

DEMOGRAPHIC ASPECTS OF ECONOMIC SOCIAL DEVELOPMENT

BY

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As yet no nation has ever achieved a clear "take-off" in economic development under demographic, cultural and political conditions similar to those in the Philippines today. The difficulties to be overcome in achieving a sustained increase in the general level of living in this country are formidable and they are not always taken squarely into account in current planning.

Compare the demographic situation in the Philippines today with that in Western Europe or Japan during the critical early phases of their economic development. Sweden may be selected for special attention in considering the developmental situation in Europe because its advance was relatively late and effected without imperial advantages. The demographic contrast can be summarized on three indices:

Y E A R	<u>Sweden</u>	<u>Japan¹</u>	<u>Philippines</u>
1850	1920	1960	
<i>Total fertility</i> (number of children born alive per woman living through the childbearing years)	5.0	5.3	6.7
<i>Growth rate</i> (percentage increase of the population per year)	1.0-1.2	1.0-1.5	3.2
<i>Dependency ratio</i> (persons under 15 plus those 65 and over per 100 persons 15-64 years)	60	68	97

Pre-industrial Europeans (in the eighteenth century), reduced their family obligations, even when death rates were higher than in the Philippines today, by a practice that required considerable fortitude — namely postponement of marriage until on the average brides were 25 years or over and grooms 28 or over when first married. There was

¹The first census of Japan was in 1920. However, the trend of population at that time was not radically different than it had been near the beginning of the century.

less postponement of marriage in Japan during the late Tokugawa era, but population increase there was severely checked by frequent resort to abortion and infanticide. Growth rates in Western Europe almost never rose above one per cent per year prior to 1850, or above 1.5 per cent thereafter. During the critical 1870's and 1880's in Sweden natural increase was about 1.2 per cent, but the average net increase during this 20-year period was reduced to 7/10 of one per cent per year by emigration to other countries by those pushed out of agriculture by technological changes but not yet needed in industry. After 1890 the expanded industries absorbed the rural exodus, and emigration tapered off. The birth rate in Japan has always been lower than in other Asian countries. So far as we know, and some evidence on this subject goes back a long way, the birth rate was never over 35 per thousand, whereas it is still over 45 in the Philippines. The population was nearly stationary in the late Tokugawa era, and annual increase never rose above 1.5 per cent except during a few years immediately after the last war. It is now declining toward zero. The motivations for restraints on marriage and fertility both in early modern Europe and in Japan were obviously economic. This is evidenced by the dramatic change in behavior among Europeans who settled in the new world of open spaces and expanding opportunity. Their total fertility shot up from about 5 to about 7.5 children per woman, and then gradually declined throughout the nineteenth century especially in older, established communities.

The interesting suggestion arises that the restraint of fertility prior to the introduction of modern techniques of family limitations, and popular response to new techniques as they become available, is indicative of the relative intensity of economic motives in various cultures. In other words, strong motivation toward the restraint of fertility is symptomatic of cultural *milieus* that also generate strong motivations for intensity of economic effort, savings, a reputation of creditability in financial affairs, and economic enterprise—traits which, whether or not they are otherwise commendable, are conducive to economic progress. Differences in economic development between North America and the countries between the Rio Grande and the Rio Plata may be due in part to such differences in cultural heritage.

The high fertility of the Russian population at the time of the Revolution (except in the Baltic provinces and the Ukraine) gave no indication of a proclivity toward rapid economic advance. But here, as in North America and Brazil, vast open spaces invited development. In any case, the post-revolutionary economy of the Soviet Union was ruthlessly directed by a strong central authority with a coherent economic philosophy. The birth rate in the U.S.S.R. is now only moderate, similar to that in the U.S.A.

