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WORLD ECONOMIC SURVEY, 1973

Part One. Population and Development

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NOTE

Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

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FOREWORD

This report, *World Economic Survey*, 1973, is the twenty-fifth in a series of comprehensive reviews of world economic conditions published by the United Nations. It is issued in response to General Assembly resolution 118 (II), in which the Secretary-General was requested to prepare an annual review and analysis of world economic conditions and trends. The report is intended to meet the requirements of the Economic and Social Council and other organs of the United Nations for an appraisal of world economic conditions which may serve as a basis for recommendations on economic matters. It is also intended to stimulate interest in and discussion of international economic problems among a more general public audience.

The present *Survey* appears in what the General Assembly, in its resolution 2683 (XXV), designated World Population Year, which is to culminate in the World Population Conference in August 1974. In the light of this, it was decided to devote the *Survey* to an examination of recent interrelationships between demographic change and the process of socio-economic development. It seeks to present a range of data that may be found useful as background to the Conference and subsequently in discussions of population policy and in the formulation of development plans.

The *Survey* consists of four chapters preceded by a brief introduction which sets forth some of the salient aspects of the relationship between population and development. Chapter I is almost entirely statistical in nature: it presents the latest demographic information, drawing as far as possible from the results of the 1970 round of censuses, and the principal social and economic data on which the population variable tends to impinge most directly. This chapter is global in scope. The other three chapters are devoted to an empirical examination of some of the more important ways in which recent changes in population size, structure, distribution and rates of growth have affected economic and social conditions and progress in the developed market economies (chapter II), in the centrally planned economies (chapter III) and the developing countries (chapter IV).[1]

The *World Economic Survey* is prepared in the Centre for Development Planning, Projections and Policies of the Department of Economic and Social Affairs of the United Nations Secretariat.

[1] This threefold categorization of countries is intended for statistical convenience; it does not necessarily imply a judgement regarding the stage of development of any particular country.

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The following symbols have been used in the tables throughout the report:

Three dots (. . .) indicate that data are not available or are not separately reported.

A dash (—) indicates that the amount is nil or negligible.

A blank in a table indicates that the item is not applicable.

A minus sign (—) indicates a deficit or decrease, except as indicated.

A full stop (.) is used to indicate decimals.

A comma (,) is used to distinguish thousands and millions.

A slash (/) indicates a crop year or financial year, e.g., 1970/71.

Use of a hyphen (-) between dates representing years, e.g., 1971-1973, signifies the full period involved, including the beginning and end years.

Reference to "tons" indicates metric tons, and to "dollars" ($) United States dollars, unless otherwise stated.

The term "billion" signifies a thousand million.

Annual rates of growth or change, unless otherwise stated, refer to annual compound rates.

Details and percentages in tables do not necessarily add to totals, because of rounding.

The following abbreviations have been used:

CMEA	Council for Mutual Economic Assistance
EEC	European Economic Community
FAO	Food and Agriculture Organization of the United Nations
GRC	gross reproduction coefficients
ILO	International Labour Organisation
SITC	Standard International Trade Classification

INTRODUCTION

It is surprising how small a part population questions have played in the planning of economic and social development. References to demographic changes are relatively few in plan documents and where population matters are dealt with it has often been implicitly —through the denomination of the economic or social variable in *per capita* terms, for example—rather than explicitly.

The explanation for this reticence lies partly in ignorance: many countries—including some that engage in development planning—are still uncertain of the precise size, distribution and composition of their population. In very few developing countries is there an adequate system of birth and death registrations. Censuses, when they are taken, are usually 10 years apart, whereas most planning is done for much shorter periods, rarely more than five years. Traditionally, moreover, population has not been regarded as a socio-economic variable: it has been thought of—in high-income and low-income countries alike—almost as an exogenous factor, subject to inexorable, but necessarily slow, evolutionary movement.

This situation has been altering in recent years. Many countries have now taken three censuses since the Second World War and these have provided statistical evidence of what was becoming increasingly apparent in a visual, impressionistic manner, namely, that the pace of demographic change has greatly accelerated.

At the root of this in the developing countries has been a decline in death rates, at a speed and on a scale without parallel in human history. Accentuating the effects of this reduction in mortality has been an unprecedented increase in human mobility, resulting in the regrouping and concentration of populations the scope of which has also been without historical parallel.

In the higher-income countries there has also been a quickening of demographic change. Population structures still reflect the differential birth and death rates occasioned by the 1939-1945 war and the subsequent demobilization with its accelerated family formation. In the early post-war years fertility recovered from the low levels recorded in the 1930s. In some countries (Belgium, Canada, Luxembourg, Spain and the United States of America, for example) birth rates continued to rise in the 1950s, but in others there was a marked decline (most notably in Japan but also in Denmark, France, the Netherlands and Sweden) and this reduction in fertility became more general in the 1960s. In almost all the high-income countries birth rates in the early 1970s were substantially lower than at the beginning of the previous decade. And everywhere the pace of physical movement rose steeply: migration between countries, both temporary and permanent, was at a markedly higher level and urban areas expanded and their populations changed in composition at a disconcerting rate.

In the face of this manifest speeding up of the pace at which the demographic situation was altering, attitudes towards the position of the population factor in the process of economic and social development also began to change more rapidly. This process was assisted by the progress being made in the technology of birth control. By the end of the 1960s, a majority of countries had adopted active population policies involving the official sponsorship of family planning. Though few countries have yet gone as far as to set targets for any of the demographic variables, it is clear that they are no longer being regarded as exogenous and unalterable. The new generation of plans, charting the desired course of development over the 1970s, is beginning to deal explicitly with population questions, either stating the basic assumptions made in respect of key demographic variables or, increasingly, setting forth policies to be adopted in order to bring about changes in those variables.

What are considered key demographic variables differ from case to case but, in the light of recent history, there are three sets of population factors that tend to impinge most directly on the development process, influencing not only the pace and scale of economic growth but even the nature of necessary and feasible social change. First is the absolute size of the population which both governs the extent of a country's internal division of labour and to an important degree helps to shape its external relations. Then come the various aspects of demographic structure, most notably age composition and family size, both closely associated with—and to some extent the result of—the pattern of birth rates and death rates. The more

immediate consequence of births and deaths is natural increase of population, and the rate of population growth is a major determinant of the course of economic and social development. Thirdly, there is the question of geographical distribution: the process of development is directly affected by population concentration and density and by changes in spatial arrangement brought about by migration including, in particular, the movement of people into and out of urban groupings.

Concern about the *size of population* has mounted in recent years as evolving life styles have begun to impinge upon physical constraints. In 1972 and 1973 the more general malaise arising from a felt deterioration in the "quality of life" was greatly intensified by the emergence of a number of specific shortages, most notably in food-stuffs and energy. The relationship between population and natural resources has therefore come under renewed scrutiny.

In the developing countries the chief problem is the ratio of people to land and how land use can be improved so as to assure an adequate supply of basic food-stuffs and in due course a raising of dietary standards. Where an improvement in the diet depends on a larger intake of livestock products the need to increase cereal yields (per hectare of planted area) become more urgent. The difficulties rise with the density of occupation of arable land and the scarcity of water or the irregularity of its supply.

In one sense the more advanced countries have overcome this particular set of problems. Collectively, at least, they produce a food supply that is sufficient to provide all their inhabitants with a nutritionally satisfactory diet. (If some of their inhabitants do not in fact enjoy such a diet, it is the result of inequalities in income distribution rather then inadequacies in food supply.) But to assure every one an adequate diet these countries have adopted technologies and life styles that impose unprecedented strains on the supply of minerals, particularly fuels. To provide each individual with the necessary supply of just over 1 million calories a year now requires the expenditure of more than 8 million calories in agriculture, transport and food processing (together accounting for rather more than half the total) and in wholesale and retail distribution and home storage and preparation.[1]

In a subsistence society no external energy (other than the sun) is used to produce the required food supply, and very little to prepare it for eating. As development proceeds and the division of labour intensifies, the farm worker is called upon to provide food not only for himself but for an increasing number of other persons active outside agriculture. On the average, a farm family is now responsible for feeding one non-farm family in the developing countries but as many as 10 in the developed market economies. About 10 times as much energy is used *per capita* for food production, distribution and preparation in the United States as is used for all purposes in Indonesia, Paraguay, Senegal, Sri Lanka or the Sudan.

The escape from the pressure of population on the land by way of diversification and technology thus shifts the burden to other natural resources, particularly energy, required to control water supplies, to produce fertilizers and pesticides, to mechanize farm operations whose scale or speed lies beyond the capacity of the farm worker, to transport the resultant produce and to process it into forms suitable for storage and mass distribution. In this transformation, the consumption patterns that have evolved in the developed market economies with their 700 million inhabitants cannot be the model for the developing countries with between three and four times that population: milled grain, fresh fruits and vegetables, fish, milk and vegetable oils will have to play a more important and direct nutritional role than meat and the processed food-stuffs that tend to be so much more resource-extravagant.

The second major area of demographic concern is the *rate of increase of population*. This is independent of population size, though the implications of a given rate of increase clearly vary with the size of the population involved, both in absolute terms and in relation to its natural resource base. Its implications also depend on its vital level; in particular, on the death rate it embodies: in view of the proven tendency for mortality to be capable of a very rapid decline under contemporary conditions, a given rate of natural increase has a much greater growth potential at a high death rate than at a low death rate. The significance of the rate of population increase also depends on the length of time for which the rate has been operative, for that determines the age structure of the population and that in turn influences its labour force and the composition of consumption.

Concern over the rate of increase in population stems principally from its impact on employment, productivity and saving. Interest in its employment aspects is universal; its bearing on productivity is a question concentrated largely in the more advanced countries; its effect on saving is crucial to the developing countries.

[1] Based on the estimates made by Eric Hirst of the Environmental Program of Oak Ridge National Laboratory, Tennessee, United States of America.

