a las actitudes hacia la fecundidad"; Documento del primer Seminario SIEF (Al/P4), CELADE (Santiago), 1973. Mimeographed.

society adopt these aspirations, they become normative and the educational differential decreases because almost all persons have high aspirations. Thus, processes changing motivation can, paradoxically, eventually influence groups that are not directly affected.

Our list of processes does not directly include two widely-discussed factors - education and urbanization. Increases in education may be viewed in a limited sense as an increase in the average number of years of formal schooling and, in a broader sense, wherein all new learning situations constitute increases in education whether they come from formal schooling, the mass media, or contact with other communities (particularly in the case of rural groups). Taking education in the wider sense, we have subsumed it under a number of more general processes in which education plays an important role. This not only seems to put the importance of education in perspective, but helps warn against oversimplifications to the effect that changing education per se will heighten motivation and therefore reduce fertility levels.^{55/} While an increase in the level of formal education is not considered a process because it is too specific, urbanization as a process is not singled out because it is too general and ambiguous. However, various aspects of urbanization such as rural-urban migration are involved in several of the processes outlined.

The following would appear to be among the more relevant processes in this context:

^{55/} The methodological error in such reasoning is that cross-sectional educational differentials do not necessarily imply that an increase in educational levels over time will lead to a fertility decrease.

1) Changes in the economy and/or increases in per capita income and services

Among the more common changes in an economy that effect motivation toward fertility regulation are those that result from industrialization. It normally reduces the percentage of the population in agricultural activities and is accompanied by urbanwards migrations from higher-fertility rural areas. One would expect those men or women who enter factories or commercial establishments to be more likely to adopt urban norms. Since they enter a situation in which education is a requirement for upward movement, they may change their aspirations for their children. Rosen and Simmons^{56/} argue that education and work opportunities for women arising from industrialization may lead to smaller family size preferences. However, since industrialization in Latin America has not been able to absorb all the migrants who leave the rural areas, many men and women enter the miscellaneous or domestic service sector: these groups are less likely to adopt urban normative patterns, including those related to fertility.

Changes in the economy may lead to growth in per capita income which, in turn, may improve general welfare if the increases are distributed throughout the population. This, in turn, could raise the number of surviving children and, therefore, decrease motivation for unlimited childbearing. Most of the countries which appear to have had fertility declines since 1960 had relatively large increases in per capita income between 1960 and 1970. It should be noted however, that many countries with apparently stable fertility also tended to have important increases in national per capita income suggesting such overall changes are not sufficient in

^{56/} Rosen and Simmons, op. cit.

/themselves.^{57/} Whether

themselves.^{57/} Whether an examination of the distribution of the increased income would account for this observation remains to be examined.

Extension of basic services to larger segments of the population may affect motivation since they change both the importance of children to the family economy and tend to increase the costs to the family. This is particularly true in the case of the extension of education which keeps children out of the labor force for longer periods. Moreover, higher educational levels may bring on higher socio-economic aspirations and thus greater fertility control motivation.

2. The diffusion of new styles of life with a consumer orientation

This may accompany economic development although the objective conditions of the general population may change very little in situations where there is little redistribution of income or sharing in the benefits of development. Nonetheless, there are observed changes in levels of aspiration for children even when the probabilities of achieving them are limited. In the rural areas of Costa Rica, almost all of the currently mated women living in good housing conditions and with husbands working in non-agricultural occupations want their children to reach secondary school or higher, while a lower but still high 79 percent living in the poorest housing conditions with husbands in agriculture wanted the same. Not unexpectedly in Peru and Mexico, all of the women living in the best conditions had high aspirations for their children but the percentages were only 67 and 56 in the two countries for those who live in poor agricultural situations.^{58/}

57/ Conning 1973, op. cit.

58/ J. De Jong, "Hallazgos provenientes de PECFAL-Rural"; Working Paper written at CELADE (Santiago), 1973a. Typewritten.

3) Changes in family structure and in the family's relation to the national society

As the economy changes, the family as an institution becomes increasingly specialized with production activities being progressively separated from consumption. As a consequence, children are less available for economically productive work, in part because higher levels of education are required and aspired to. Hence, the valorative nature of children is altered. The need for achievement outside the family is increased while the children's economic value for the parents diminishes. This effect is more rapidly felt by families in urban areas and by those from the middle social strata. The changing value of children to the family economy probably accounts for the fact that roughly 50 percent of the FECFAL-Rural sample in 1969-70 felt that having a small family was economically advantageous, while an equal percentage felt that this was also a value of a large family (although only 18 percent thought it a disadvantage of a small family).^{59/} These findings are not necessarily contradictory since one may see similar advantages and disadvantages of small and large families particularly when the situation in which families exist are changing.

