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THE ONSET OF FERTILITY DECLINE IN LATIN AMERICA

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INTRODUCTION

At the beginning of the sixties, Latin American countries were marked by high rates of population growth. This situation was predominate throughout the sixties and seventies and was caused by the prevalence of a high fertility and by an earlier decrease of mortality. Much of the concern regarding the "demographic explosion" was born from this Latin American experience.

However, coinciding with these dates, in most Latin American countries fertility started to decrease; this phenomenon as shown in the subsequent decades became a sustained process of decreasing fertility based on a radical change in the reproductive patterns of the families. There has been a growing process towards the adoption of a more or less generalized behaviour regulating fertility, which has become a significant part of the everyday life of millions of inhabitants under apparently dissimilar conditions.

Of course, an analysis of the Latin American experience regarding fertility transition does not show a single pattern. In fact, many differences appear when the specific experiences of individual countries are analyzed. Argentina and Uruguay show the typical pattern found in European countries, where fertility started to decline at the end of the XIXth century and the beginning of the XXth. The case of Cuba is also peculiar, because fertility was already low at the end of the fifties, then underwent an increase during the early sixties to descend later rapidly to the present levels under replacement level[1]. By contrast, in the rest of Latin America, the total fertility rate in the beginning of the sixties was greater than 5 children per woman, and in some countries rates reached levels such as seven children per woman.

The general process of fertility change has been well documented[2]; however, the study of the onset of fertility transition has received less attention. This is precisely the focus of this paper. In this regard, special attention will be paid to the analysis of different approaches to understand the beginning of a sustained decline in fertility. It is expected that, in the line of this Seminar, the paper will help to determine if some of the Latin American experiences can contribute to understand fertility transition in Africa.

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I. THE SOCIAL AND ECONOMIC CONTEXT OF LATIN AMERICA[3]

In the majority of the countries of the region up to the beginning of the post-war period[4], the social structure characteristic of agrarian societies predominated. Some of their more important features were the high proportion of the population in rural zones, separation of the indigenous populations from sectors of the dominant society (in countries where the indigenous people were the majority), the principal type of production was basic agriculture, low educational level and high rates of illiteracy (Rama, 1984).

At the beginning of the sixties, the Latin American countries underwent a remarkable transformation that encompasses different aspects of the social context. A recent ECLAC study (CEPAL, 1989) concludes that profound social changes have occurred which are expressed in great occupational, geographic, educational and social mobility. This mobility is reflected, among other effects, in a decrease in the agricultural labour force, an increase in non-manual sectors, and a greater participation of women in the economic activities. The urban population increased rapidly as a consequence of growing migration from the countryside and educational levels went up significantly. There was also a tremendous development in mass communications as well as of the communication and transportation networks within and between the countries.

Continuing with ECLAC's study, it concludes that the above mentioned changes occurred in the context of a growing penetration of market modalities of production and consumption, in remarkable increases in the qualification and productivity of the labour force and, at least until the beginning of the crisis of the 80's, in increases in the per capita product which, for Latin America as a whole, doubled between 1955 and 1980[5]. This process, although not accompanied by an improvement in income distribution, affected nevertheless in varying degrees the life of most people in almost all Latin American countries.

The modernization process in Latin America did not occur as a linear process in which the social aspects developed in a direct and instantaneous relation with or as a consequence of the economic conditions. In fact, it has been a complex and contradictory process in which the "social" was only partially endogenous to the model. The action of the State in social areas such as education and health, played a key role in the changes occurred in these areas which depended more on the "style of development" than on the economic growth itself.

The great improvements in education, for example, whose effects on fertility have been considered important in the studies on the subject[6], originated in the growing demands of capitalist development during the sixties, but did not follow its logic very closely. The results were and continue to be amazing. Changes in education have been truly spectacular. A recent study shows, in almost all the countries examined, that the level of education of the youngest female cohort averaged twice that of cohorts who were finishing their reproductive period, that is, that the youth integrate themselves en masse and to an increasing degree into the highest educational levels (Weinberguer et al., 1989).

A similar situation occurs with health and access to contraceptive methods. Their strong expansion during the sixties was not necessarily related to the economic power of the countries but had a relatively independent logic. Relatively, because it demanded nonetheless a minimum economic and service infrastructure.

Family planning programmes are considered under this category. These programmes were started in the mid-sixties by private groups in most of the countries to become then officially regularized in many countries of the region (Mundigo, 1990; Singh and Berrio, 1989). Their development was not directly related to the economic evolution of the country, since in most cases the funds for their implementation had a strong international aid component.

These elements are undoubtedly part of a development vision encompassing not only aspects of the economic product growth but also the achievements of social development which, as stated above, are not always directly related to the former. This approach is considered to provide a better understanding of the fertility change process in Latin America.

II. SOME THEORETICAL APPROACHES FOR EXPLAINING THE ONSET OF FERTILITY DECLINE

The study of fertility change implies dealing with three important aspects of this change: the nature of the high pre-transition fertility; the moment of destabilization and break to a lower fertility pattern, and the decrease process itself. The different theoretical approaches take into account these three elements although assigning them different priorities. This paper centers on the onset; however, the analysis cannot be made without taking into account the other two elements of change.

There is a certain consensus at present that the high fertility characteristic of societies in their pre-transition stage is based on the nature of the economic relations of these societies and in particular on the role that the family plays in them. The economic value of the children, both at the present time and in terms of future security, is a key factor in defining the reproductive pattern of societies where a deliberate control of fertility is not a more or less general practice. Thus, Caldwell (1978, 1980, 1981) states that pre-transition societies, where fertility is high and stable, are characterized by the existence of net wealth flows that go from the younger to the older generations. Production relationships in these societies are based on kinship, are unequal and the oldest have more material advantages; thus, high fertility is advantageous for the family and particularly for its dominant members; in the post-transition stage, in turn, the economic rationality leads the couples to have no children since the flow of wealth goes in the opposite direction, that is, from the oldest to the youngest.