Between 1950 and 1970 in the more advanced countries,[2] total population increased from about 750 million to about 950 million (that is by 200 million, an average of 1.2 per cent a year); the 15-64 age group increased from about 489 million to about 600 million (that is by 111 million, an average of just under 1.1 per cent a year), and the labour force increased from about 347 million to about 424 million (that is by 77 million, about 1.0 per cent a year). The reduction in the involvement of the population in economic activity implicit in these figures reflects three distinct but reinforcing tendencies: a lengthening of life expectancy and a consequent increase in the proportion of the population over 64 years of age (from about 8 per cent to 10 per cent); a lengthening of formal education and a consequent reduction in the rate at which the 10-14 year old group participated in the economy (from 7 per cent to 2 per cent); and an improvement in pension arrangements which, combined with a greater formalization of retirement, resulted in a sharp decline in the participation rate of the over-64 year old group (from 27 per cent to 18 per cent). These changes more than offset the effect of a marked increase in the economic participation of women of working age (15-64)—from 46 per cent of the female population in 1950 to 50 per cent in 1970.

Female participation rates seem likely to continue to rise in the more advanced countries: they are still much lower than the 86 per cent average registered by males. If future increments in the population are to be as successfully integrated into the economy as was the expansion of the 1950s and 1960s, further reductions in the participation rates of the young and the old may be required. Extension of education and the raising of school leaving age are readily conceivable, especially in Europe, but a continued lowering of the retirement age poses major problems of social organization, especially if life expectancy continues to rise. Catering for the elderly is already a serious challenge in many countries—in respect of housing, feeding, health care and recreation, and above all "employment" outside the mainstream of the economy.

While, in general, the more advanced countries have been able to honour their commitment to full employment in the face of an expending population, the situation in the developing countries has been quite different. Population has increased much more rapidly between 1950 and 1970—by about 700 million or 2.4 per cent a year, and the working age component by about 370 million or 2.3 per cent a year—and it has been extremely difficult to absorb the stream of newcomers into the production economy. The labour force increased by 1.8 per cent a year—from rather less than 500 million to just over 700 million. The economically active proportion of the population thus declined—from almost 42 per cent to under 38 per cent, about a sixth below the corresponding ratio in the more advanced countries. As in the latter, there was a notable decline in participation rates among the school age and elderly segments of the population, but in the developing countries participation of the working age population also declined in the case of both males (from 92 to 88 per cent) and females (40 to 37 per cent).

Nor is the problem likely to ease in the foreseeable future. The combination of high fertility and declining mortality (especially at birth and in infancy) has resulted in a marked juvenescence in the developing countries. The under-15 age group expanded by 2.6 per cent a year between 1950 and 1970, its proportion of the total population rising to 42 per cent—compared with 27 per cent in the more advanced countries. Graduates from this age group will be entering the labour market on an increasing scale in the years immediately ahead. Their productive employment calls for appropriate organization and enterprise as well as an adequate supply of complementary factors.

One of the complementary factors is technical skill, and here economic and demographic policy considerations converge. Participation rates among the 10-14 year olds, which have dropped to around 2 per cent in the more advanced countries, are still high—over 14 per cent—in the developing countries. Extension of the educational system, provided that curricula are relevant to development needs, would serve not only to ease the immediate pressure on the labour market and improve the quality of future entrants but also to speed up the decline in fertility which characterizes the development process. But education is a costly service, and a high rate of population growth tends to shrink the resources available to finance it both by reducing *per capita* taxable capacity out of a given total income and by multiplying other claims on public expenditure—for housing and health, for example.

Birth rates are also likely to be reduced by a greater female involvement in economic activity. In this case, however, economic and demographic policy considerations diverge, at least is the short run, especially in countries in which male unemployment rates are already high. Average female participation rates are now about a third lower in developing countries, where they have been declining (to below 37 per cent by 1970), than in the more advanced countries, where they have been rising (to over 50 per cent by 1970). The lowest rates are registered in Latin America (around one

[2] Europe, North America, Oceania and the Soviet Union.

fifth), where population growth is fastest (2.8 per cent a year in the 1960s). If historical precedent is any guide, the process of development will draw an increasing proportion of women towards the production economy. This will greatly increase the need for job opportunities, the supply of which is already constrained by the lack of complementary factors.

Another of these factors is capital, and in this respect, too, the demographic situation is itself a handicap. For the higher the fertility the younger the population, and the higher the proportion of the population that consumes but does not produce the more difficult it is—especially in low-income countries—to increase the savings that are needed to finance the plant and tools and equipment required for expanding employment.

Thus, concern about the growth of population in the developing countries reflects the realization that the "natural" forces making for lower fertility—rising incomes, employment and education, especially of women—operate only uncertainly, against obstacles that are magnified by the demographic situation, while the forces reducing mortality tend to be much more certain and, since many represent imported knowledge and techniques, much less dependent on changes induced by the development process itself. Hence, if the rate of population growth is to be slowed down, efforts to accelerate the development process may have to be supplemented by a more active and direct demographic policy.

In the more advanced countries where rates of population increase are much lower—well under half the average for the developing countries—the desire to reduce them is motivated more by environmental than by developmental considerations. The lower the rate of population growth the more economic growth will depend on increasing productivity. This dependence is magnified by the aging of the population and the relative decline in the size of the labour force and also by the well-established tendency of the labour force to shift from material production sectors (agriculture and industry) to the service sector. Because productivity gains tend to be so meagre in the service sector, economic growth depends on correspondingly large gains in the production sectors. This in turn generally means an increase in capital intensity in those sectors, a higher degree of mechanization, a greater intake of non-renewable resources and a greater output of waste heat and hard to dispose of effluents and by-products. If economic growth rates are to be maintained in the face of reduced population growth rates and increased environment-maintaining costs, certain changes appear to be called for in life styles and production technology—later retirement and harder work, less concentration of population so as to reintegrate the consumer in the production process, more repair and recycling activity to reduce premature obsolescing and scrapping, and more emphasis on avoiding pollution and other nuisances than on the subsequent remedying of their consequences.

Like the rate of population growth, the third major area of demographic concern—*physical movement*—involves different problems in different contexts. The broad common denominator is the drift of workers towards employment opportunities or the prospect of higher income, but the speed and effect of this drift vary markedly with the circumstances in which it occurs. In general, the movement has been from countryside to town, and urban population has expanded much more rapidly than rural population, but the pattern of migration between farm, town, city and suburb differs considerably from country to country.

In the developing countries the dominant trend is from farm to city, often bypassing the smaller towns. In the 1960s, urban growth was 2 to 3 times as rapid as rural growth; urban population expansion in excess of 6 per cent a year was recorded in a number of countries, and in the aggregate the proportion of the population living in urban areas rose from a fifth to a fourth.

There are very few cities that have been able to accommodate this influx. Despite major efforts to extend urban infrastructure, unplanned squatter settlements have proliferated in the peri-urban areas and in many instances their visibility and concentration have caused serious political as well as social problems. Because the basic cause of the migration is a rural/urban imbalance, local success is unattainable: peri-urban improvement tends to stimulate the flow. While the main elements of a long-run remedial policy are widely recognized—agricultural development, land tenure reform, industrial dispersion and the decentralization of the principal social services—urgent short-run needs often dictate decisions. Food prices are kept low relative to those of manufactures, urban housing and transport are subsidized and social costs are prevented from entering market prices, and education, health and welfare services are strengthened in the urban areas where the pressures are politically greatest.

Similar problems afflict the more advanced countries but there have been important differences both in the dimensions of the population movement and in the response. Since population has been increasing so much more slowly and by 1960 was already nearly 60 per cent urbanized, the relative impact of the townward drift has been much smaller. Rural pressure

has also been much weaker: agricultural productivity has been rising rapidly and farm support programmes have kept incomes from getting too far out of line with those in urban areas, while in many countries the rural population has been declining not only relatively but even in absolute terms.

Supplementing this indigenous rural-urban movement, however, has been en inflow of foreign migrants into many of industrial towns of Europe and North America. This has introduced cultural and linguistic complications into the urbanization process. In many cases the situation has been further complicated by the movement to the suburbs of a significant proportion of the older residents in the higher-income brackets. Thus, even where city populations have not materially increased in numbers they have undergone an awkward change in composition, losing important elements in their tax base and gaining large groups with a much greater dependence on public services. In many countries local financial arrangements have proved inadequate and the central Government has had to share the burden of accommodating the demographic change.

Over and above the rural-urban movement, there has been a certain shift of population between urban areas—from declining to expanding industries. Because this tends to leave infrastructure under-utilized and poorly maintained in some places and overloaded and lagging behind needs in others, Governments have in varying degree adopted regional policies designed to attract new enterprises to decaying towns and to discourage them from establishment in places that are already booming. The need for such a policy reflects not only a desire to use existing capital assets effectively but also the fact that even though population movements tend to be large and easy by historical standards, they often remain selective: the young and vigorous migrate, the old and less venturesome stay behind.

This is true in many developing countries, too: young males migrate from the land to work in mines or plantations or factories, even across national boundaries, leaving behind women and the older males to run the farms. When the absences are seasonal or short term, they tend to have an inhibiting effect on agricultural innovation, making rural development a little more difficult than it might otherwise be. This is not to argue against such migration—which may benefit not only the migrant but also his community, through his remittances—but it does suggest that there might be gains from a development policy that aimed at a more stable working force both in industry and on the farms.

Chapter I

THE INTERACTION BETWEEN DEMOGRAPHIC AND SOCIO-ECONOMIC VARIABLES

In 1970, the population of the world stood at about 3.6 billion. As a result of a birth rate of about 34 per 1,000 of the population and a death rate of 14, it was increasing at 2 per cent a year, perceptibly faster than in the previous decade. Even a subdivision by broad regions reveals constrasts that suggest a close relationship between demographic development and economic development. The regions with birth rates above the global average, for example, comprise the developing countries of Asia, Africa and Latin America, accounting in the aggregate for half the world population (see table 1).