We should also note that, whereas economic development in Europe during the nineteenth century took place in democratic societies with free enterprise economies, the two great transformations of economic structure during the twentieth century (in the U.S.S.R. and in Japan) were directed by authoritarian regimes that enforced austerity and controlled the allocation of resources. The notable progress in Puerto Rico during the last two decades has been achieved in a democratic regime. However, it has enjoyed obvious advantages through its status within the political structure of the United States (including massive migration to employment opportunities on the mainland), and it has been guided by the strong Partido Popular under Muñoz Marín which has consistently pursued a rational economic policy.

These digressions into the consideration of cultural and political affairs are intended to suggest that both demographic and economic processes are strongly influenced by a wide variety of conditions which are neither purely demographic nor economic. Taking cultural and political conditions as well as demographic factors into account, it seems dangerous to formulate a national program on the basis of economic models founded on the experience of other countries where essential conditions have been quite different. The economic resources, needs and possibilities of each nation must be rigorously analyzed, and any workable program must be specific to its particular conditions. Moreover, one cannot expect to find the key to the complex economic needs of a nation in any simple formula, such as "industrialization" or "birth control". These may be *necessary conditions* of sustained economic progress, but it cannot be assumed that the promotion of either or both of these conditions is *sufficient* to assure such progress.

Rapid population increase impedes economic advance in various ways. Several of the most critical aspects of this relationship can be stated briefly.

(1) The age structure of a population is mainly determined by its level of fertility. It is less strongly influenced by mortality and, contrary to common sense based on observations of the life span of individuals, low mortality at any given level of fertility tends to *raise* the proportion of children in a population. Within any fairly broad range of mortality levels, the age composition of a population is mainly a function of its fertility level. If the birth rate is high the number of mouths to be fed will be large in comparison with the number of hands that can be put to work. One important economic consequence of this demographic fact is that high fertility reduces the proportion of income at any given level that can be saved for investment after meeting current consumption needs.

Another aspect of this relation, especially significant with respect to social progress, is the ratio of children of school age to the working adults who must provide for their support. In 1960, there were only 33 children under 15 years per hundred adults aged 15-64 in Japan and only 34 in Sweden, but 55 in the Philippines. So to maintain the same level of education, the average burden on each adult of working age in the Philippines is 60 per cent higher than in Sweden or Japan today. The adjustment to this differential is effected here in part by greater public expenditure on education than would be needed if the ratio of children to adults were lower, in part by raising the age of entry, and in part by reducing the volume or quality of educational services for pupil.

(2) If each member of a rapidly increasing labor force is to have productive resources at his disposal equal to those available to each worker before the new increments are added, an appreciable part of a nation's current income must be continually spent on widening the resource base, as distinct from investments that increase the average output per worker. We do not know the precise capital-output ratios in different segments of the Philippines economy nor the precise over-all ratio, but the latter is probably somewhere between 2 and 3. Thus with a 3 per cent increase in the labor force each year, 6 to 9 per cent of the current income must continually be paid out merely to avoid deterioration in output per worker. If the increase of population in this country were reduced to the highest levels ever attained in Sweden or Japan, the cost of "standing still" as regards resources per worker would be only half as large, about 3 to 4.5 per cent. An equal amount could then be added to new productive investment without greater effort. The intensification of capital per worker would be some 25 per cent, more or less, higher at a given volume of gross investment.

(3) Rapid population increase creates structural problems in relations among different segments of the economy. I shall return to this subject at a later point.

(4) It seems probable, though this cannot be demonstrated so simply, that with rapid population growth and associated changes in the distribution of the population, a larger proportion of total investment must be allocated to the sustaining infra-structure (transportation facilities, water supply, etc.) and to the social services.

(5) None of the preceding relationship takes account of possible limitations in natural resources. This does not seem, at present, to be a major problem in this country—though it may be that the extension or deepening of agricultural resources will soon, if it does not already, involve increasing costs per resource unit of equal productive capacity.