There are however great differences in approach when trying to explain the destabilization process and its tendency towards controlled reproductive patterns. In this regard, two different ways of dealing with this process can be mentioned. One considers the modernization process or transformation of the economic structure as a pre-condition for a change in fertility. This happens in the demographic transition approach, according to which the modernization process brings about an important improvement in living conditions and consequently a decrease in mortality. At the same time, the cost of children increases, due among other reasons to the high educational levels that parents want for their children. Families are then faced to the alternative of keeping a high fertility and consequently, given the changes of the modernization process, have a lower level of living or, decrease their fertility in order to maintain or increase their level of living.

Studies on fertility transition in Europe carried out by the Office of Population Research of Princeton under the leadership of Ansley Coale (see Coale, 1977; Coale and Watkins, 1986; Knodel and Van de Walle, 1979), found however that the beginning and the first phase of the fall in fertility were not necessarily linked to changes in socio-economic factors such as urbanization, industrialization, etc. Rather, they found that although a sufficiently high development level was in general associated with a reduction in fertility, previous changes in mortality or other socio-economic indicators did not allow for the explanation or prediction of the initial change stage. The concept of demographic transition was therefore considered a weak one, precisely because of the difficulty in defining an initial level of modernization to permit the reliable identification of a population whose fertility was on the verge of decreasing (Coale, 1973).

From this experience and the transition pattern observed in the last decades in the developing countries, alternative explanations have arisen of underlying causes of fertility decline. This, Knodel and van de Walle (1979) sated that the changes occurred in European fertility had a heavy component of innovation-diffusion; that is, they responded mainly to a process of introduction of an innovation (fertility control) and its further diffusion among the majority of population. The authors extended this conclusion to the analysis of contemporary populations in Asia and found that the practice of limiting family size, once initiated, was rapidly and progressively extended to the bulk of population, thus constituting an cumulative and irreversible process (Knodel, 1977).

Caldwell, on his turn, emphasizes a process that is previous to the onset of fertility control and that he calls the emotional nucleation of the family. This approach considers fertility destabilization as a product of the continuous disintegration of the familial mode of production prevailing in pre-transitional societies and its production relationships. This change, expressed as the reversion of the net flow of wealth from the older to he younger, is essentially the result of a social change. What then determines the moment of the onset of transition is the measure of speed at which family relationships become westernized (Caldwell, 1981). Starting on this theoretical scheme he arrive at the conclusion that fertility decline in the Third World does not depend either on economic growth or industrialization. Without denying that it is affected by such a development (in the sense that family nucleation can not occurs in a non-monetized economy) he considers it more probable

that fertility decrease would precede industrialization than to the contrary (Caldwell, 1976). Although the author does not place emphasis on the subsequent process of fertility change it appears obvious that this may be inserted into the theoretical framework of the innovation-diffusion process above mentioned.

In a recent study by Bravo (1991), he examines the validity and complementarity of these two approaches in the light of Latin American experience during the period 1950-1990. He found that at the international level the economic development indicators such as GDP per capita and literacy are related to fertility in the expected direction according to the modernization approach; however, these relationships 'have shifted and become less steep over the last two to four decades" (Bravo, 1991:10). Regarding mortality decline, he found that in 18 countries considered it preceded fertility decline over an average period of three quinquennia. This finding would reinforce the idea that is implicit in the demographic transition theory of mortality decrease as a pre-condition of fertility decline, at least at the national aggregate level[7]. Nevertheless, when one is studying what has happened at the interior of the countries, the process would resemble to what is expected according to the diffusion theory; hence, he considers this approach relevant for the description of the transition process, although not as a comprehensive explanatory framework.

Rodríguez assigns an important role to the diffusion as a mechanism determining fertility transition. In a study based on the World Fertility Survey and the Demographic and Health Surveys of six Latin America countries and using a statistical model of fertility by periods, he found that in the different social strata the spacing and control fertility indexes seem to have followed a same declining patters in time, which is consistent with a simple model of social diffusion (Rodríguez, 1990).

From a prospect that intends to reassure the role of economic changes (Paiva, 1984) states that at the pre-transitional stage fertility remains stable due to the insertion of family not only in the production structure but also in the consumption structure. To the extent that reproduction (understood as daily and intergenerational reproduction) takes place inside the domestic unit, there are no pressures for a deliberate fertility control; this is so not only because the family takes advantage of children as family labour force, but also due to the fact that as far as the access to the means of subsistence is determined by their own production, families would have a greater control of subsistence costs.

The mechanism according to the author causing the destabilization of this system is the proletarianization understood not only in connection with the trends towards massive insertion of labour force into the market economy but also with respect to the irruption of the family consumption through the market. Thus, the indicator of the salaried insertion of labour force into the economy would be only one of the expression of this process, since the non-salaried would become connected and dependent also on this monetized economy thought consumption. To the extent that families get their means of subsistence from the market, their consumption levels will be influenced by price variations. As a reaction, the families will respond by adopting fertility control; so as to maintain their standards of living. The author states that in the case of Brazil, the

diversification of consumption patters, together with the increment of durable goods and the unification of labour market for non-qualified workers in the context of a substantial modification of the price structure has caused an increase in the cost of children, consequently leading to fertility decline.

III. THE ONSET OF FERTILITY TRANSITION: AN OVERVIEW OF LATIN AMERICAN EXPERIENCE

Since this paper is focussed on the onset of fertility transition, in what follows it has been intended to study this phenomenon vis-a-vis the approaches and results already outlined. Previously, a general view of the process od fertility change in Latin America will be presented.

An overview of fertility transition

At different stages and with greater or lesser quickness or slowness, all the countries of Latin America have been integrating themselves to a process of fertility transition towards lower values than those prevailing before the onset of this process[8]. As can be seen from figure 1 (see also table 1), the process of change has become rather generalized, although it shows important differences among countries. For analytical purposes, we have clustered the countries into four groups, following a classification used in a previous paper (Guzmán, 1990).