Several of these developing regions, however, have relatively low death rates. The Latin American averages, for example, are much the same as that of Europe, ranging from 10 per thousand of the population in the tropical area of South America to 11 in the Caribbean. To some extent this similarity in crude rates stems from the difference in age composition: the Latin American population is a much younger one and its life expectancy at birth is still substantially less (around 60 years) than that of the European population (around 70 years). Nevertheless, the contrast between the patterns of birth rates and the patterns of death rates suggests that the course of demographic development is not shaped by a uniform set of influences. The range of mortality rates is appreciably wider than that of natality and the two may change quite independently.

The co-existence of high birth rates characteristic of one type of society with the low death rates typical of a quite different society implies a potential for explosive growth. It is important, therefore, for individual countries not only to be able to take their existing and emerging demographic circumstances fully into account in their socio-economic planning but also to be aware of how the key demographic variables may be affected by technological and economic development. This may be illuminated both by cross-country analysis and also—with due reservations about relevance to

Table 1. World population and vital rates, by region, 1950-1970

Region	*Population, 1970 (millions)*	*1965-1970 average annual rate per 1,000 population*		*Average annual rate of growth (percentage)*	
		Birth	*Death*	*1950-1960*	*1960-1970*
Europe	462	18.0	10.2	0.80	0.85
Japan	104	18.0	7.0	1.17	1.05
USSR	243	17.9	7.7	1.74	1.24
North America	228	19.3	9.4	1.79	1.36
East Asian mainland	779	33.1	15.1	1.81	1.80
Temperate South America	39	26.3	9.1	2.07	1.83
Oceania	15	20.2	8.7	2.25	1.92
Caribbean	26	35.0	10.9	2.02	2.27
Africa	345	46.8	21.3	2.15	2.45
Polynesia and Melanesia	4	41.2	14.9	2.21	2.61
Southern Asia	1,126	44.3	16.8	2.14	2.63
Eastern Asia	47	35.0	10.7	1.59	2.64
Tropical South America	151	39.8	10.0	2.92	2.98
Central America	67	43.7	10.1	3.10	3.35
World total	3,635	33.8	14.0	1.82	1.98

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on "Demographic trends in the world and its major regions, 1950-1970" (E/CONF.60/CBP/14, April 1974).

present-day problems—by an examination of demographic development in countries with appropriate records to draw on.

An analysis of the history of the countries that are now characterized as economically advanced suggests that there has always been a close relationship between demographic change and socio-economic change. The precise relationship has differed from country to country and, because it has been affected by a number of other factors—notably the population/resource balance, the prevailing technologies and the nature of the cultural and institutional heritage—it has also varied from time to time. Nevertheless, certain broad features of that relationship have remained sufficiently constant to suggest a pattern of tendencies and sequences that may help to throw light on the contemporary global scene with all its complicated diversity.

The basic pattern is a movement over time from a situation of high death rates and high birth rates to one marked by low death rates and low birth rates. In this transition the decline in death rates precedes the decline in birth rates. The lag between these two downward trends is the crucial demographic dimension, for on its length depends the magnitude of the population explosion implicit in the transition.

The factors inducing the decline in mortality and fertility are not only complex—and combined in different proportions at different times—but also subject to a feedback reaction from the vital changes themselves. Thus the process of economic and social development and the demographic transition are linked in a mutually causative fashion, death rates being reduced by improvements in the standards of living made possible by an economic diversification process which, in its turn, causes—and is, in varying degree, contingent upon—a reduction in fertility. The links are by no means uniform or automatic: they are shaped by the physical environment, by contemporary production techniques, by the mores of the society concerned and by the way in which the fruits of its economic progress are distributed. Nor, indeed, are changes in vital rates solely the result of the forces transmitted through these links: they can be directly affected by the application of new technologies. Evidence of this has been particularly persuasive in the post-war period which has seen a decline in death rates of unprecedented proportions brought about by advances in sanitary and medical procedures quite unrelated to the level of living of the population concerned. Whether similar changes can be effected in birth rates is still an open question: the decisions influencing fertility are more private and culture-bound and their responsiveness either to specific technological developments or to official exhortation is likely to be much less definite or rapid.

In the meantime, a snapshot picture of the world shows countries to be distributed at all stages of the demographic transition (see figure I). Between a fourth and a third of the countries for which vital data are reported or can be reasonably estimated have yet to begin the transition: both their death rates and their birth rates are high. In rather more than a fifth, death rates have begun to decline. In about half that proportion they have already reached the low end of the international scale. In about an eighth of the countries, birth rates have also started to fall. And in rather more than a fourth, birth rates have already dropped to the low level that assures little more than replacement of the population.

Almost 40 per cent of the world's population (outside China, which, for lack of data, has been left out of this *Survey*) lives in this last—demographically mature—group of countries.[1] A larger proportion (44 per cent) lives in the countries that are in the explosive phase of the transition, with birth rates still high by international standards and death rates declining or already in the low (under 13 per 1,000) category. Most of the countries in the pre-transition phase are small (less than 10 million inhabitants) but the group also includes Bangladesh, Ethiopia and Nigeria and accounts for about 11 per cent of total population.

These groupings are based on average mortality and natality during the 1965-1970 quinquennium. A comparison with similar estimates made 15 years earlier, for the period 1950-1955, shows the speed of change: the proportion of countries in the pre-transition group has declined from 47 to 28 per cent over this interval, the proportion of countries in the transition phase has increased from 33 to 46 per cent and the proportion of mature—low death rate-low birth rate—countries has risen from 19 to nearly 27 per cent.

In a general way, this demographic classification corresponds to "degree of development" as measured by many of the conventional criteria. There is a clear progression in degree of urbanization, for example, from 12 per cent in the pre-transition group to 64 per cent in the demographically mature group, and there is an obverse progression in the proportion of the labour force engaged in agriculture—from 79 per cent to 20 per cent. There is also a correlation with measures of macro-economic performance, though—because

[1] Besides China, a number of other countries have been omitted from this reckoning, either because of lack of data or because their demographic situation was distorted by special circumstances. These countries include the Bahamas, Bahrain, Bhutan, Equatorial Guinea, Fiji, Gabon, Lebanon, Lesotho, Maldives, Oman, Qatar, the Republic of Viet-Nam and the United Arab Emirates, with a combined 1970 population of about 25 million.

of the influence of other factors, particularly resource endowment—it is not as close. Average annual *per capita* income, for example, rises from $135 (in 1970) in the high mortality-high natality group to $2,220 in the low mortality-low natality group. There is also a sharp contrast across the vital rate spectrum in the proportion of income saved and in the rate at which output has been growing. Average daily *per capita* food consumption also increases—and fairly systematically—across the spectrum (see table 2).

Beneath these group averages lies a good deal of diversity and, while it is of great interest from the global point of view to discern trends and patterns that suggest the future course of population growth and its implications for the use of the world's natural resources, both the problems of impact and the feasibility of influencing demographic evolution have to be faced in the first instance at the country level. At this level, the most significant demographic circumstances influencing—and in some cases even determining—socio-economic development strategy are the absolute of the population, its vital rates and the growth rate implicit in their difference, the consequential changes in the age composition of the population and its spatial distribution. In respect of each of the parameters, the range is a wide one and when they are combined with one another, and with an equally wide range in respect of each of the major socio-economic variables, it becomes clear that the "demographic factor" is one that is unique to each country, calling for explicit recognition in the formulation of development policy.

Recent changes in vital rates

Changes in mortality

While, on a global basis, the movement in mortality has been steeply downward in the post-war period, not all countries shared in this experience. In half the high-income countries crude death rates were higher in 1965-1970 than in 1950-1955. This reflects chiefly the fact that mortality was already very low and that, partly as a result of the war, the population had aged and the proportion of older people was appreciably higher in the late 1960s than in the early 1950s. No country with a *per capita* income of less than $700 in 1970 experienced an increase in mortality in this period.

Table 2. Socio-economic characteristics of countries grouped according to vital rates

Item	Countries characterized in 1965-1970 by [a]				
	High death rates, high birth rates	*Medium death rates, high birth rates*	*Low death rates, high birth rates*	*Low death rates, medium birth rates*	*Low death rates, low birth rates*
Number of countries: [b]					
1965-1970	38	30	15	17	36
1950-1955	66	23	6	18	27
Total population (millions):					
1970	308	1,038	187	194	1,072
1950	855	199	8	277	594
Crude birth rate, average per 1,000, 1965-1970	48.1	44.2	43.5	36.1	18.4
Crude death rate, average per 1,000, 1965-1970	23.9	17.1	10.3	9.6	9.1
Implicit rate of natural increase	24.2	27.1	33.2	26.5	9.3
Age distribution, 1970 (percentage):					
0-14	44.1	43.0	46.0	41.5	26.6
15-64	53.2	53.7	50.9	54.9	62.8
65 and over	2.7	3.3	3.1	3.6	10.6
Percentage of population in urban areas, 1970	12.2	22.9	42.9	50.1	63.8
Percentage of labour force in agriculture, 1970	79.1	65.6	56.1	40.2	19.7
Average *per capita* income, 1970 (dollars)	135	151	418	415	2,220
Average annual GDP growth rate, 1961-1970 (percentage per annum)	4.7	4.5	6.2	6.5	6.1
Ratio of national savings to GDP, average 1968-1970 (percentage)	11.4	13.6	18.5	13.0 [c]	25.8
Average *per capita* daily calorie consumption, 1964-1966	2,166	2,092	2,285	2,605	3,097
Average *per capita* daily protein consumption, 1964-1966 (grammes)	56.5	52.2	56.4	65.9	90.7