4) Changes in the roles and status of women

Changes in the roles of women and their status both inside and outside the family have been hypothesized as affecting motivation toward controlling family size. The process through which this occurs may involve role-incompatibility primarily because of the conflict between household responsibilities and employment but also because political participation

^{59/} Simmons 1973 b, op. cit.

or other activities require more time outside the homes. External work may not only result in role incompatibility but it may also increase the level of interest in non-familiar activities lowering the motivation for children. Finally, the active incorporation of women in non-domestic activities which directly affects only a portion of the women of a country or community, may affect others who do not work but, who through communication with those that do, or through changes in basic norms, are nevertheless influenced.

Although changes in the roles and status of women do not operate only through increasing work opportunities for women and increasing levels of education, these trends are fundamental as has been shown in part by Rosen and Simmons.^{60/} Hass using data from seven metropolitan areas also found that characteristics of the city were important in determining the effect of role incompatibility on fertility and contraception.^{61/} She found the effect strongest when fertility was declining and where non-domestic activities were approved. Incompatibility was not related to fertility in cities where fertility was very high or very low.

5) Mass Mobilization

It has been suggested that political mobilization and organization may affect reproductive behaviour. This hypothesis has yet little evidence

^{60/} Rosen and Simmons, op. cit.

^{61/} Paula Hass, Maternal Employment and Fertility in Metropolitan Latin America. Unpublished Ph.D. dissertation. Duke University, 1971, p. 315-317.

to support it but various authors have proposed it from a theoretical point of view.^{62/} In part, it might be argued that political mobilization directed toward a socialist society places less emphasis on the family and more on the society thereby lowering personal motivation for large numbers of children. González and Errázuriz have also suggested that the particular form of mobilization of the different political parties in Chile should have differing effects on the motivation of women to control family size in shantytowns.^{63/}

Future studies of Chile may be able to show that the fertility decline beginning in the early 1960's - a decline from intermediate levels of fertility achieved and maintained from the 1930's to around 1960 - resulted from the same factors that first brought a center-left Christian Democratic Government (1964-70) and then a Marxist Government (1970-76) into power. Both may be related to changes that increased political awareness and the altered aspirations of the mass of the population. The study of the effects of the policies of the Marxist Government on the proconditions and on marital fertility (as well as on nuptiality) will have to take into account not only the changes in political mobilization but also the short term effects of the 1970-71 redistribution of income and the 1972-73 economic difficulties.

^{62/} ECLA, "Population and Modernization in Latin America", prepared by the Economic Commission for Latin America for the United Nations Symposium on Population and Development (Cairo), 1973; J. Duque and E. Pastrana, Las estrategias de supervivencia económica del sector popular urbano; ELAS-FLACSO, 1973.

^{63/} G. González and M.M. Errázuriz, The Marginal Family: Social Change and Women's Contraceptive Behavior. Document prepared for the Congress of Anthropological and Ethnological Sciences (CELADE), 1973. Manuscript.

C. Processes Affecting the Capacity to Control Marital Fertility

The capacity to control fertility and the level of effectiveness, whether it be through contraception, rhythm, sterilization or abortion, has three important dimensions: 1) technical knowledge, where relevant, knowledge concerning where and how to obtain information on access to means; 2) access to the means, if required; 3) social knowledge, that is, the capacity to utilize both the information and the means to achieve the desired end. The third dimension may involve the ability to act upon the likely consequences of actions, to communicate and cooperate with one's spouse, or simply to carry out instructions.^{64/}

As will be clear when outlining processes tending to change levels on these dimensions, a person's or a group's capacity is to a great extent dependent upon location in the social structure. The access to mechanical or chemical methods involves not only geographical access but financial access as well. Furthermore, the means may be physically available in both these senses, for example, at a free clinic, but the information might not be known to some groups. The important processes affecting the capacity precondition are:

1) Diffusion of information

What is called here "the diffusion process", in a more detailed treatment, might be broken down into a number of separate processes involving,

^{64/} Lee Rainwater, And the Poor Get Children: Sex, Contraception and Family Planning in the Working Class: Quadrangle Paperbooks (Chicago) (1967 edition), 1960; R. Hill, J.M. Stycos, K.W. Back, The Family and Population Control: A Puerto Rican Experiment in Social Change; Union of North Carolina Press (Chapel Hill), 1959; Rosen and Simmons op. cit.

/for example,

for example, the mass media, education, contact through migration, etc.. Each of these may provide not only technical knowledge but also various aspects of the social knowledge necessary for the effective use of control. It is important to recognize that the specific content of the mass media may not be the only aspect leading to technical knowledge since the media (as well as other types of "education") may create a receptivity for knowledge that will be learned later or actively sought out. Furthermore, as found in commercial advertising campaigns, persons may not take in the information on the first hearing but only through constant exposure. Since much information is transmitted by word of mouth it could be expected that a given individual's level of information will depend on the general level of information in this community. Migration, particularly rural to urban movement, also accounts for the diffusion of information since persons not exposed to information in the rural areas are more likely to obtain it in urban areas where it is more prevalent. A hypothesis worth considering, however, is that the rural areas may be losing through migration the young and more educated who are most likely to have birth control information.