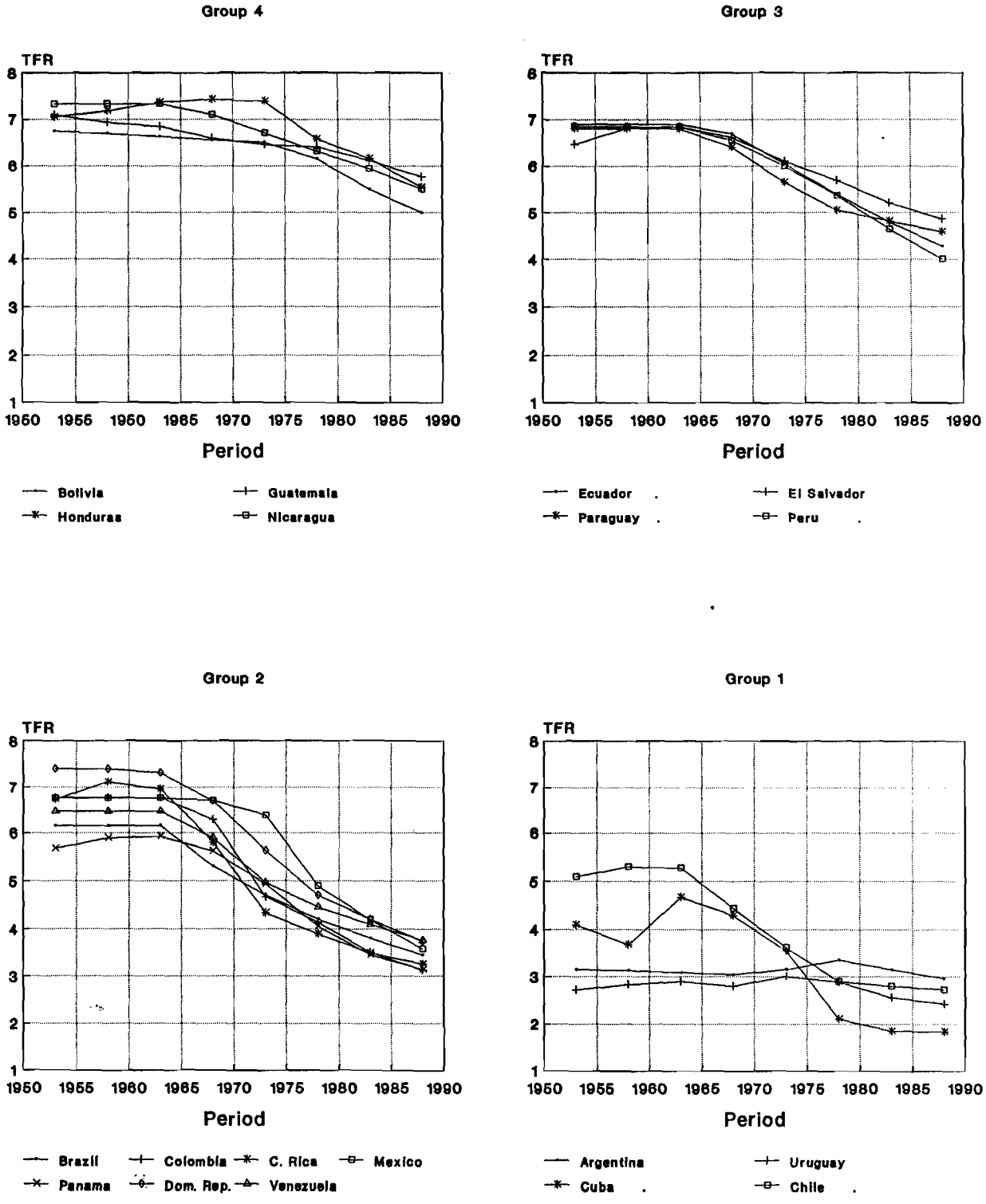
Group 1 embraces the countries which have completed or almost completed their transitions. Argentina, Uruguay and Cuba, of which mention has been made, and Chile, belong to this group. All of them has reached in the period 1985-1990 values of TFR lower than 3 children. Cuba was even under replacement level after having experienced an important declining process starting from the period 1960-65 in which fertility had increased. As for Chile, having started from an initial fertility level that was no so high in 1960, TFR has reached values under 3 children, which has remained relatively stable along the 80's.

A second group, which will be called of advanced transition, had reached in the period 1985-1990 values of TFR's between 3 and 4 children (Brazil, Colombia, Costa Rica, Dominican Republic, México and Panamá). These countries reduced by half their fertility rates prevailing at the beginning of the sixties. Within this group, the case of Mexico should be pointed out, whose delay in staring the decline was "compensated" by the speed of this decline.

A third group, of intermediate transition, is composed by countries whose fertility rate was between 4 and 5 children in the period 1985-1990. The countries within this group (Ecuador, El Salvador, Paraguay and Peru) started from high fertility levels (TFR equal to 7 children per woman) and presented on the average fertility declines not so sharp as the previous group. Perú has showed an important decrease especially in the most recent decade, which place it very close to group 2.

Figure 1

Total fertility rate in Latin American countries.-



Source: Table 1

Table 1
Total fertility rates. Latin America 1950-1990.