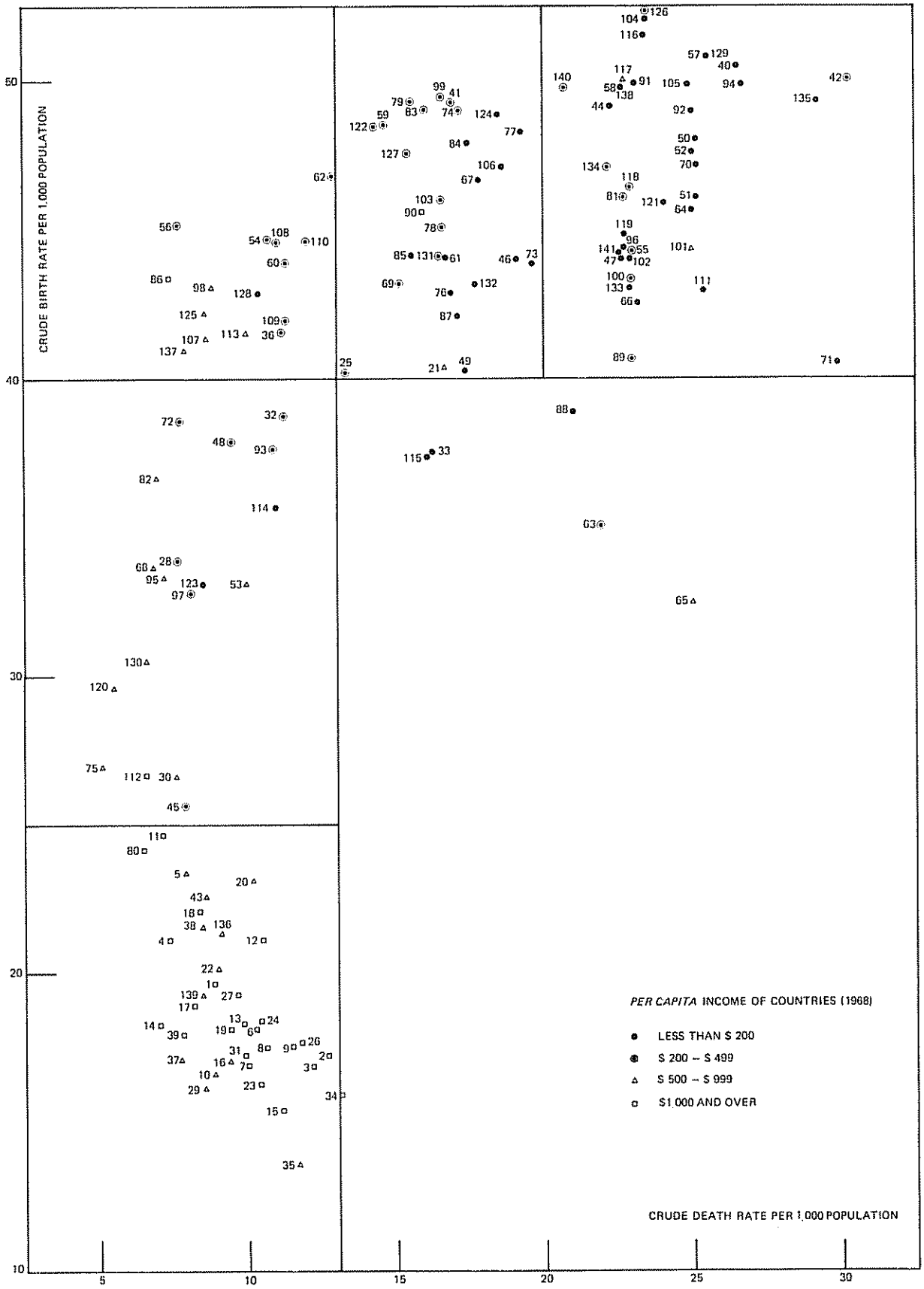
Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, United Nations, *Yearbook of National Accounts Statistics* and *Monthly Bulletin of Statistics*, November 1971 and Food and Agriculture Organization of the United Nations, *Agricultural Commodity Projections, 1970-1980* (Rome)

[a] Crude death rate per 1,000 of the population: high - over 20; medium- 13-20; low - under 13. Crude birth rate per 1,000 of the population: high - over 40; medium - 25-40; low - under 25.

[b] For names of countries in each group, see the key to figure I.

[c] Excluding Albania, Cuba and the Democratic Republic of Korea, for which no data are available. The exclusion of the Republic of Korea raises the ratio to 16.4 per cent.

FIGURE I CROSS-COUNTRY DISTRIBUTION OF BIRTH AND DEATH RATES, AVERAGE 1965-1970



(Key to figure on page 11)

Key to countries and territories

Developed market economies

1 Australia
2 Austria
3 Belgium
4 Canada
5 Cyprus
6 Denmark
7 Finland
8 France
9 Germany, Federal Republic of
10 Greece
11 Iceland
12 Ireland
13 Italy
14 Japan
15 Luxembourg
16 Malta
17 Netherlands
18 New Zealand
19 Norway
20 Portugal
21 South Africa
22 Spain
23 Sweden
24 Switzerland
25 Turkey
26 United Kingdom
27 United States

Centrally planned economies

28 Albania
29 Bulgaria
30 Cuba
31 Czechoslovakia
32 Democratic Republic of Korea
33 Democratic Republic of Viet-Nam
34 German Democratic Republic
35 Hungary
36 Mongolia
37 Poland
38 Romania
39 USSR

Developing countries

40 Afghanistan
41 Algeria
42 Angola
43 Argentina
44 Bangladesh
45 Barbados
46 Bolivia
47 Botswana
48 Brazil
49 Burma
50 Burundi
51 Central African Republic
52 Chad
53 Chile
54 Colombia
55 Congo
56 Costa Rica
57 Dahomey
58 Democratic Yemen
59 Dominican Republic
60 Ecuador
61 Egypt
62 El Salvador
63 Equatorial Guinea
64 Ethiopia
65 Gabon
66 Gambia
67 Ghana
68 Guadeloupe
69 Guatemala
70 Guinea
71 Guinea-Bissau
72 Guyana
73 Haiti
74 Honduras
75 Hong Kong
76 India
77 Indonesia
78 Iran
79 Iraq
80 Israel
81 Ivory Coast
82 Jamaica
83 Jordan
84 Kenya
85 Khmer Republic
86 Kuwait
87 Laos
88 Lesotho
89 Liberia
90 Libyan Arab Republic
91 Madagascar
92 Malawi
93 Malaysia
94 Mali
95 Martinique
96 Mauritania
97 Mauritius
98 Mexico
99 Morocco
100 Mozambique
101 Namibia
102 Nepal
103 Nicaragua
104 Niger
105 Nigeria
106 Pakistan
107 Panama
108 Paraguay
109 Peru
110 Philippines
111 Portuguese Timor
112 Puerto Rico
113 Réunion
114 Republic of Korea
115 Republic of Viet-Nam
116 Rwanda
117 Saudi Arabia
118 Senegal
119 Sierra Leone
120 Singapore
121 Somalia
122 Southern Rhodesia
123 Sri Lanka
124 Sudan
125 Surinam
126 Swaziland
127 Syrian Arab Republic
128 Thailand
129 Togo
130 Trinidad and Tobago
131 Tunisia
132 Uganda
133 United Republic of Cameroon
134 United Republic of Tanzania
135 Upper Volta
136 Uruguay
137 Venezuela
138 Yemen
139 Yugoslavia
140 Zambia
141 Zaire

Small reductions in mortality—up to 15 per cent—were concentrated among the higher-income countries. Three fourths of the countries in the lowest-income bracket—less than $200 *per capita* in 1970—experienced mortality reductions of 15-30 per cent. Countries with somewhat higher *per capita* income—between $200 and $1,000—were able to achieve an even greater reduction: three fourths of the countries in which death rates declined by over 30 per cent between the early 1950s and the late 1960s were in the middle income group (see annex table A.1).

It is clear that the possibility of lowering death rates is not limited by a country's income status. Some of the techniques for reducing mortality—chemicals for combating disease vectors and pharmaceuticals for the relief of specific illnesses, for example—while they may have been developed in the more advanced countries, are available—and, indeed, have been deployed—in low-income countries. As incomes rise, however, it becomes possible to extend the range of life-preserving measures—by improving nutrition, for example, and increasing the availability of potable water—permitting further reductions in mortality. As more than a fourth of all countries still have high mortality—a crude death rate of over 20 per 1,000 of the population—plenty of scope remains for such further reductions, even though, as the rate falls, the pace of improvement is bound to decelerate.

The importance of income to efforts to lower mortality is borne out by the relationship between the rates of change in these two variables. Of the countries that achieved an annual rate of increase in total output of 6 per cent or more in the period 1955-1970, 6 out of 10 reduced their crude death rates by more than 25 per cent and 9 out of 10 reduced their death rates by more than 15 per cent. Among the slower-growing countries—under 5 per cent a year—less than a third recorded a decline in death rates of more than 25 per cent and only two thirds a decline of more than 15 per cent (see annex table A.2).

Of the countries that achieved the greatest reduction in mortality between the early 1950s and the late 1960s—over 30 per cent of the earlier death rate—almost half were in the high economic growth category (with gains in production of over 6 per cent a year) and two thirds expanded their output by more than 5 per cent a year, while only 6 per cent were in the lowest growth category (under 3 per cent a year). While the process of economic growth clearly helped to provide resources that could be used to prevent premature death, the prolongation of working life implicit in the declining death rate must be counted as one of the factors making for a better production performance. It is worth noting, however, that some countries enjoyed a marked reduction in mortality —over 15 per cent of the rate recorded in the early 1950s—despite the fact that their production was increasing more slowly than their population. Most of these were low-income countries in Africa and Asia and the lowering of their death rates again points to the importance of exogenous factors such as imported pesticides and antibiotics.