2) Changes in the Roles and Status of Women

Various authors have shown that in many situations, couples with greater communication are more likely to use contraceptives.^{65/} Greater communication and cooperation in the home seems to come about, in part, through a process that begins with changes in social structure affecting the education and employment of women, which in turn changes the roles and role attitudes of women in the home leading to a more egalitarian family. This in turn,

^{65/} M. Stycos, Human Fertility in Latin American Sociological Perspectives, Cornell University Press, Ithaca, 1968; Mauricio Culagovski, "Etapas en la adopción de la planificación familiar: Un estudio escalogramétrico", CELADE, SIEF document A-1/P2 (S/102/19/73), 1973.

increases communication on various matters among which is family size.^{66/} Furthermore, the women who work or who live in environments where women are employed are more exposed to new information than those not in such situations.

3) Introduction of family planning programs

A relatively new element in Latin America which is affecting the capacity of groups to control their fertility is the institutionalization of family planning programs, usually with government participation. Some proponents of the programs have assumed that they alone will suffice to bring about a reduction in fertility; this implies that the motivation and legitimacy conditions already exist or can be introduced through the program. Whatever may be their eventual effect it would appear that those countries which now have clear national declines in fertility began their declines before the program was widespread.^{67/} Conceivably the heated debates that preceded the institutionalization of the programs^{68/} may have increased the legitimacy of family planning while increasing the general knowledge that methods existed.

Since the coverage in most of the countries is much smaller than the apparent number of users,^{69/} it is obvious that most users of modern contraceptive methods obtain their supplies outside the family planning programs. In Costa Rica, with a program that has one of the highest

^{66/} Rosen and Simmons, op. cit.

^{67/} Conning, 1972, op. cit.

^{68/} J. M. Stycos, "Case Studies in Public Opinion Formation: Colombia and Brazil", in Ideology, Faith and Family Planning in Latin America. J.M. Stycos (ed), McGraw Hill (New York), 1971b, p. 145-173.

^{69/} M.L. Garcia, "Programas de planificación familiar en América Latina", Proceedings of the Latin American Regional Conference, 1970, Vol. 1, pp. 393-400,

coverages in Latin America, a "very numerous" group seems to be obtaining contraceptive pill outside the program.^{70/}

D. Processes affecting the legitimacy of control

The extent to which it is considered legitimate to regulate fertility in Latin America, would appear to depend partly on the extent to which there is acceptance of: 1) the beliefs of the Catholic Church which in the past extolled the large family as the ideal and has been resistant to "artificial" means of control of fertility; and 2) Machismo and its complement for the female, marianismo. While it has been uncritically accepted by many that these two forces are effective in reducing the legitimacy of control, one must question whether they are, in fact, effective social forces in this sense. If they are not, then the precondition of legitimacy may already exist.

In reference to the beliefs of the Catholic Church one must distinguish between the effects on the general population which might or might not feel it acceptable to use controls themselves and the effect on elites who have the power to enforce their conceptions of what is legitimate for the general population. Stycos examined the effects of Catholicism on individuals in the seven PEFAL-Urban metropolitan areas and found that a measure of ideal family size while positively related to religiosity (indexed by attendance at church) with education controlled, showed only small differences between the devout and nominal Catholics.^{71/} Furthermore, although there were some consistent relationships in the expected direction with religiosity involving attitudes toward, and the use of contraception, there was no variation in

70/ Gomez, op. cit.

71/ Stycos, 1968, op. cit.

the expected direction in any of the cities when fertility was the dependent variable and education was controlled. Stycos concluded that "... if Catholicism is having little impact on fertility, it may be partly because the average woman is not very "Catholic" by Church standards, and partly because the attitudes and practices of the less religious women are not especially effective in the control of fertility".^{72/} A preliminary analysis of the effect of religion in the rural areas of four countries also found little effect of religiosity.^{73/}

It may be argued that while Catholicism, itself has not had much effect on individuals it has set the societal norms of the general population without their being aware of the origin. However, the PECFAL-Urban surveys showed that in all the cities, between 50 and 75 percent of all women claimed to be in favor of distributing birth control information.^{74/} Hence, the pervading influence of Catholic ideology does not seem to be widespread in this matter. Nevertheless, the Church seemingly has had an effect in the past on some ruling elites who have been unwilling publically to accept the wide use of fertility control by the population. This refusal to legitimate, through law and other means, the provision of information and materials may have limited the capacity of some sectors to regulate family size. Other elites responding more to nationalism and/or fears of control by foreign powers or the weakening of the likelihood of revolution have also opposed population control. However, between 1966 and 1973 the governments of all but a few countries have begun to provide

^{72/} Ibid, p. 183.

^{73/} Edgar Baldi3n, Anticoncepci3n, Fecundidad y Catolicismo en las Areas Rurales y Semi-Urbanas de Colombia, 1969. CELADE (Santiago), 1973. Unpublished.