	1950-55	1955-60	1960-65	1965-70	1970-75	1975-80	1980-85	1985-90
Argentina	3.15	3.13	3.09	3.05	3.15	3.36	3.15	2.96
Bolivia	6.75	6.69	6.63	6.56	6.50	6.15	5.50	5.00
Brazil	6.15	6.15	6.15	5.31	4.70	4.21	3.81	3.46
Colombia	6.76	6.76	6.76	6.28	4.67	4.14	3.51	3.13
Costa Rica	6.72	7.11	6.95	5.80	4.34	3.89	3.50	3.26
Cuba	4.10	3.68	4.67	4.29	3.55	2.10	1.85	1.83
Chile	5.10	5.30	5.28	4.44	3.63	2.90	2.80	2.73
Dominican Rep.	7.40	7.40	7.32	6.68	5.63	4.70	4.21	3.75
Ecuador	6.90	6.90	6.90	6.70	6.05	5.40	4.80	4.28
El Salvador	6.46	6.81	6.85	6.62	6.10	5.70	5.21	4.86
Guatemala	7.09	6.93	6.85	6.60	6.45	6.40	6.12	5.77
Haiti	6.15	6.15	6.15	6.15	5.76	5.35	5.05	4.74
Honduras	7.05	7.18	7.36	7.42	7.38	6.58	6.16	5.55
Mexico	6.75	6.75	6.75	6.70	6.37	4.89	4.20	3.58
Nicaragua	7.33	7.33	7.33	7.10	6.71	6.31	5.94	5.50
Panama	5.68	5.89	5.92	5.62	4.94	4.06	3.46	3.14
Paraguay	6.80	6.80	6.80	6.40	5.65	5.05	4.82	4.58
Peru	6.85	6.85	6.85	6.56	6.00	5.38	4.65	4.00
Uruguay	2.73	2.83	2.90	2.80	3.00	2.89	2.57	2.43
Venezuela	6.46	6.46	6.46	5.89	4.97	4.45	4.10	3.77

Source: CELADE (1990) Demographic Bulletin , year XXIII, No. 45, Santiago, Chile.

Finally, there is the fourth group, that of late or delayed transition. The countries in this group (Bolivia, Guatemala, Honduras and Nicaragua) maintain TFR's over 5 children per woman in 1985-1990. Within this group, Bolivia which has shoed important declines in the last decade should be mentioned.

In general, the countries of Latin America started their transitions, around 1960, from relatively high fertility levels. In some countries, such as Costa Rica, the Dominican Republic and others, the TFR was near 7.5 children per woman as a national average, in spite of the existence of significant groups of population for which this measure was higher than 8 children.

Finally, it should be emphasized that, as a previous step toward the transition to lower values there were a certain increase in fertility in at least five countries. Perhaps even the increase was more generalized than showed by data from table 1[9]. For Costa Rica, Chile and El Salvador, three of the countries presenting a significant increase in the fifties, these increments appears to have been caused mainly by the marriage boom that took place in this period (Rosero, 1990).

The onset of fertility transition

The national level

It is not easy to define the moment in which fertility decrease is initiated in each country. An attempt has been made in this paper to establish it, taking into account the best information available for each country. Notwithstanding, time location of this moment is considered to be only an approximation, given the differences existing among the sources that have been consulted and the sometimes fluctuating character of annual rates.

Table 2 shows the results of this exercise. A set of indicators is also presented for each country, situated at the moment defined as the onset of fertility transition. The year in which the decline appears to have initiated is located in the first quinquennium of the 60's for almost all countries, most of them between 1960 and 1963. There are but three exceptions: In the one hand, Mexico and Bolivia, which show a later decline (beginning of the 70's) and on the other, Haiti, a country whose fertility trend is not clear and even appears to show an increment in the 80's (Chahnazarian, 1991; Guengant, 1991).

The first thing that strikes is then the similarity of the moment of the onset of fertility decline. At the same time, although, the poor relationships between the moment of the onset and the heterogeneity of the socio-economic situations prevailing in the country at such moment is to be observed.

This phenomenon is partly explained by the fact that the indicator used to measure the onset is not entirely adequate in that it does not express the dimensions of the change produced in fertility after the moment defined as onset. This can be seen clearly in table 2 which shows two additional indicators: the percentage of decline in the ten years following the onset and the year after the onset in which fertility has been reduced by 20 percent with respect to the value of the TFR at the moment in which the drop begins. Both indicators show the dimensions of the decline in the first stage.

These data enable us to differentiate countries in terms of their socio-economic characteristics and the indicators of fertility transition :the size of the initial decline and the moment in which they achieved significant reductions with respect to the level of fertility at the onset, and consequently the present position in the transition process. For example, Guatemala and Nicaragua, two countries with late transitions with onset located at the beginning of the 1960s, show very slight drops, reaching a 20 percent reduction from the initial levels only in the years 1983-85. By contrast, other countries such as Costa Rica, Chile, and Colombia, whose transitions are nearing their conclusions, achieved substantial declines as early as the 1960s.

Table 2

Demographic and socio-economic indicators in countries of Latin America of the moment of initial decline in fertility.

Country	Onset 1/		After the onset	
	Year	TFR	% decline 0-10 years	Year when TFR was 20 % lower
Bolivia	1972	6.5	13.8	1985
Brazil	1960	6.2	8.3	1973
Colombia	1962	7.0	34.3	1968
Costa Rica	1961	7.3	37.5	1970
Chile	1962	5.3	28.7	1968
Dominican Rep.	1962	7.4	23.0	1973
Ecuador	1965	6.8	20.0	1976
El Salvador	1962	6.8	10.8	1980
Guatemala	1960	7.0	9.6	1985
Haiti 3/	--	6.3	--	--
Honduras	1966	7.5	11.5	1985
Mexico	1972	6.6	36.4	1978
Nicaragua	1962	7.3	8.5	1985
Panama	1962	6.0	20.0	1972
Paraguay 4/	1963	6.7	19.7	1974
Peru	1965	6.8	16.8	1977
Venezuela	1960	6.8	15.6	1972