Among the developing countries, there was a slight tendency for the reduction in death rates to be associated with an increase in urbanization. But some of the most rapid rates of urbanization—increases during the 1960s of over 35 per cent in the proportion of the population living in urban areas [2]—occurred in countries in which death rates registered a decline of relatively modest proportions (between 15 and 25 per cent). A more moderate rate of urbanization seems to have been more conducive to greater reductions in mortality (see annex table A.3).

Where the townward movement has been so rapid that peri-urban settlements have grown without the benefit of appropriate infrastructure, living conditions have usually deteriorated—in some cases to the point at which the downward trend in mortality has been reversed. With population density rising and standards of sanitation falling, the scene has been set for an increase in both deficiency and fly-borne diseases and a more rapid spread of communicable diseases. The result has often been a sharp rise in local infant mortality.

Changes in natality

A similar difference between a moderate and an over-rapid increase in urbanization can be discerned in respect of fertility. Up to an increase of 25 per cent in the degree of urbanization in the course of the 1960s, there was a rising proportion of countries in which birth rates declined by more than 5 per cent between

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[2] Here and elsewhere in this *Survey*, national definitions of "urban area" have been accepted. These differ from country to country but tend to conform to one or more of the following concepts:
1. Administrative or local government area: areas corresponding to one of the administrative divisions of the territory, or areas identified with places possessing some form of local government;
2. Population size: areas identified with places (variously designated as cities, towns, clusters, agglomerations, villages, population centres, localities) having either a specified minimum number of inhabitants or a specified minimum number of inhabitants per unit of area;
3. Urban characteristics: areas identified with places possessing certain urban characteristics such as established street patterns or one or more of such public services as sewerage, piped water supply, electric lighting or a church or hospital;
4. Predominant economic activity: areas identified with places where a specified minimum proportion of the economically active population is engaged in non-agricultural activities.

1950-1955 and 1960-1965. At higher rates of urbanization the decline in birth rates was smaller: among the developing countries in which the degree of urbanization rose by between 25 and 45 per cent in the 1960s only a fifth had a birth rate reduction of over 3 per cent. And among those in which the degree of urbanization had risen by more than 45 per cent there was none in which birth rates had declined by more than 5 per cent (see annex table A.4).

Historically, urbanization has been characterized by later marriage and smaller families and households. But in the unstructured peri-urban communities that tend to be formed when the townward movement exceeds the absorptive capacity of established authority and facilities, propinquity tends to result in more, and more casual, liaisons and hence larger and looser households.

Except in parts of Western Europe, where birth rates were somewhat higher in 1965-1970 than the low figures registered in 1950-1955, there was a positive relationship between *per capita* income and the reduction in natality over this period. Two thirds of the countries experiencing a decline in crude birth rate in excess of 10 per cent had *per capita* incomes of over $700 in 1970 and only 1 in 7 had an income of less than $400. Correspondingly, those in which there was a more modest reduction in natality were concentrated very largely in the low-income groups. A third of all countries with *per capita* incomes of under $400 in 1970 had virtually the same birth rate in 1965-1970 as in 1950-1955 or even higher. A majority of the developing countries of Africa fall into this category (see annex table A.5).

To what extent changes in natality affected the course of national production and income is impossible to determine. It is significant, however, that five out of every six low-growth countries—in which the gross domestic product increased at less than 3 per cent a year between 1955 and 1970—were among those with very little change in crude birth rate. The countries in which birth rates declined by more than 5 per cent between the early 1950s and the late 1960s were concentrated in the higher economic growth categories: two thirds of those with an over-10 per cent reduction in birth rate achieved gross domestic product increases of over 5 per cent a year (see annex table A.6).

One of the mechanisms through which changes in fertility are transmitted through the economic development process is education. The limited evidence available in this area from the most recent reported census suggests that there is a negative relationship between birth rate and the educational status of the country concerned. Most of the countries in which more than a fifth of the population 15 years and over had attended school for 7-12 years were in the lower birth rate categories (less than 30 per 1,000). A correspondingly high proportion of the countries in which less than 10 per cent of the over-14 population had 7-12 years of schooling were in the high (over 40 per 1,000) birth rate category (see annex table A.7). Clearly the higher the birth rate the greater the burden of providing an adequate formal education to the child population. The problem is especially severe in low-income countries where public revenues are usually attenuated and subject to many other claims, some of which are also magnified by the high birth rate. It also involves something of a vicious circle since high fertility is itself a symptom of lack of education.

The growth of population

In most countries the difference between the vital rates determines the rate at which the population grows; in very few cases do the gains or losses from migration play a major role.[3] Since the demographic transition that seems to occur in the course of socio-economic development begins with a decline in the death rate, to be followed—but only after a significant delay—by a decline in the birth rate, the early stages are marked by an appreciable rise in the rate of natural increase. As indicated in table 1 above, the peak rate of population growth is reached in the third phase of the transition: by this time death rates have dropped to a low level but changes in fertility have made very little progress. Even in the fourth phase, when birth rates are clearly moving downwards, their difference from the low rates that mortality has already attained may be great enough to yield a rate of natural increase higher than that typical of a high death rate-high birth rate pre-transition community. It is only in the final phase that the rate of natural increase falls sharply to the levels that characterize economically advanced countries.

Population growth and income

Some aspects of this transformation over time can be captured in a snapshot cross-country picture.[4] This shows that in 1970 the lowest-income group of countries tended to have rates of population increase

[3] Some of the most important of these cases are discussed in chapter II below; see especially table 19

[4] This and all the other cross-country pictures presented in this chapter are not intended to imply any direct causal relationship between the demographic variable and the socio-economic variable being depicted. The relationships that do exist between such variables are generally indirect, complex and reciprocal and some of them are discussed in later chapters in the context of particular countries and situations. The matrix format for displaying some of the data in this chapter is designed to illustrate graphically the spectrum of bivariate relationships and the position of individual countries in that spectrum

between 2 and 3 per cent a year: over 80 per cent of the countries with a *per capita* income of less than $200 were in this population growth rate category. Countries in the intermediate-income range—$200-$700 a year *per capita*—were divided more or less equally between the 2-3 per cent population growth category (reflecting the early stages of the decline in death rates) and the highest population growth category (in which low mortality and high fertility yielded an increase of over 3 per cent a year). Of the countries with higher *per capita* incomes (over $700 a year) three fourths has rates of population growth of less than 2 per cent a year and two thirds had rates of less than 1.5 per cent (see annex table A.8).

As for the remaining countries, special factors accounted for their being outside their income-population growth category. Many of the countries that had lower rates of population growth than might have been expected from their income status were among those registering emigration losses—Barbados, Cuba, Lesotho, Portugal and Yugoslavia, for example. At the other end of the spectrum some owed their high incomes to a particularly active export sector less than fully integrated with the domestic economy (as in the case of the Libyan Arab Republic, Panama, Surinam, Trinidad and Tobago and Venezuela, for example) or to exceptional immigration gains (as in the case of Australia, Hong Kong, Israel, Kuwait and Singapore).

Population growth and economic growth

While there is thus a discernible pattern in the relationship between income levels and vital characteristics, demographic factors pale into insignificance among the determinants of economic growth. On the other hand, differences in the rate of increase in production and income do tend to induce movements of population, though these occur chiefly within countries rather than between countries. And with a few notable exceptions—in which differences in income levels play a more important role than differences in growth rates—international population movements are small in relation to natural increase. Though the rate of increase in population influences savings, especially in low-income countries, this effect tends to have a much smaller impact on the growth of output than do changes is technology or discoveries of natural resources. And even where population growth does seriously affect national savings, the impact on production may be more then offset by international movements of capital. It is not surprising, therefore, that a matrix of population and production growth rates for the 1960s reveals no systematic relationship pattern (see annex table A.9).

Changes in *per capita* income were much more sensitive to differences in population growth rates in the 1960s. There was a systematic increase in the proportion of countries with an average annual gain of less than 2 per cent in output per person—from zero among the countries in which population was expanding at less than 1 per cent a year and a sixth of those in the 1-2 per cent growth group to 37 per cent among those with a population growth rate of over 3 per cent a year. The proportion achieving an increase of over 3 per cent a year in *per capita* output fell away correspondingly—from 94 per cent in the countries with the lowest population growth rate to 26 per cent in those with the highest. The countries registering large gains in *per capita* income notwithstanding rapid population growth were chiefly major mineral exporters—Iran, the Libyan Arab Republic, Saudi Arabia and Surinam (see annex table A.10).

Population growth and savings

Relatively few of the countries with low rates of population growth have low savings ratios: in the period 1968-1970, for example, about half the countries in which population had been increasing at less than 1.5 per cent a year saved more than a fourth of their gross product while the proportion saving less than 15 per cent was not much more than an eighth. Correspondingly, the low savers were largely those with high population growth: less than an eighth of the countries in which population was increasing at over 2 per cent a year had savings ratios of more than 25 per cent (see annex table A.11).

The countries not conforming to this negative relationship between population growth and savings were in many cases subject to special influences. Among the low savers, for example, population was held down by net emigration from such countries as Barbados, Lesotho and Portugal. And among the high population growth countries, savings were boosted by the activities of mineral-exporting companies in the case of Kuwait, the Libyan Arab Republic, Saudi Arabia, Surinam, Venezuela and Zambia.[5]

Population growth and urbanization

There is an inverse relationship between the rate of increase in population and the degree of urbanization. Among the low-growth countries (with population rising by less than 1.5 per cent a year) hardly any had an urban component of less than 30 per cent in 1970 and only a fifth had as much as 40 per cent of their

[5] The interaction between demographic factors and the savings function in the process of economic development is discussed in chapter IV below.

population living in urban areas. Conversely, only a sixth of the countries in which population was increasing at between 2 and 3 per cent a year had an urbanization ratio of over 40 per cent (see annex table A.12).