^{74/} Stycos 1968, op. cit., pg. 176.

some form of family planning services either as a part of its own program or through provision of facilities for private organizations.^{75/} A discussion of the opinions of the elites concerning the legitimacy of family planning and changes in these opinions is described by Stycos et al.^{76/}

As noted earlier the debates that preceded the elite's general acceptance of family planning programs may have both increased knowledge and possibly motivation while also gradually establishing a legitimacy in the minds of those individuals who may have felt that their use of control was wrong. This could have occurred in part because of the constant public discussion of topics that previously may have been considered by the general population as "unmentionable" in public.

The other major cultural factor possibly affecting the legitimacy to control fertility is the machismo-marianismo (or hembrismo) complex which exaggerates both "masculinity" and "femininity". Machismo tends to put emphasis on the male's conquest of women, high sexual potency, having many children as a sign of virility and playing an authoritarian role in the family.^{77/} Marianismo, which Stycos called the "complex of virginity"^{78/} involves a system of beliefs that forbids premarital intercourse for women but in a broader sense defines women as innocent, pure and perfect who do not enjoy sexual relations even within a religiously sanctified marriage

^{75/} ECLA, op. cit., p. 44; Garcia, op. cit.

^{76/} Stycos et al, Ideology, Faith, and Family Planning in Latin America: Studies in Public and Private Opinion on Fertility Control (edited by J.M. Stycos) McGraw Hill (New York), 1971a.

^{77/} J. Mayone, Stycos, Family and Fertility in Puerto Rico: A Study of the Lower Income Group, Columbia University Press (New York), 1955, p. 35; Hill, Stycos and Back, op. cit., p. 100-102.

^{78/} Stycos, 1955, op. cit., p. 35.

and who do not interest themselves in matters of sex and birth control.^{79/}

Although these cultural syndromes continue to receive considerable currency as regards their alleged influence on birth control, actual investigations have not uncovered clear relationships in this matter. The general conclusion, based primarily on data from Puerto Rico,^{80/} is that the machismo-marianismo complex does not seem to guide the man's actions and attitudes concerning birth control but that lack of communication between the spouses may lead the woman to base her view of what is legitimate on the machismo stereotype and not on the reality of her husband's view.

^{79/} See Stevens, ("Marianismo: The other Face of Machismo in Latin America", in Female and Male in Latin America: Essays, edited by A. Pescatello, University of Pittsburgh Press (Pittsburgh), 1973, pp. 90-101) for a discussion and historical account and Kinzer, ("Priests, Machos and Babies: Or, Latin American Women and the Manichacan Heresy", J. Of Marriage and the Family, Vol. 35-2, May 1973, pp. 300-312) for a review of an extensive bibliography on machismo and marianismo.

^{80/} Hill, Stycos and Back, op. cit.

IV. SOCIO-ECONOMIC FACTORS AFFECTING MORTALITY PATTERNS

1. Introduction

It is a well-documented fact that the remarkable decline in mortality rates which have been registered in modern times are attributable to man's increasing control over his environment rather than to changes in the genetic constitution of the human population. The origin and evolution of decline, however, differs essentially in developed and developing countries. Mortality control in the now-developed nations was achieved over long periods of time during which slow, painstaking improvements in living conditions and in the control of disease accompanied the gradual modernization of societies. By contrast, initial rapid declines in the death rate of developing nations have remained largely independent of structural transformations in the society;^{81/} indeed the decline, to a significant extent, has resulted from the wholesale importation of technological advances in the prevention and control of disease.

Given the predominantly exogenous origin of the technology of death control, changes in the Latin American death rate do not, as was the case with previously-discussed transformations of fertility patterns, necessarily require fundamental changes in societal legitimation nor in individual motivation and action. Nevertheless, important differentials

^{81/} For summary discussions of this phenomenon Cf.: Eduardo Arriaga and Kingsley Davis - "The pattern of mortality change in Latin America", Demography 6 (3): 223-242, 1969. Kingsley Davis - "Amazing decline of mortality in underdeveloped areas", The American Economic Review, 46:305-318, 1956.

/in mortality

in mortality patterns between various social groups do exist, thus attesting to the continued importance of socio-economic factors in mortality though these may be, in a sense, residual with respect to the technology of death control. The prevalence and form of these socio-economic factors will be the main object of our discussion in this section.

2. Mortality differentials by country

The broadest evaluation of the influence of socio-economic factors on mortality levels in Latin America comes from an investigation of the varying patterns found in the countries of the region. According to recent estimates, Latin America's crude death rates declined gradually from 11 to 9 per 1000 in the recent decade.^{82/} As was to be expected, this decline was smaller than that which had been registered in previous decades. Indeed, if these figures are correct, current levels of crude death rates in Latin America are practically equivalent to those prevailing in the United States or Canada and lower than of either Northern or Western Europe, all of which obviously have older populations than Latin America.

The level of mortality evidently varies considerably between countries and, were the data available, they would certainly show within-country differentials as well. Nevertheless, a trend towards convergence over time can be detected as fundamental changes wrought in the control of parasitic and contagious diseases bring about significant reductions

^{82/} George Martine and Cesar Pelaez - "Population trends in the 1960's: some implications for development", Economic Bulletin for Latin America, (in print).

in the death rates of the less-developed countries while the ageing of the population in more advanced nations such as Argentina, Uruguay and Cuba caused a reversal of the previous steady downward tendency.