Country	Indicators at the onset						
	Urban population (%)	Literacy (15 years and more) (%)	% Active male in agriculture (%)	% Active population wage-earners (%)	Infant mortality rate (%.)	Life expectancy at birth (years)	PIB per-capita (US$)2/
Bolivia	41.2	65.7	57.2	38.2	151.3	46.7	270
Brazil	44.9	60.3	56.6	47.0	115.7	54.7	332
Colombia	50.9	71.1	61.3	59.0	92.1	57.9	442
Costa Rica	36.6	83.7	59.9	64.8	83.2	67.2	475
Chile	70.1	83.5	33.1	73.3	110.3	57.9	720
Dominican Rep.	32.7	65.1	63.1	42.6	117.5	53.6	315
Ecuador	37.2	69.0	60.9	48.0	113.1	55.7	327
El Salvador	38.6	50.2	70.4	65.9	122.7	52.3	350
Guatemala	32.4	34.3	76.3	61.6	125.0	45.6	322
Haiti 3/	16.6	53.0	86.0	16.7	170.5	43.6	110
Honduras	26.3	49.8	73.6	41.5	130.8	50.0	281
Mexico	59.0	75.9	43.5	61.8	71.7	62.4	894
Nicaragua	41.1	50.3	71.7	56.3	130.9	48.5	304
Panama	41.8	77.5	55.6	44.6	63.9	61.7	621
Paraguay 4/	35.9	74.9	63.9	38.8	61.9	64.4	313
Peru	51.9	65.3	51.7	47.4	131.1	50.3	493
Venezuela	66.6	61.8	38.7	60.1	80.9	59.5	914

1/ Approximate date from which TFR began to decline
2/ At factor costs, 1970=100.
3/ The year at the onset is unknown. The variables are given for the period 1960-1965.
4/ The value for the % of active population wage-earners are given for 1972.

An ordinary regression analysis using these two new indicators as dependent variables (percentage of initial decline and the year in which a 20 percent decline of TFR is achieved) has shown that both are related to some degree with the prevailing socio-economic situation at the moment the decline begins (table 3). Nonetheless, of these indicators, those which show significant coefficients and which cause a significant rise in the r square are: education (measured by the literary rate) and the proportion of the active population earning wages or salaries. Of these two, the literary rate accounts for nearly 60 percent of the variance, independent of the dependent variable utilized. The GDP per capita does not appear as a significant variable in the regressions, possibly because its effect is "absorbed" by the other mentioned variables.

Table 3

Results of regression of two dependent variables of fertility decline.
Latin American Countries selected

Equation	Variable: Dependent a/	Variable: Independent b/	Regression Coefficient	Standard error	Constant	R square
(1)	VAR1	Literacy	0.568 *	0.122	-17.23	0.609
(2)	VAR1	Literacy	0.555 *	0.109	-31.73	0.710
		Wage-earners	0.289 *	0.135		
(3)	VAR2	Literacy	-0.345 *	0.078	1998.7	0.586
(4)	VAR2	Literacy	-0.339 *	0.075	2005.3	0.640
		Wage-earners	-0.131	0.093		

a/ VAR1= Per cent of decline in tfr in 10 years following onset.
VAR2= Year in which tfr is 20 per cent lower than the TFR at the onset.
b/ Independent variables are defined in the table 2.

* Significant at p.<0.05.

It is worth noting the important predictive role of the level of education of the population in the period in which the fertility rate drops by 20 percent, once the initial year of the decline is included in the regression (Equation 5). The r square rises to 0.91 and does not change significantly when the percentage of the salaried population is added (Equation 6). This result is much more important given that the tremendous changes that were produced in educational levels during the period of the decline are not taken into account.

The preceding results indicate that there is an important relation between the dimensions of the initial drop in fertility and the two socio-economic development indicators mentioned above. While the effect of GDP per capita disappears, the importance of percentage of salaried in the active population and education remain. The two indicators express two complementary aspects of this development: the first shows the importance of the development of a mercantile economy in generating the conditions necessary for a rapid decline in fertility; the second is an expression of this development and is directly related to it.

The population subgroups

One limit of the preceding result is that it expresses a relationship at the national level but does not reveal to what extent the national indicators, both those used to measure the onset and those which refer to the socio-economic situation of the country in a given moment, are representative of the different situations occurring simultaneously inside its borders[10]. This fact could explain the difficulties in relating the initial moment of change in fertility with socio-economic indicators. One solution is to calculate the indicators for each social group, taking into account the process of change and the onset in each group associated with its unique social and economic conditions. Nevertheless, this focus would present a new problem in that the data available are rarely broken down into these aggregate parts, though some approximation remains possible.

At the moment of fertility transition in Latin America, great differences existed in the reproductive behavior of women. The level of TFR and its tendency over time was the average of many diverse levels and tendencies. Some groups controlled fertility to some degree, while others did not. For example, in Costa Rica in 1960, while the fertility of middle and upper-middle class women with seven years of education or more (87 % of the total of this class) was about four children per woman, this figure rose to more than nine children per woman among agricultural workers with less than six years of study (97% of the total of this class) (Behm and Guzmán, 1980). In Chile at the moment of onset, middle and upper sectors of the population had TFR of 3.5 while the rural workers' rate was 8.1 children per woman. (Ruedi and Guzmán, 1989). Similar results have been obtained in other countries (Chackiel and Schkolnik, 1990).

The fertility differential by type of residence (urban/rural) approximates socio-economic fertility differentiation because the two categories are to some degree parallel. Despite the existence of important differences within each area, the urban/rural dimension offers better opportunities for study, given that estimates of this aggregate are generally more available. The data presented in table 4 show clearly that at the beginning of the fertility decline at the national level in all countries there are differences by zone that oscillate between 30 and 50 percent. In the urban areas, the TFR ranges from 4 to 6 children per woman, while in rural zones the rate rises to 7 to 9 children per woman. These differences, although they might be less if expressed in terms of marital fertility (due to earlier and more stable marriages and less permanent celibacy in rural areas), demonstrate the presence at the onset of distinct reproductive patterns within all the countries of Latin American among urban and rural families.