This pattern did not carry over into the group of countries with the highest—more than 3 per cent a year—rate of population increase, however. Half this high-growth group had more than 40 per cent of its population living in urban areas. Though, in general, fertility tends to be lower in urban communities than in rural, this group combines the highest rate of population increase with the highest degree of urbanization. As the countries concerned were either Arab (Algeria, Iraq, Jordan, Kuwait, the Syrian Arab Republic and Tunisia) or Latin American (Colombia, El Salvador, Mexico, Panama, Peru and Venezuela), it is clear that the exception was more a reflection of cultural factors than of the process of economic development.

Population growth and education

Not unrelated to the extent of urbanization is the school enrolment ratio. In only an eighth of the countries in which population was growing at less than 1.5 per cent a year in the late 1960s was less than 60 per cent of the 5-19 age group enrolled in formal education. Conversely, among the countries with rapid population growth—over 2.5 per cent a year—only an eighth had an enrolment ratio of more than 60 per cent (see annex table A.13).

The highest concentration of low enrolment ratios, however, was in the intermediate-growth group in which population was increasing at 2.2-3.0 per cent a year: in almost half the countries in this group enrolment was less than a third of the relevant age bracket. In the Arab-Latin American group of high population growth countries, on the other hand, between 30 and 60 per cent of all 5-19 year old children were enrolled in school.

Cultural patterns again emerge in the sex composition of this school enrolment. In the high-growth group there was a sharp contrast between the representation of girls in the Latin American countries, on the one hand (over 85 per cent of the number of enrolled boys in most cases), and in the Arab countries, on the other (with less than 70 per cent of the number of boys). In none of the countries in which population was increasing at less than 1.5 per cent a year was female enrolment less than half of male enrolment. Among the higher-growth countries, however, low enrolment of girls was quite common: in over a fourth it was below 50 per cent of the male level and in almost half below 70 per cent (see annex table A.14). Even lower ratios were recorded in respect of secondary education: among the countries in which population was increasing at between 2.5 and 3 per cent a year, about a half had three boys in secondary school for every girl.

Population growth and nutrition

Just as the difficulty of providing adequate education facilities is magnified by a high rate of natural increase, so is the problem of feeding the population. Thus in the late 1960s, among the slow-growth countries only a handful had a daily average calorie intake of less than 2,600 per person and two thirds of them had an average of over 2,900 calories available. Conversely, among the countries in which population was increasing more rapidly (at over 2 per cent a year), very few (about 9 per cent) had more than 2,600 calories available *per capita*. In this group, indeed, almost two thirds of the countries had an average daily intake of less than 2,300 per person (see annex table A.15).

Protein availability presents a very similar picture: around 80 per cent of the slow-growing countries had an average daily intake in excess of 80 grammes per person while in the case of the faster-growing countries (with population increasing at more than 2 per cent a year) about 80 per cent had a daily intake averaging less than 70 grammes per person (see annex table A.16).

For many countries the growth of population adds significantly to the food import bill. An the end of the 1960s, half the countries were spending more then $15 a year per person on basic food imports, and a fourth were spending more than $40. Most of these countries were in the high-income category but they also included a number of the smaller islands among the developing countries, as well as such countries as Chile and, among those with very high population growth, Costa Rica, Jordan, Lebanon and Panama (see annex table A.17).

Population growth and indicators of economic development

Though the pictures drawn in this section have all been static, they suggest that the demographic transition that was associated with the economic development of the countries that are now classified as more advanced is in various stages of fulfilment among the developing countries. Perhaps the most important aspect of the transition—arising from the fact that the decline in mortality precedes the decline in fertility by an inderterminate, but not inconsiderable, period—is the implicit increase in the rate of population growth as economic and demographic development proceeds. Thus the general inverse relationship between the rate of population increase and the various criteria of the state of development is not smooth and continuous:

it is deflected by the widening disparity between birth rate and death rate and the socio-economic difficulties caused by the resultant rise in the rate of natural increase which complicate the process of graduation to demographic maturity.

If countries are divided into five groups according to their current ratio of population growth, it is the middle groups—with a population of nearly 1.5 billion, increasing at between 2 and 3 per cent a year—that manifest most of the signs of underdevelopment (see table 3). These groups have the lowest degree of urbanization (24 per cent), the highest proportion of the labour force in agriculture (around two thirds), the highest density of occupation of land (over 300 rural persons per square kilometre of agricultural land) and the lowest *per capita* consumption of foodstuffs. The group with a population growth rate of 2.0-2.5 per cent a year had the lowest savings ratio (9.4 per cent of gross domestic product in 1968-1970), and the 2.5-3.0 per cent group had the lowest rate of increase in *per capita* income (2.1 per cent a year in the 1960s).

All these indicators show the group with the highest rate of population growth (over 3 per cent a year) to have an improved development status. Its higher rate of increase in population is itself the result of one of these improvements, namely, a considerable reduction in the average death rate—to only 12.5 per thousand.

Further along in the demographic transition is the small group whose average birth rate has dropped below 25 per 1,000 persons per annum, giving it a rate of population growth of 1.5 per cent plus, in this case, a small net gain from immigration. In these countries almost three fourths of the population live in urban areas; their average income is substantially higher and, on a *per capita* basis, rising more rapidly than in the groups with a faster population growth.

The group with the lowest vital rates and an average increase of population of only 0.9 per cent a year comprises most of the industrialized countries. It has the oldest population: almost 11 per cent over 65 (about three times the average of the high-growth groups), almost 63 per cent in the working age bracket and only 27 per cent below 15 years old. Not much more than a third of this population lives in rural areas and only a fifth of the labour force works in agriculture. Its food intake, nevertheless, is among

Table 3. Socio-economic characteristics of countries grouped according to rate of increase in population

Indicator	*Countries[a] in which the annual average percentage rate of increase in population in 1960-1970 was*				
	Less than 1.5	*1.5-1.9*	*2.00-2.49*	*2.50-2.99*	*3.00 and over*
Number of countries	34	8	36	34	28
Population, 1970 (millions):					
Total	1,011	59	293	1,175	285
Average	29.7	7.4	8.1	34.6	10.2
Crude birth rate, 1965-1970 average per thousand	18.3	23.3	42.1	43.9	44.6
Crude death rate, 1965-1970 average per thousand	9.2	8.5	19.4	17.1	12.5
Natural increase, 1965-1970 average per thousand	9.1	14.8	22.7	26.8	32.1
Age distribution, 1970 (percentage):					
0-14	26.5	30.5	41.5	43.1	45.7
15-64	62.7	62.3	55.0	53.7	51.2
65 and over	10.8	7.2	3.5	3.3	3.1
Percentage of population in urban areas, 1970	63	72	24	24	40
Percentage of labour force in agriculture, 1970	20	17	68	65	56
Average *per capita* income, 1970 (dollars)	2,213	1,873	313	166	409
Ratio of national savings to GDP, 1968-1970 (percentage)	26.1	21.4	9.4	13.4	18.7
Average annual increase in GDP, 1961-1970 (percentage)	6.2	4.2	4.7	4.8	5.8
Average annual increase in *per capita* GDP, 1961-1970 (percentage)	5.1	2.5	2.5	2.1	2.5
Average *per capita* calorie consumption, 1964-1966	3,090	3,066	2,183	2,168	2,287
Average *per capita* protein consumption, 1964-1966 (grammes)	90	94	57	54	60
Average density: persons per square kilometre, 1970	103	16	124	138	44
Average density: rural population per square kilometre of arable land	170	37[b]	365	300	190[c]

Source See table 1

[a] For composition of the groups, see annex table A 8

[b] Excluding Iceland.

[c] Excluding Kuwait

the highest, averaging nearly 3,100 calories and 90 grammes of protein per person per day. This reflects its high *per capita* income (over $2,200 a year) which in turn reflects its high savings ratio (26 per cent). The group has also had the highest rate of growth of production, especially when this is measured on a *per capita* basis—twice as high as any other group in the 1960s.

The age structure of the population

One of the ways in which a country's vital characteristics shapes its economic development is through the changes that are brought about in the age composition of the population. The productive performance of a country depends very largely on its "working age" population; its expenditure and consumption pattern are strongly influenced by the size of the groups that are either too young or too old to work.

The age structure of a given population reflects the course of vital events over a whole generation. Changes in birth rates, however, soon show up in changes in the proportion of children in the population. The immediate effect of a change in the death rate depends on which part of the age range is involved: a decline in infant mortality will raise the child proportion, improvements in geriatric care may prolong life and add to the proportion of elderly in the population. Thus age composition at any given point of time is the product of the more distant as well as the immediate past.

The demographically mature countries that have long had low vital rates tend to be characterized by relatively small child populations, long lives and large groups of older people. The countries that have not yet embarked on the demographic transition tend to have much shorter life expectancies and smaller proportions of older people. Because one of the early features of the transition is a decline in infant death rates, the countries concerned tend to have relatively large child populations. Later in the transition, life spans tend to lengthen and the numbers of elderly rise and ultimately their proportion as well.

Age structure and income

In 1970, the working age population (15-64 year old) constituted 60 per cent or more of the population in a fourth of all countries. These were for the most part the demographically mature countries belonging to the high-income group: all but a seventh had *per capita* incomes of over $700 a year and two thirds had over $1,000 a year. There would seem to be a clear connexion between the proportion of the population of working age and *per capita* production: in only two countries (Kuwait and the Libyan Arab Republic, with their special circumstances) was more than $1,000 a year generated by a population in which more than 44 per cent was outside the 15-64 age bracket (see annex table A.18).

The relationship between *per capita* income and the age composition of the population seems to be virtually independent of the total size of the population. Over the whole size spectrum—from under 1 million to over 100 million—each income group is associated with a more or less similar proportion of the total population in the working age bracket, ranging from around 55 per cent in the lower-income countries up to 63 per cent in those with 1970 *per capita* incomes of over $1,000.