All of the remaining countries experienced a greater or smaller reduction in their crude death rate. Nevertheless, high mortality levels still characterize several countries of the region, particularly, Bolivia, El Salvador, Guatemala, Honduras, Nicaragua, Haiti and the Dominican Republic. The level of mortality in these countries evidently reflects their relative underdevelopment yet these levels can be expected to decline somewhat in coming years, whether or not significant advances are brought about in the general levels of socio-economic welfare.

Comparisons of crude death rates can be distorted by differential age compositions but, the same type of conclusions are suggested by an examination of the life expectancy at birth in various countries. A rapid glance at the first column of Table 1 shows that life expectancies in Latin America vary from 44.5 years in Haiti to 69.2 years in Uruguay, a fact which serves to accentuate the persistence of an enormous gap between levels of development.

To account for differences in national or group mortality levels, we can formulate a simple paradigm in which all socio-economic factors affecting mortality will be subsumed. Thus, the influence of socio-economic factors is mediated by general living conditions (particularly working and housing conditions), nutrition and environment, by sanitation knowledge and equipment and, by the level, spread and availability of medical knowledge. These interrelated factors can be assumed to account for the overwhelming proportion of mortality differentials once constitutional

Table 3
LIFE EXPECTANCY AT BIRTH AND SELECTED INDICATORS OF SOCIO-ECONOMIC WELFARE BY COUNTRY, LATIN AMERICA, 1965-1970

Country	Life expectancy at birth	Number of inhabitants per hospital bed	Daily consumption of proteins per capita	Percent literate in population aged 15 and over	Percent of residences equipped with running water
Argentina	67,4	160	88,0	91,4	62,3
Bolivia	45,3	435	48,0	39,8	10,2
Brazil	60,6	350	66,3	60,6	23,0
Colombia	58,5	400	52,3	72,9	45,1
Costa Rica	66,8	268	70,0	85,8	63,6
Cuba	66,8	180	85,8	96,1	42,0
Chile	60,9	253	76,0	88,8	43,4
Ecuador	57,2	440	56,0	72,0	26,8
El Salvador	54,9	457	47,0	50,8	23,6
Guatemala	51,1	420	56,8	37,9	12,1
Haití	44,5	400	37,4	18,8	3,1
Honduras	48,9	480	58,0	47,0	21,1
Mexico	62,4	500	65,7	65,4	40,5
Nicaragua	49,9	430	59,0	49,8	16,8
Panama	63,4	318	64,7	78,3	44,4
Paraguay	59,3	440	65,5	69,0	6,0
Perú	58,0	418	54,0	67,0	21,5
Dominican Republic	52,1	391	54,0	53,1	22,7
Uruguay	69,2	158	116	89,4	58,0
Venezuela	63,7	315	67,5	85,0	68,0
Barbados	65,1	96	64,6	97,4	43,9
Guyana	61,0	200	53,0	83,0	51,8
Jamaica	64,6	268	63,7	81,9	32,7
Trinidad & Tobago	64,2	192	62,0	89,0	51,1

Sources: Life expectancy at birth from: CELADE, Boletín Demográfico, 4 (8), July, 1971. Indicators of socio-economic welfare from: Rolando Franco, Tipología de América Latina, Cuadernos del Instituto Latinoamericano de Planificación Económica y Social, Serie II, N° 17, 1973.

traits such as age and sex are controlled. The joint and individual correlation between some of these factors and mortality by country can be tested with the help of the indicators shown in Table 1.

At the level of international comparisons, the effect of working conditions on mortality is difficult to operationalize and evaluate but for the purposes of preliminary demonstration, housing conditions can be represented by the percentage of residences having running water while the number of grams of proteins consumed per person can be taken as an indicator of nutrition. The number of inhabitants per hospital bed is an indicator of the accessibility of medical facilities and the proportion of literate individuals in the population aged 15 and over can be taken as an adequate though rough indicator of sanitation knowledge.

The linear correlation coefficient linking life expectancy at birth with the four selected indicators is of the order of 95 per 100 and the coefficient of determination is also extremely high ($R^2=0.89$). Each of the indicators taken singly is also highly correlated with life expectancy: -0.72 for the number of inhabitants per hospital bed, 0.73 for protein consumption, 0.93 for literacy levels and 0.82 for the percentage of dwellings equipped with running water. The magnitude of the coefficients, despite the cross-sectional nature of the data, highlights the fact that changes in welfare levels and, in the provision of basic goods and services, may have a decisive influence on future mortality declines.

At the level of individual countries then, one of the few conclusions which can be empirically demonstrated is the intimate relation between general levels of socio-economic development and mortality level. However,

/if we

if we forsake this level of generalization in favor of more particularistic types of information, then the data from given local areas can provide greater insights into mortality differentials and their underlying factors. In the remainder of this section, we will concentrate particularly on two primordial influences - urbanization and social stratification.