On the other hand, the data from some countries in the initial stages of their transitions (Bolivia, Guatemala and Honduras) show that in many cases the national tendencies are no more than an average of opposing tendencies occurring in different parts of the country. In Bolivia, national fertility did not show signs of change during the 1960s, despite the important changes taking place in urban areas (Torres, 1990; Guzmán et al., 1991). In the case of Honduras, national fertility also showed no change during the decade, even though urban fertility rates were on the decline from at least 1960, if not before (Chackiel and Mérida, 1986). As in Bolivia,

this decline is offset by a continuing rise in rural fertility. These two cases show that the indicator of the national onset cannot reflect this contradictory situation.

The pre-transitional panorama is less clear. The urban zones of the majority of the countries of Latin America (especially the metropolitan areas), or at least important sectors within them, may have undergone their own transitions before the national transition and the rural transition. If this is true, what we know as the fertility transition at the national level, identified as having begun in most countries in the 1960s, would be in fact a second transition characterized by the continuation (perhaps with greater intensity) of the urban transition (perhaps begun long before the 1960s) and the beginning - to a greater or lesser degree in each country - of this process in rural areas. But it is also possible that urban fertility before 1960 was always lower than rural fertility, meaning that the changes which occurred at the national level during the decade of the 1960s may reflect new change in both zones as a result of the extension throughout the society of family planning practices previously limited to a minority of urban families with relatively high educational levels.

Table 4

Total Fertility Rate by urban and rural residence

Country	Total Fertility Rate		Rural/Urban
	Urban	Rural	
Bolivia (1972)	5.3	7.5	1.4
Brazil (1960)	5.0	7.4	1.5
Chile (1962) 1/	4.6	6.9	1.5
Colombia (1962)	6.1	7.9	1.3
Costa Rica (1961)	5.7	8.9	1.5
Ecuador	--	--	--
El Salvador (1971) **	5.4	6.9	1.3
Guatemala (1960)	5.7	7.3	1.3
Honduras (1966)	5.6	8.2	1.5
Mexico (1972)	4.7	7.6	1.6
Nicaragua (1977) **	3.8	7.4	1.9
Panamá (1967)	4.5	6.5	1.4
Paraguay (1963)	5.3	8.0	1.5
Perú (1965)	5.8	7.9	1.4
Dominican Rep. (1963) 2/	6.0	7.9	1.3
Venezuela (1968) **	5.3	7.3	1.4

1/ "Urban" corresponds to Metropolitan Region (Santiago-94% urban); "Rural" corresponds to Region VII (53% rural).
2/ Accumulated fertility up to 40 years of age.
** Countries in which the estimates correspond to a year distinct to that denominated as the "onset" year.
--- Information not available

Source: Guzmán et al., 1991; Rodríguez Wong, 1983); Ruedi y Guzmán, 1989; Heredia y Prada, 1973; Guzmán y Behm, 1980; Médica, 1989; Behm y Vargas, 1984; Chackiel y Mérida, 1986; Zavala de Cosio, 1989; Epema, 1983; Behm y Rodríguez, 1984; Brizuela y Chackiel, 1988; Ferrando, 1990; Guzmán, 1983; López y Bidegain, 1989 (Listed according the order the countries appears in the table).

Although the evidence is not conclusive due to the lack of details of fertility differentials in the pre-transition stage, there are nonetheless data which enable us to analyze what happened in some countries (see figure 2). For example, in Brazil, fertility estimates for three regions, which may well indicate what occurred by area of residence, reveal that already in the 1930s, the fertility rates in the regions of Sao Paulo and especially Rio de Janeiro were similar to those of populations which practiced some birth control. By contrast, in the Northeast region, fertility was not only higher but began to fall only in 1970. In this case, we do not know what took place before 1930, but we may well imagine a transition previous to this date in Sao Paulo and Rio de Janeiro, just as occurred in Argentina and Uruguay. In Chile, in the first half of the 1950s, a decade before the onset, upper-middle-class sectors already had fertility rates close to three children per woman (Ruedi and Guzmán, 1989). In Mexico, Zavala de Cosio estimates that in the cohorts of women born between 1910 and 1930, family size in urban areas was almost two children less than in rural zones (Zavala de Cosio, 1989).

In summary, it appears clear that before the beginning of the transition at the national level, all countries contained sectors in which some birth control was practiced. Urban sectors (generally those of the large cities and with higher educational levels) maintained lower levels of fertility than the rest. The practices of this minority apparently did not spread to other parts of society. The interpretation of this phenomenon should be found in the markedly elitist character of Latin American societies and the social, economic, and cultural marginalization of the great masses of population, especially the peasantry; instead, the distinct social groups maintained their reproductive conduct in stagnant isolation[11], as if the social conditions which would have enabled the adoption of this conduct by a wider segment of the population did not exist.

New studies are needed which will permit us to know more about fertility tendencies in different categories of population in the pre-transitional period. These studies should also include aspects related to the particular form in which socio-economic changes affected the different population groups. Some evidence already exists which demonstrates the large differentiation between urban and rural sectors with respect to access to education, health, and housing. Structural heterogeneity, as has been mentioned, has been to some extent intrinsic to the Latin American development model (González et al., 1978).

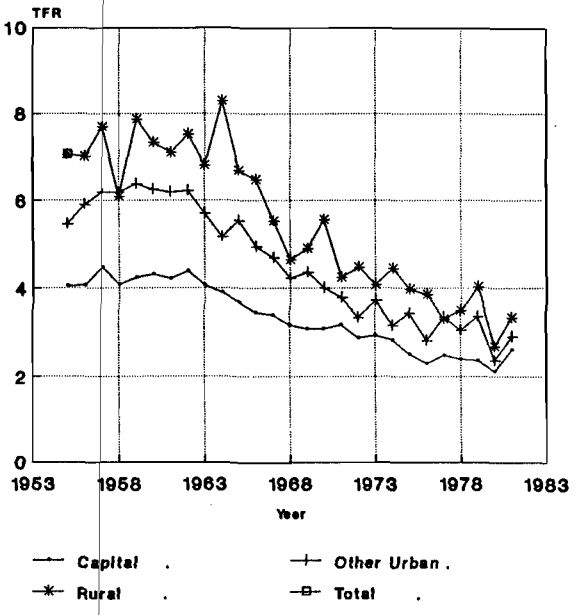
III. DISCUSSION

At the beginning of the 1960s, the countries of Latin America maintained in general high levels of fertility. The differences among them corresponded not only to differences in patterns of marriage and breast-feeding but also fundamentally to the preponderance of those sectors which practiced in some degree birth control. This depended to a large extent on the socio-economic development of the country. In fact, it is hardly surprising that countries such as Chile and to some extent Brazil have lower levels than others.