Three fourths of the countries in which the working population was less than 56 per cent of the total produced less than $400 per person in 1970. Again, however, there is a contrast between the pre-transition countries that are heavily concentrated in the group with a working age proportion of 53-56 per cent and *per capita* income of less than $200 a year, and those that have began the demographic transition and consequently have a smaller proportion in the 15-64 age bracket and, in many cases, a higher *per capita* income.

Focusing on the more sensitive under-14 year old group serves to dramatize the relationship between income and age structure. In most of the high-income countries, juveniles constitute less than a fourth of the population. Conversely, three fourths of the countries in which juveniles constitute more than a third of the population had a *per capita* output of less than $400 in 1970 (see annex table A.19).

In a fifth of all countries, more than 46 per cent of the population was under 15 years of age in 1970. A few of these were in the pre-transition stage of high death rates as well as high birth rates and, except for Swaziland and Zambia, they were in the lowest-income group, producing less than $100 per person. The bulk of them, however, were in the transition, continuing to experience high birth rates notwithstanding a reduction in death rates, moderate in most cases but in some countries—Colombia, Costa Rica, Ecuador, El Salvador, Mexico, Paraguay, the Philippines and Surinam—sufficient to bring them down to levels typical of demographically mature countries.

Age structure and savings

As the old and the young tend to be consumers rather than producers, the smaller their proportion in the community the greater is its capacity to save likely to be. This relationship is reinforced by the tendency for countries with low age dependency ratios to have

high *per capita* incomes. This is borne out by the actual savings record in the late 1960s. Among the countries in which the 15-64 year old group constituted more than 60 per cent of the population, only a fourth saved less than 20 per cent of their national output. By contrast, among the countries in which the working age group constituted less than 56 per cent of the population, only a fifth saved more than 20 per cent of their output (see annex table A.20).

While, in general, higher savings ratios make for higher rates of economic growth, the link is a tenuous one, especially in the developing countries where, at least in the short run, exogenous factors such as the weather, resource discoveries and imported technology and capital, tend to play a predominant role. The tendency for a lower dependency ratio to improve savings performance, therefore, does not ensure a corresponding relationship with the course of production. The rates of gross domestic product growth achieved in the 1960s seem, in fact, not to have been influenced by the proportion of the population in the working age bracket (see annex table A.21).

Age structure and education

The proportion of the population in the school age bracket has a direct bearing on the potential resources required to provide formal education. The volume of public resources actually used for education, however, is influenced by other factors as well—the extent to which private resources are available, for example, and official policy in respect of school enrolment and attendance, and public response to that policy. There is a sharp contrast between the developing countries and the more advanced countries in these matters: the potential burden is much greater in the former, actual expenditures are much greater in the latter.

In very few of the more advanced countries does the school age group (5-19 year olds) constitute more than 30 per cent of the total population. Canada, Iceland, Malta and New Zealand were the only exceptions in 1970. And very few of these countries spend less than 4 per cent of their total output on public education. The Federal Republic of Germany, Greece, Portugal and Spain were the only exceptions at the end of the 1960s. Among the developing countries, on the other hand, only Argentina and Uruguay and a school age population of less than 30 per cent of the total, and in an eighth of these countries the 5-19 year olds were over 40 per cent of the population. And only a third of the developing countries devoted more than 4 per cent of total production to public education (see annex table A.22)

Given the great lag in educational attainment that characterizes the developing countries and the great difficulty most of them experience in raising public revenue, the potential burden of providing schooling to so large a proportion of the population ranks as one of the most baleful consequences of high fertility in low-income communities.

Population size

Because economic and social planning and policy formulation are carried out by national entities, the absolute size of the population of a country is a basic factor in determining both objectives and measures. Population size governs the degree of specialization that is practicable the nature of the appropriate infrastructure and the extent of necessary decentralization in the production of goods and services and in decision-making. And the lower the *per capita* income the greater the weight of the population factor in determining the course of development.

It is not necessary to postulate a minimum population below which the development process is inhibited; clearly the relevant variable is not population alone, but rather a combination of population, ressources and technology. Countries that are regarded as economically advanced are to be found in all the size groups. They constitute around 15 per cent of countries with a population of less then 5 million, around 30 per cent of those with a 5-50 million population, and 50 per cent of the largest groups with over 50 million inhabitants. Nevertheless, development options are constrained by the size of the population concerned. The smaller the population of a country the less depth will its feasible production structure tend to have. On its own, a small population will find it difficult to sustain the division of labour implicit in most forms of heavy industry, in capital-intensive physical infrastructure, in specialized third-level educational facilities or in an elaborate research apparatus. This limitation has not always been recognized in development plans: visions of the development process and assumptions about the time path of industrialization and social "modernization" have often tended to be insufficiently attentive to differences among countries, even in respect to so basic a factor as size of population.

The importance of this lies in the number of planning entities whose constituencies are very small: a fifth of the developing countries that are Members of the United Nations have populations of less than 1 million and almost half have under 5 million inhabitants, while the majority of territories that are not yet Members tend to be even smaller.

The rate of growth of national population does not seem to be greatly affected by their size although, in the 1960s, high rates of population increase were rather more frequent among small countries than

among large (see annex table A.23). Rates of growth in excess of 2.5 per cent a year, for example, were recorded in only 4 of the 14 countries with population of over 50 million, about 60 per cent of the corresponding incidence among countries with less than 5 million inhabitants. Correspondingly, the proportion of low growth rates—less than 1.5 per cent a year—was more than twice as high (one half) among large countries as among small countries (one fifth). As implied above, however, this contrast is partly a reflection of the proportion of more advanced countries in the various population groups. Except for Gabon, no developing country had a population growth rate of less than 1 per cent a year, whereas almost 60 per cent of the more advanced countries were in this category in 1970. Correspondingly, half the developing countries had population growth rates in excess of 2.5 per cent a year compared with a mere 6 per cent of the more advanced countries.

In the aggregate, the proportion of countries in which the rate of population increase was less than 2 per cent a year rose from 27 per cent among the small countries (under 5 million) and 32 per cent among the medium-sized countries (5-23 million) to 40 per cent among the large countries (25 million and over). This should not hide the fact, however, that in this last group, countries with a combined population of almost 1 billion were expanding at between 2 and 3 per cent a year.

Population size and income

Reflecting the fact that it includes a high proportion of mineral-exporting countries, the group with the smallest population contained by far the lowest proportion of low-income countries—only 16 per cent with a gross domestic product of less than $200 *per capita* in 1970, half the over-all average. About 40 per cent of these mini-States had a *per capita* gross domestic product in excess of $700 in 1970; this was a higher proportion than in any of the other size groups except the largest, half of which produced more than $1,000 *per capita* in 1970 (see annex table A.24).

The large-country group epitomizes some of the contrasts on the world demographic and economic scene. While in each of the other size groups, around half the countries occupy the middle ground in regard to *per capita* income, with average between $200 and $1,000 in 1970, in the large-country group it is the extremes that predominate. At the one end of the spectrum are six countries with a combined population approaching 1.7 billion and an average *per capita* output of approximately $120 in 1970. At the other end are seven countries with a population approaching 0.8 billion and a *per capita* output averaging over $2,800. And population is increasing over twice as rapidly in the low-income giants as in their high-income counterparts.

Population size and economic growth

The best growth performance in the 1960s was recorded by the small and the large countries. While only a fourth of the countries with a population between 5 and 25 million increased their production by more than 5.5 per cent a year, half the smaller and the larger countries were in this category. Among the smaller countries—whose production growth rate averaged 5.6 per cent a year in the 1960s—the achievement was largely resource-based: half the countries with less than 1 million population that expanded their output at more than 5.5 per cent a year were essentially mineral-exporters. Most of the other small high-growth countries were also strongly export-oriented (see annex table A.25).

The record of the smallest and the largest countries was also somewhat better than the others when the increase of population is taken into account. The proportion achieving a rate of growth in *per capita* production of over 4 per cent a year in the 1960s was over a third in the case of countries with less than 1 million population and in countries with more than 25 million, but under a fourth in countries in between. Among the large countries, only India and Indonesia failed to achieve an average annual gain of over 2 per cent in *per capita* production; among the mini-States the proportion was almost a fourth and in the intermediate group as much as 40 per cent. In about 10 per cent of this intermediate group, *per capita* production actually declined in the course of the decade and in a roughly similar proportion it rose by less than 1 per cent a year (see annex table A.26).

Eleven of these economically stagnating countries were among the original list of 25 hard-core "least developed" countries recommended by the General Assembly for special assistance.

Population size and savings

A country's ability to save is not greatly affected by its size. The highest proportion of countries saving more than a fourth of gross output in 1968-1970 was among the mini-States (37 per cent) while the highest average savings ratio (19.2 per cent) was that of the countries with population of over 50 million. The poorest savings performace was returned by the small countries with populations between 1 and 5 million: almost 60 per cent of these saved less than 15 per cent of their gross national product, and the average ratio for the 40 countries in this size group was only 13.5 per

cent. Half the countries in the next size group also saved less than 15 per cent of gross national product, though the presence of some industrialized countries in this group as well as some high-income developing countries raised its average savings ratio to over 18 per cent. More serious in its global impact is the fact that a third of the larger countries—each with a population of over 25 million and accounting in the aggregate for almost a billion people—were in this low-savings category (see annex table A.27).

Population size and density

The size classification by number of inhabitants does not necessarily conform to a classification by area. Some of the countries that have small populations are indeed quite large in terms of territory. Thus, half the countries with fewer than 5 million inhabitants have a density of less than 25 persons per square kilometre of surface area. The corresponding proportion among the larger countries—with over 29 million inhabitants—is only a fifth (see annex table A.28).