3. Urbanization and mortality

Rural-urban residence can be posited to have an ambiguous effect on mortality. In countries of early development during the height of their urban-industrial expansion, urban residence was associated with consistently higher mortality rates since the fledgling state of the medical art, hazardous working and living conditions, the lack of sewerage and an otherwise generally unsanitary environment in a geographically-concentrated population resulted in high death rates, swollen periodically by epidemics and plagues.

In contemporary Latin America, urban areas are apparently much wealthier and "modernized" and, moreover, benefit from the concentration of most of the existing medical personnel and facilities. On the other hand, living conditions prevailing in a substantial proportion of the urban population, such as crowded and unsanitary housing, inferior nutrition and environmental hazards, among other factors, would tend to inflate urban mortality levels. Hence, a priori, a certain equilibrium between urban and rural deaths might be expected.

This type of contradiction did, in fact, lead an earlier study to conclude that the results of the 1940 round of censuses had failed to highlight any systematic differences between urban and rural mortality.^{83/}

^{83/} Kingsley Davis and Ana Casis - "Urbanization in Latin America", The Milbank Memorial Fund Quarterly, Vol. 24, No. 2, 1946.

/However, these

However, these data refer to a period which anteceded the massive importation of mortality-control technology in Latin America and it could be speculated that since the latter would affect urban areas first then it might lead to a lowering of urban mortality until such a time as the fruits of development spread throughout the country. Moreover, the selectivity of younger and more vigorous migrants in urban-wards migration streams might have an adverse effect on the rural death rate.

A recent study carried out by the Pan-American Health Organization in ten Latin American cities did, in fact, reveal that death rates are much lower in these cities than in the countries in which they are located; the differences were particularly pronounced in the first half of the age span.^{84/} The report goes on to comment that "... this is not surprising since health protection and medical facilities are heavily concentrated in the cities of Latin America. Moreover, persons who migrate to the cities may differ from those who remain in rural areas in ways which affect the death rates ... The death rates in rural areas for the 30 year ago span from 15-44 years are probably two to four times as high as in the capital cities".^{85/}

The 1971 census of Nicaragua formulated special questions which permit us to examine the rural-urban differentials at somewhat greater length. Table 2 compares, for Nicaragua, mortality among the progeny of rural and urban resident women per 1000 live births, by present age

^{84/} Ruth Rice Puffer and G. Wynne Griffith - Patterns of Urban Mortality, Pan-American Health Organization, WHO, 1967, pp. 36-38.

^{85/} Ibid pp. 36-38.

Table 4
DEATHS TO OFFSPRING PER 1 000 LIVE BIRTHS, BY RURAL-URBAN RESIDENCE
AND PRESENT AGE OF MOTHER, NICARAGUA, 1971

Present age of mother	Urban	Rural	Total
20-24	152	159	156
25-29	146	177	164
30-34	166	189	178
35-39	207	219	214
40-44	213	236	225
45-49	277	254	265
50-54	276	278	277
55-59	321	289	305
60-64	338	311	325
65 and over	386	345	368

Source: Ministerio de Economía, Industria y Comercio, Banco Central de Nicaragua, Censos Nacionales, 20 abril 1971, Población. Preliminary tabulations from 10 percent sample, Oficina Ejecutiva de los Censos, Boletín N° 3, April 1972, Table 16.

of the mothers. The youngest age group is made up of mothers aged between 20-24 at the time of the census and thus it can be assumed that the death rates here correspond to the years immediately preceding the 1971 census. Since mortality is highly concentrated in the first months and years of life, the indicator will generally refer to progressively earlier periods as age of mother increases.

Obviously, the data in table 2 cannot control for memory error and under-enumeration but, at the very least, the information referent to the youngest age-groups is sure to be reasonably accurate. As age advances, the probability of error is increased - in part because of the greater likelihood of memory error and in part because migration is more likely to distort the effect of "rural-urban" residence. Be that as it may, table 2 shows that rural mortality is higher, to a greater or lesser extent, in all age groups up until the age of 45. From then on, the trend is reversed and, with one exception, shows urban mortality to be higher. If our assumption as to the timing of deaths is correct, then these data would intimate that in recent periods, urban mortality levels have been lower than rural but that this constitutes a reversal of the patterns which prevailed up until 15 to 20 years ago.

In Honduras, the 1971 National Demographic Survey (ENDH) also provides exceptional and recent information on mortality. Table 3 shows information derived from this survey on the crude death rates prevailing in rural and urban areas of this country.^{86/} Therein, it is clear that the death rate of the rural areas is 80 per cent higher than that found

^{86/} It should be noted that the relatively small number of cases involved cautions us against over-emphasizing these findings.