Finally, we must recognize that population growth acquires a momentum that cannot be quickly arrested. This is due in part to the fact that the children being born today swell the number of potential parents in the next generation. It also reinforces cultural tendencies associated with high fertility. One must consider long-range as well as short-range prospects. Mere continuation of increase at 3 per cent per year doubles the population in 23 years and gives a 16-fold increase (four doublings) in 92 years. At this rate of increase the population of the Philippines 100 years hence would be larger than the present population of India. Also, it must be noted that unless there is serious deterioration in levels of living—which, admittedly, may happen—the diffusion of medical knowledge and the application of sanitary principles will undoubtedly cause further acceleration of the rate of growth if fertility remains in the vicinity of its present level.

These considerations clearly indicate that the economic prospects of Philippine society would be significantly improved by a reduction in the frequency of births, and they give at least plausible support to the idea that such reduction is one of the essential conditions of sustained economic progress in this country. I find that these conclusions are now accepted by most, though not all, professionally trained persons in this country and, more vaguely, by many less educated persons.

It does not, however, necessarily follow either (i) that public action should be taken in this field or (ii) that this would be politically possible even if it is generally assumed to be in the nation's interest. The first of these questions involves value judgments that only the people of the Philippines can make for themselves—taking into account cultural as well as economic issues and, for those concerned with theology, the destiny of their souls. Even if the first of these questions (concerning value judgments and goals) is answered in the affirmative, the second (political) issue may still pose a formidable problem for a long time. Both questions are beyond competence, except with respect to certain technical questions about demographic behavior that may have some relevance to those issues.

First of all it may be noted that a shift toward marriage at later ages, if associated with avoidance of premarital pregnancies, would appreciably lower the rate of natural increase. A shift of the age incidence of fertility so as to raise the mean age of childbearing by two years would reduce the growth rate by some 8 per cent, equivalent to a reduction from 6.7 to 6.2 in the number of children per woman of completed fertility—merely by shortening the inter-generation interval. Furthermore, the spreading out of births during the transition from the younger to the older age schedule would have an even greater tempo-

rary effect, analogous to a complete moratorium on births during about two years, and this decrement would never be made up unless there were a return to the earlier pattern. Finally, postponement of marriage brings, in the Philippines as in other countries, a significant reduction in the size of completed families. An approach to the reduction of births by postponement of marriage is being stressed in mainland China, along with its birth control campaign. However, such a change requires an intensification of rational economic motivations in the popular culture. There is some evidence of a trend in this direction in the Philippines, but there is as yet no firm evidence of a significant change in the mean age of women at first marriage.

Cultural patterns, as well as technical difficulties, impede the practice of periodic continence by the people in the rural barrios and among impoverished elements in congested urban districts. I am more impressed than most demographers with the relative efficacy of periodic continence among well-educated and healthy couples, especially if they begin the practice early in their married lives. But it is not, I fear, adapted to needs of couples with an initial pattern of frequent pregnancies and a tendency, due to poverty and ignorance, to have little confidence in the achievement of higher standards of living for themselves and their children through rigorous self-discipline and industry. These considerations may apply with even greater force to people in urban slums than to those in the rural barrios—especially if the aspirations of the latter can be quickened by significant advances in agricultural productivity. The regulation of ovulation by pills may be equally out of the question for these classes for similar reasons plus the cost.

Finally, the introduction of any methods of family limitation in this society on a scale sufficient to have a measurable effect on the birth rate will undoubtedly require a vigorous program of popular education. It is true that the gradual spread of family limitation in Europe (which, incidentally, moved at similar rates in Catholic and non-Catholic cultures, except where delayed by poverty and ignorance as in southern Italy) was wholly spontaneous—without any support by public authorities and in spite of ecclesiastical opposition. Such a spontaneous movement is dependent on the strength and rationality of economic motives in popular culture. It has not, as yet, happened anywhere in Asia except in Japan during the 1920's and 1930's and perhaps very recently within Chinese communities in several countries.