Figure 2

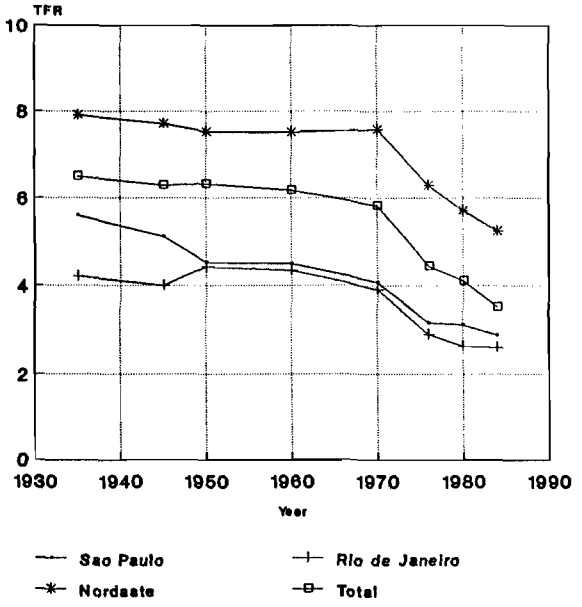
Total fertility rate in selected countries by areas of residence.

Metropolitan Region, Chile, 1955-1981.



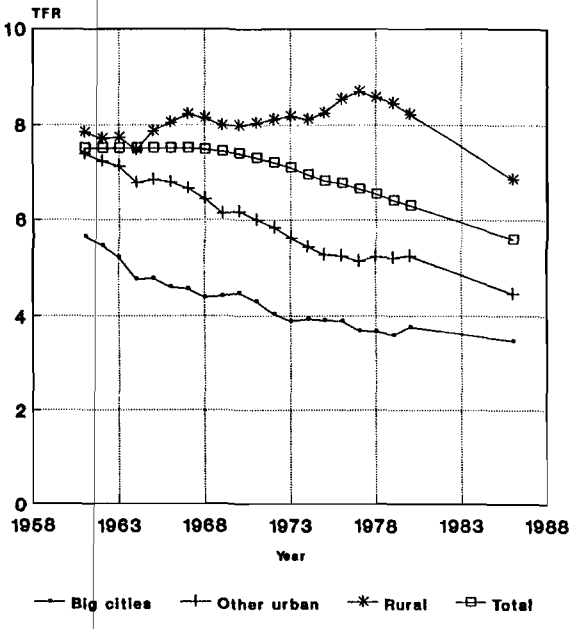
Source:
Ruedi and Guzman, 1989.

Brasil, 1930-1980



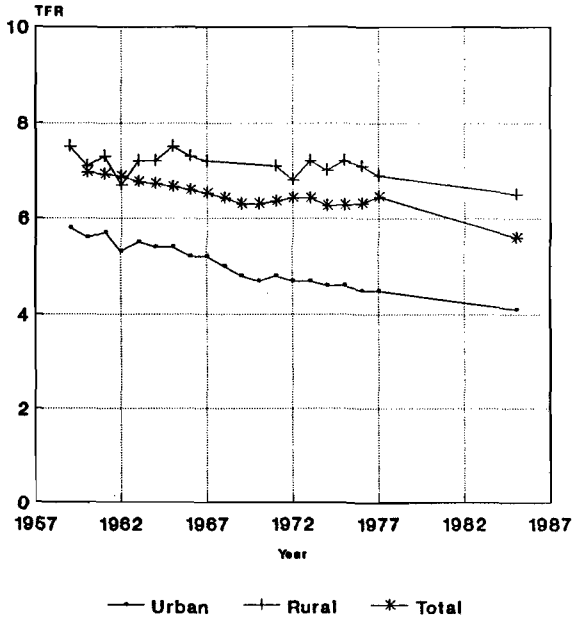
Source:Carvalho,1974; Merrik and Berquo, 1983; Arruda et al., 1987.

Honduras, 1960-1986.



Source:1986-80:Chackiel and Merida,1988.
1986:HMPH, ASHOPLANFA, FHI, MSH (1989)

Guatemala, 1959-1985



Source: 1959-1977: Behm y Vargas, 1984.
1984-85: MSPAS, INCAP, DHS, 1989.

During the 1960s and 1970s, the ideal of a smaller family took root among an increasing portion of the population, leading to the desire and later the practice of birth control, although in some cases the late expressed with some delay. Since 1960, social changes have led to the general adoption of this pattern of conduct, previously confined to limited sectors, usually as a function of levels of development.

Nonetheless, this process is not lineal, but irregular. The onset and the velocity of the decline at the national level are the result then of the speed at which the different groups adopt the small-family ideal and carry it out in practice. The irregularities in the way in which the different groups join in this process of change may have to do with these two phenomena. On one side is the appearance of the innovative element (i.e. the emotional nucleation of the family, birth control practice). On the other is the adoption of practices consistent with this new family ideal. The studies of González and collaborators of the cases of Brazil, Cuba, Chile, and Costa Rica show the importance of the role of the state in these countries. In those which achieved success in redistribution of social spending, class differences were diminished and declines in fertility were more rapid as those sectors which maintained high fertility were affected.