Table 5
DEATH RATES BY RURAL-URBAN RESIDENCE, HONDURAS, 1971

Place of Residence	Duration of Exposure (in years)	Deaths	Death rate (per thousand)
Urban	16,014	144	8,99
Rural	35,143	581	16,53
<u>Total</u>	<u>51,157</u>	<u>725</u>	<u>14,17</u>

Source: Encuesta Demográfica Nacional de Honduras (EDENH), 1971-1972.
Provisional tabulations from the survey.

/in urban

in urban areas. Obviously, some of this variation could be explained away by differential age composition and by the effect of migration selectivity yet, the magnitude of the variation indicates a substantial residual difference even after accounting for these factors.

In short, available data would suggest that distinct influences probably contributed to maintaining some sort of equilibrium in the urban-rural mortality of most Latin American countries prior to the 1940's. However, more recent information would indicate substantial urban advantages, prompted by the concentration of medical knowledge and facilities and of young migrants in urban areas.

4. Mortality and Social Stratification

By contrast to the situation prevailing in fertility, the motivation to live does not generally vary according to periods, circumstances or social groups. Since the will to live is universal and constant, the persons and groups experiencing the lowest mortality in any given locality will be those enjoying more favourable living conditions and having greater access to mortality deferment. Thus, almost by definition, mortality differentials in developing countries stem from disparities in levels of socio-economic welfare. Since socio-economic differentials are most accurately reflected in levels of income, education, occupation and so forth, it should be a fairly easy task to formulate a set of correlations between mortality and these factors in various social strata so strong that they would take on the aura of scientific laws. Actually, although everyone knows that such relationships exist, present data do not permit us to establish empirically the existence and breadth of the differentials, except in a few instances.

/In Chile,

In Chile, one study carried out on 1957 data compares mortality levels between white collar (empleados) and blue collar (obreros) workers. ("Employers" which represented about 10 per cent of the total population at the time were omitted from study because of their heterogeneity.) As could be expected, the differences between the two groups were significant on all indicators.^{87/} Moreover, further calculations on these data reveal that while the rate of endogenous infant mortality is practically equal in both groups, mortality due to exogenous causes was more than twice as high among blue-collar workers than in the more privileged socio-economic strata (111 to 53 per 1000). These differentials dispense further comment, yet, it is worth noting that the lower strata represented 66 per cent of the total Chilean population at the time of study.

Data from the aforementioned demographic survey in Honduras, summarized in table 4, also highlight the fact that the probability of an early death increases greatly with lower socio-economic status. In this instance, social status is measured in terms of both occupation and education. The annual death rate of the highest stratum is less than half that of the two lowest groups. Nor could these findings be attributed to differences in the age composition since known fertility patterns would actually have the effect of increasing the average age of the higher strata and thus contribute to their higher rather than lower mortality. The significance of these mortality differentials is further accentuated when one considers that the two high-mortality groups make up some 78 per cent of the sampled population.

^{87/} Hugo Behm Rosas - Mortalidad infantil y nivel de vida, Universidad de Chile, 1962.

Table 6

DEATH RATES BY SOCIO-ECONOMIC LEVEL, HONDURAS, 1971

Socio-Economic Level	Duration of Exposure (in years)	Deaths	Death rate (per 1 000)
High	3,319	22	6,63
Middle	7,869	77	9,79
Lower and Middle	14,153	210	14,84
Low	22,771	415	16,10

Source: Encuesta Demográfica Nacional de Honduras, (EDENH), 1971-1972, op.cit. Provisional tabulations.

/In Nicaragua,

In Nicaragua, the 1971 census information permits us to evaluate the effect of education on infant mortality during 1970, controlling for urban-rural residence of the mother (Cf table 5). In both areas we again find a monotonic inverse relation between education and infant mortality. It is also interesting to note that the variation in rates is greater in urban than rural areas. Thus, despite the fact that the overall urban infant mortality rate is considerably lower than in rural areas, the worst situation is that which affects urban residents who have not benefitted from any formal schooling whatsoever. That is, the worst living conditions in the entire country are those experienced by the urban marginal groups.

Finally, information on mortality by color/race provides indirect evidence on still another dimension of the same question. Since various investigators have not found any reason to believe that race/color has any genetic or biological effect on mortality, racial differentials in mortality can readily be attributed to the more favourable living conditions enjoyed by certain groups and, ultimately, to the historical circumstances at their root.

For instance, data from the 1950 census of Guatemala showed that the life expectancy of male ladinos was ten years longer than that of the indigenous population; among females the difference was closer to 12 years. Meanwhile, corresponding differences were also found in the infant mortality rates of the two populations.^{88/} Similarly, information for four Southern states in Brazil indicate that life expectancy in each

^{88/} Jorge Arias - Tablas abreviadas de mortalidad para la República, 1950, Dirección General de Estadística, Boletín No. 54, 1955.

Table 7

DEATHS TO OFFSPRING PER 1 000 LIVE BIRTHS BY EDUCATIONAL LEVEL AND RURAL-URBAN RESIDENCE OF THE MOTHER, NICARAGUA, 1971

Educational level of mother	Urban	Rural	Total
0	152	138	142
1 - 3 years	113	124	118
4 - 9 years	102	105	103
10 and over	62	71	62
<u>Total</u>	<u>118</u>	<u>133</u>	<u>127</u>

Source: Ministerio de Economía, Instituto y Comercio, op.cit., table 17.