These considerations all point to the extreme complexity of population problems in the Philippines. A strong movement toward family limitation must overcome weighty obstacles. It cannot be quickly generated, though presumably it could be stimulated in various ways. It

is likely that change in this area of life will come, if at all, only in association with progress in health, education and labor productivity. A rise in levels of living would quicken popular aspirations and give people greater confidence in the management of their affairs. Such a change has stimulated contraceptive practices, and thus lowered rates of population growth, in other countries. Presumably it would have a similar effect in the Philippines.

Let us now turn our attention to *the other side* of relations between demography and economics as they affect public policy. We know pretty well what the size of the labor force will be a quarter-century hence. In 1985 it will be about twice its size in 1961. (Those who will be over 15 years old in 1980 have already been born, and no sudden change can be expected in the birth rate during the next five years). How can this rapidly expanding labor force be effectively used and how can it be sustained so as to obviate the depressing effects of rural poverty and urban unemployment, and their sequelae in crime, violence, and other civic diseases?

Part of the increasing labor force can be absorbed by the expansion of manufacturing enterprises, but not so large a part as is sometimes supposed. The proportion of all economically active males at work or having a job in "manufacturing" (including crafts) has fluctuated around a fairly constant level at 7 per cent during the past seven years, according to the Philippine Statistical Survey of Households. (The figure was 7.0 per cent in October, 1956, 7.2 per cent in October, 1962.) The proportion engaged in agriculture has remained equally constant at about 70 per cent (68.6 per cent in October 1956, 69.3 per cent in October, 1962). The figures for female workers show similar trends but are less reliable. There has obviously been a notable increase in the volume and value of manufactured products during this period. And there was an increase during the four years from 1956 to 1960 of 21 per cent in the payrolls of manufacturing establishments with 5 or more workers and of 32 per cent in plants with 20 or more employees.¹ This increase in establishment activity was apparently offset, as regards employment, by a decline in home industries. On the other hand, very large firms tend to have low worker-capital ratios. The most promising labor employment prospects seem to lie in the growth of establishments of moderate size but above the home industry and small shop level. The volume of employment in all manufacturing establishments with 10 or more workers in this country is still very low. The number so employed in late 1961 according to the Economic Census of the Philip-

¹ Sicat, Gerardo P. "The Structure of Philippine Manufacturing: Prospects for the 1960's" in Sicat, Editor: *The Philippine Economy in the 1960's*, I.E.D.R., University of the Philippines, 1964. p. 195.

piners was 263,000, i.e. 2.7 per cent of the national labor force at that time. The trend during the next quarter-century can not be predicted with confidence. It will depend on the structure of the economy. On the *hypothesis* that there is an increase of 4 to 8 per cent per annum in employment in manufacturing establishments, with 10 or more workers, moderate and large manufacturing plants would employ from 700,000 to 1,940,000 persons in 1986, i.e. from 3.4 to 10.0 per cent of the doubled labor force. The proportion of economically active males engaged in agriculture might then be reduced from about 70 per cent toward 60 per cent, or possibly to a somewhat lower proportion. But a majority of all male workers would still, almost certainly, be dependent on agriculture. Unless they can be effectively employed, with earnings sufficient to meet their needs, inspire some confidence in the future, and sustain the purchasing power of the nation, the volume of unemployment and under-employment will be swollen with disastrous consequences to the whole economy and to the nation's social and political structure.

A nation with a rapidly expanding labor force and an initially weak industrial sector can not afford to concentrate its energies on the alluring prospects of rapid industrialization to such a degree that the health of its primary economic activities is undermined. There are, in fact, real possibilities of fairly rapid increases in the productivity of agricultural workers in the country, but even this progress must be so directed that opportunities for employment in agriculture are not only maintained but are appreciably increased.

My conclusion is simply that there is no sure or well-defined path to "economic development". Perhaps the very use of this term, say as contrasted with "national welfare", tends to evoke illusions. Due to my own background and interests, I have stressed the importance of taking population trends and possibilities realistically into account. But I recognize that other aspects, such as education and political affairs, may be equally or even more important. The problems facing this nation today are formidable and complex. They call for rigorous, candid analysis, imaginative planning, and firm, consistent administration.