With respect to this last aspect, it is believed that one important element causing irregularities between groups is that related to the so-called costs of regulation, as defined by Easterlin. Here is the field of endeavor of public or private programs of family planning, to the extent that their appearance and differential development in Latin America contribute both to increase the flow of information with respect to the small family ideal and also diminish the social and cultural cost of the adoption of the control to the extent that it is socially legitimized. Although it is true that they do not reach a majority of all women, they generally do reach those most in need of services and at the same time function as legitimizers of fertility regulation, which in turn reduces regulatory costs. Mexico is an interesting case in this regard, given that although its economic and social indicators predicted that the break in fertility should have occurred in the same year as in Costa Rica, Venezuela, and other countries, this did not occur until 1972. Once fertility decline was achieved, Mexico soon "caught up" with the others.

The present work considers that the economic and social changes which occurred in Latin American in the post-war period, with its resulting technological changes and the demand for qualified labor, created the conditions for a mode of production in which the large families of the past were no longer necessary. From this point of view, the continuing process, its diversity and change, are determined by the speed with which the various social groups are integrated into the process, that is, to the extent that they adopt behavior consistent with the new conditions. Of course, the process is contradictory, with some elements favoring and others delaying the decline. The moment of the onset and its characteristics are related to this process.

This relationship between social-economic changes and fertility rates, as has been seen, is not sufficiently clear. In the analysis of variables at the global level, such as the GDP per capita, an identifiably strong relationship in early stages tends to dissipate later. Furthermore, if economic growth leads to a drop in

fertility, it is also possible that the economic crisis of the 1980s produced its own fertility decline (Carvalho et al., 1981). This takes us in two directions. One is the analysis of the process in a way that will demonstrate its heterogeneity. The other is the analysis of general processes that have influenced all groups and social sectors. Within this latter perspective, there are two lines of research which seem to us promising: that proposed by Paiva, for whom the destabilizing element of fertility is not economic growth per se but rather the generalization of the dependence of the family on consumption through the marketplace.

This line of study may be interesting to the extent that it permits us to understand whether an indicator of development, such as the percentage of salaried workers, acts in and of itself on those persons which possess this characteristic or if, in a given moment, it ceases to be important as an indicator since the logic of its value as such begins to form part of the society as a whole, even if the society does not possess it. Education functions in a similar way. When most of social and economic relations among members of a society begin to those of literate persons, the whole society begins to function on the basis of this logic and therefore adheres to these characteristics whether or not its possesses them.

Another complementary line of research was outlined in a previous document by the present author (Guzmán, 1990). There, it was suggested that one of the important elements in understanding the destabilization of fertility process, and specifically the generalization of the small-family ideal, is the development of a broad expectation of social mobility, basically via education (Guzmán, 1990), as a consequence of the immense economic growth experienced in the region in the post-war period.

As has been previously analyzed (CEPAL, 1989), an important aspect is that until the crisis, Latin America's economic rate of growth was high, not only that of total GNPs but also of per-capita GNP. This created an important occupational and social mobility. In spite of the fact that many social groups would not see themselves benefitting directly from this economic development (in fact, distribution of income did not noticeably improve), great expectations of social mobility were created. These expectations express themselves via the access to certain goods and services which are increasingly considered to be required rights, but also in the search for a better standard of living. They may have affected groups who were not direct beneficiaries, such as persons with little or no education, non-salaried workers, etc., who incorporated into their personal decisions the new logic of reduced fertility.

The two perspectives are not mutually exclusive, nor do they exclude the model of diffusion. It seems to us that the most important task of fertility theory is not to elaborate a new theory but rather to put the elements of the different perspectives in their proper place.

NOTES

1. Taking account of this, in this paper more attention will be devoted to countries where fertility transition began the decline after the fifties. That means that the case of Argentina and Uruguay will not be analyzed in detail.

2. The Seminar on Fertility Transition was hold in Buenos Aires, in april 1990, under the activities of the Committee on Comparative Analysis of Fertility and Family Planning of the IUSSP is a good example of a well documented overview of this process.

3. This chapter is mainly based on a previous work of the author (Guzmán, 1990).

4. Such is the case of Argentina and Uruguay, countries in which fertility began to decline early in the context of a sizeable influx of European immigrants and a modernization process which began at the turn of the century.

5. During the 1960-1975 period, GDP grew by rates of over 5 percent a year.

6. Caldwell, for example, notes that education affects fertility through at least five mechanisms: (1) reduces the potential labor of the child in the home and outside; (2) increases the cost of child-rearing; (3) increases societal demands on the family to protect the social investment in the child as a future producer; (4) accelerates cultural change and creates new cultural phenomena; and (5) propagates western middle-class values (Caldwell, 1980:228).

7. This discovery would be consistent with the results obtained by Cutright and Hargens (1984), who, using data from Latin America from the 1950-1980 period, reexamined the validity of the threshold hypothesis developed 20 years before (United Nations, 1965), and concluded that threshold values may exist both in mortality (life expectancy of 56 years at birth) and in education (74 percent of adult literacy) on the reduction of fertility in the region.

8. The only exception to this behavior would be the case of Haiti, which has shown a rise in fertility.

9. This chart is based on the best data available from each country. However, for the 1950s, the information available is deficient, and it is not possible to know with certainty what occurred in this period.

10. It is difficult to trace a pattern in all countries of the process of fertility changes among different socio-economic groups and geographic areas since most of the efforts undertaken in this sense are looking at the most recent tendencies.

11. This perspective of analysis is similar to that of Mundigo (1990) who argues that there were two transitions in Latin America: one of the middle and upper classes with the highest educational levels which began before 1960 and later expanded to the rest of society, and another which was the result of the expansion of this conduct to the rest of society. Nevertheless, this author did not put emphasis on the apparent relatively stable differential between rural and urban fertility that is seen in some countries of Latin America.

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