/state is

state is highest in the white population, lowest in the black population and intermediate in the mestizo populations. Moreover, the dispersion of values about the mean is much greater in the latter two groups than in the white population.^{89/}

In short, the finding that socio-economic status is clearly related to mortality and longevity hardly comes as a surprise yet the degree and significance of these differentials is worthwhile investigating. Despite the paucity and unrepresentativeness of our information, it is interesting that all available indicators in whatever country or local area point to large and continuing differentials between social strata. It is also of some significance that in each case, the high mortality groups constitute the largest proportion of their respective country's population.

V. SUMMARY AND CONCLUSIONS

In accordance with the strategy outlined at the outset of this paper, the socio-economic factors affecting population trends in Latin America have been treated in three discrete chapters. A more sophisticated analysis would perhaps attempt to analyze the multiple interrelations between intermediate factors affecting urbanization, migration, fertility and mortality or, at a higher level of abstraction, try to determine the influence of large-scale societal processes - subsumed under the rubric of "modernization" - on the demographic variables taken as a whole. The

^{89/} Ana Torres de Ribeiro - "Região sul do Brasil - mortalidade e fecundidade" - mimeo, CELADE, 1971. IBCE - Pesquisas sobre a mortalidade no Brasil, Estadística Demográfica No. 14, Estadística Teórica e aplicada.

present strategy, however, was adopted in deference to prevailing conditions of data and analysis and to the assumption that the elemental questions to be answered vary with each of the primary sectors.

In the first substantive section, interest lay in uncovering the basic influences underlying recent trends in urbanization and internal migration - processes which evidently belong to different yet interpenetrating theoretical spheres. Thus, in a global perspective, urbanization is a fundamental part of a broader process of social change wherein societies evolve from a characteristic form of societal organization and mode of production to another. Within this perspective, three broad groups of countries were delineated according to the timing of their urbanization takeoff and according to the nature of the interplay between socio-economic and demographic factors at the root of the takeoff.

But then, urbanization is also a physical process of population concentration involving the transfer of people from rural to urban places of residence. In this sense, one has to look at the contribution of internal migration to urban growth and thus at the structural causes and individual motives prompting urbanwards migration. A review of existing studies in this area demonstrated reasonable consistency between push-pull structural factors and individual motivation to migrate - both of which revolve principally around economic considerations. Nevertheless, migration studies have not made significant progress either in improving the prevailing rudimentary theoretical framework nor in documenting existing generalizations.

/Turning to

Turning to the factors affecting fertility trends in Latin America, fundamental question asked here was - how have societal processes affected the willingness and ability of people to regulate their family size? Looking first at the nuptiality determinants of fertility, it can be determined post-hoc that their influence is considerable yet the absence of explanatory studies impedes specification of the concrete mechanisms of influence. The marital fertility determinants have received most attention in the literature. To study them, it is first necessary to eliminate differentials produced by bio-health variables; remaining differentials can then be attributed to conscious-control variables.

In order for an individual or a population to adopt conscious-control measures, certain preconditions must be met in terms of motivation, capacity and legitimacy. Some of the societal processes affecting motivational levels in Latin America are: changes in the economy and/or increases in per capita income and services; the diffusion of new styles of life - especially consumer-oriented ones; changes in the family structure and in the family's relation to the national society; changes in the role and status of women; and, mass mobilization.

The capacity to effectively regulate one's family size is mediated by the diffusion of information, by changes in female roles and by the introduction of family planning programs. Lastly, some of the processes affecting the legitimacy of control include the direct and/or indirect influence of the Catholic Church and the cultural syndromes related to the machismo-marianismo complexes.

/By contrast

By contrast to migration and fertility trends, mortality patterns are not affected by individual motivation nor by social legitimation. Changes in mortality patterns in developing countries are principally affected by the mode and timing of death-control technology and only residually by individual decisions. Consequently, the principal purpose of our mortality chapter was to investigate the relative ability of different groups to exert control over death. In this sense, it is self-evident that health and mortality levels vary fundamentally in accordance with the ability to prevent disease and that this in turn is directly correlated with levels of socio-economic welfare.

In this light, it is hardly surprising that, at the level of Latin American countries, the more privileged nations enjoy the lowest death rates and the longest life expectancy. Moreover the latter is highly correlated with several indicators of socio-economic welfare taken singly or in union. The same is true at the level of social groups within countries and our examination of available evidence demonstrated clear-cut advantages in the death rate and life expectancies of the higher socio-economic strata.

The theoretically-ambiguous effect of rural-urban residence on mortality patterns was also examined; our evidence shows clearly that urban localities, favoured by the concentration of medical personnel and facilities as well as by their population composition, have a definite advantage over rural areas. This possibly represents a reversal of the patterns prevailing up until a few decades ago.