Though land area is not a good measure of natural resource endowment—indeed, in most cases the inhospitable nature of the terrain is itself one explanation of the smallness of the population—its relative abundance in so many of the small countries must be counted a favourable factor, providing room for manœuvre at present and a resource of increasing potential value in the face of future world population growth. Most of the countries with less than 10 persons per square kilometre are clustered around the world's major deserts—Arabian and Gobi in Asia, and Kalihari and Sahara in Africa. But many of them, as well as others with an unfavourable climate or topography—Bolivia, Gabon, Guyana and Surinam, for example—have become leading suppliers of petroleum and other minerals in recent years.

While two thirds of the small countries are sparsely populated—less than 50 persons per square kilometre—it is among the small countries that the highest densities are found. A handful of them, indeed, have over 400 persons per square kilometre—including Hong Kong and Singapore and the small island nations of Barbados, Malta and Mauritius.

The large countries—with populations of over 50 million—also cover the density spectrum. They include the highly industrialized temperate zone nations of the Federal Republic of Germany, Japan and the United Kingdom with 200-300 persons per square kilometre, and Bangladesh, one of the most crowded areas of rural tropical settlement, as well as the vast territories of Brazil and the Soviet Union with average densities of only 11 persons per square kilometre.

A somewhat more realistic picture of the pressure of population on the land may be obtained by concentrating attention on usable area. While this cannot be defined with any precision—since what is usable is partly a function of locally available technology as human adaptability—an approximation of it exists in the concept of "agricultural land". This at least eliminates areas that are topographically or climatically unusable for normal human settlement.

The distribution of countries by their population density in relation to agricultural land is broadly similar to that by over-all average density. It has two merits, however. First, it adjusts the relative position of those countries that have large tracts of land that, for whatever reason, is not readily usable. Thus, countries such as Egypt, Iceland, Kuwait, Mauritania, Saudi Arabia and Democratic Yemen are transferred from one end of the density spectrum to the other, while a number of others make smaller moves in the higher density direction. And secondly, the actual dimensions of the relationship are revealed more strikingly. While about a fifth of all countries had an average density of under 10 persons per square kilometre in 1970, only an eighth had less than 100 persons per square kilometre of agricultural land and in almost a fifth there were more than 700 persons per square kilometre of agricultural land (see annex table A.29).

The greater the physical size of a country the more diverse are its natural characteristics likely to be. And wide differences in climate, topography and water and mineral resources are likely to lead to corresponding differences in population concentration. These differences are the basis of a good deal of geographical movement and will be examined again in that context.[6] While low average density in large countries does not preclude the existence of local over-population, high density in small countries poses special problems for economic and social development and calls for close links with the rest of the world.

Behind the fact that 38 per cent of the countries with less than 1 million inhabitants had an average density of over 700 persons per square kilometre of agricultural land in 1970 lies another phenomenon, however, namely, urbanization. And this needs to be taken into account in assessing densities measured in averages for countries as single entities.

The proportion of population living in urban areas in 1970 was remarkably similar in the various size groups, despite the wide differences in the degree of

[6] See the discussion on population movement in the developed market economies in chapter II, section on Movement of population.

urbanization of individual countries. The average ratio was lowest (rather less than 35 per cent) in the group of countries with 5-10 million inhabitants, and highest (rather more than 42 per cent) in next largest group, with 10-25 million inhabitants. There was virtually the same proportion of urban population in the mini-States as in the giants with over 50 million inhabitants. However, the proportion of countries with low degrees of urbanization (less than 17 per cent) was nearly twice as high among those with populations of under 5 million as among those with population of over 25 million. And among the largest countries (with populations of over 50 million), almost 60 per cent had more than half of their inhabitants living in urban areas, while the remainder were at the other end of the range, with less than 30 per cent in urban areas. In the other size groups, countries were spread more uniformly across the urbanization spectrum (see annex table A.30).

Town dwellers draw little of their natural sustenance from the land on which they reside or work: it is brought in—as food-stuffs and raw materials—from some rural area, not necessarily in the same country. This suggests that one of the key dimensions of the relationship between population and land is the number of rural persons per square kilometre of agricultural land. By this measure, the proportion of countries with the heaviest population load is highest at the extremes: around 30 per cent of the countries with under 1 million or over 50 million inhabitants had more than 400 rural dwellers per square kilometre of agricultural land compared with only 17 per cent of the countries with intermediate populations. With the exceptions of Japan and Switzerland, in particular, the industrial countries, with their highly urbanized populations, have a relatively low rural density: very few had more than 200 per square kilometre of agricultural land which was the median figure in 1970 and several—including not only the North American and southern hemisphere countries but also the German Democratic Republic, France, the Soviet Union and most of the Scandinavian countries—had a rural density of less than 100 (see annex table A.31).

The countries with the most unfavourable land/population ratio in 1970 were Barbados, Lebanon and Mauritius among the small ones, and Bangladesh and the Republic of Korea among the large. These countries had extremely high densities both rural and total, and therefore face particularly difficult problems in seeking to reduce population pressure either by urbanization or by converting or reclaiming land for human settlement. By a combination of emigration and lower natality, Barbados has reduced its rate of population growth to less than 1.5 per cent a year, but the other countries in this group still have high rates of natural increase—over 2.5 per cent a year in most cases—straining further the balance between population and natural resources.

Population size and agricultural status

Rural density is often a reflection of the relative importance of agriculture in the employment pattern. This is the case in Bangladesh and Indonesia among the large countries, for example, in the Democratic Republic of Viet-Nam, Haiti, Kenya and the Republic of Viet-Nam, among the medium-sized countries, and in Mauritania and Rwanda, among the smaller ones. In all these countries rural density exceeded 400 persons per square kilometre of agricultural land in 1970 and over 70 per cent of the labour force was engaged in agriculture. To only a slightly less degree, high rural density and the predominance of agricultural employment are the joint characteristics of a number of other countries including India, Pakistan, the Philippines and Thailand, among the larger ones, and Angola, Burundi, Gabon, Laos, Democratic Yemen and Saudi Arabia, among the smaller.

Low proportions of agricultural employment are most frequent among the very small and very large countries: in 1970, for example, over 40 per cent of these extreme groups had less than a fourth of their labour force engaged in agriculture, while in the intermediate groups less than a sixth of the countries had such low agricultural employment ratios. In this intermediate group, a third of the countries had over 70 per cent of their labour force in agriculture—twice the proportion registered by the mini-States and the giants (see annex table A.32).

Differences in rural density and in the proportion of the work force engaged in agriculture did not have any significant effect on food consumption, at least in terms of the national average.[7] Average *per capita* calorie intake ranged, erratically and narrowly, from 2,366 per day in the mini-States to 2,521 in countries in the middle range (10-25 million) of population size. And there was a similar narrow and random spread in protein intake—from an average of 60 grammes per person per day in the 5-10 million population group to 67 in the 25-50 million group. The wide disparities in domestic production were more or less evened out by trade flows.

[7] At the local level, differences were much greater, especially in the less developed countries where deficiencies in transport and marketing arrangements hamper the movement of goods. Some aspects of this problem are discussed in chapter IV below.

Population size and international trade

The low agricultural involvement in the mini-States means that they tend to be heavily dependent on imports for food supplies. In 1970, over half of them produced less than a fifth of the volume of cereals they consumed. The larger the country the smaller the incidence of such import-dependence: the proportion of countries producing less than 60 per cent of the cereals consumed declined progressively from three fourths among the mini-States to a mere 8 per cent among countries with populations of over 25 million. There was a corresponding tendency for the proportion of cereal-exporters to rise with country size: it was only 5 per cent among the mini-States and 9 per cent among those with populations between 1 and 5 million, but it increased to a fifth of the 5-10 million group and over a third of the 10-25 million group, before receding to a fourth of those with over 25 million inhabitants (see annex table A.33).

Among the larger countries, the lowest degree of cereal self-sufficiency was registered by some of the major industrial nations (the Federal Republic of Germany, Italy, Japan, Poland, Spain and the United Kingdom), but import-dependence was also significant in some of the countries characterized by high rural population density (Egypt and the Republic of Korea) or by a high agricultural employment ratio the Philippines and Turkey) or by both (Bangladesh and Indonesia). The cereal deficit of most of these developing countries was less than 10 per cent of consumption but, given their size, the absolute quantities tend to bulk large in world cereal trade, as indeed do the imports of the large developing countries that have a less than 5 per cent shortfall—Brazil, China, India and Nigeria.

Cereals constitute the principal food import of these countries, and in most cases[8] basic food-stuffs accounted for more than 10 per cent of the total 1969-1971 import bill. In Egypt, Pakistan-Bangladesh and the Republic of Korea, the food bill was 15-20 per cent of the total, and in India, more than 20 per cent (see annex table A.34). Over 15 per cent of the import expenditure was for basic food-stuffs in many of the smaller countries, too. Some of these were countries with high rural densities—Barbados, Hong Kong, Lebanon, Mauritania and Sri Lanka, all with more than 400 rural dwellers per square kilometre of agricultural area. Some of them had the high agricultural employment ratios that tend to characterize subsistence economies—Laos, Mali, Senegal and the Upper Volta, in which over 70 per cent of the labour force was in agriculture. Some—like Mauritania and the Republic of Viet-Nam—had both characteristics. In others, however, the reasons for high imports-dependence lay elesewhere, sometimes in agricultural and economic policy.[9]

One of the results of their relatively high import bill for food-stuffs has been to put small countries in over-all trade deficit. In 1969-1971 less than a fifth of the countries with under 5 million inhabitants had an active balance of trade, compared with almost 30 per cent of medium-sized countries (5-50 million) and half the giants with over 50 million inhabitants. And the deficits of the mini-States tend to be, proportionately, the largest: half of them paid for less than half their imports (valued c.i.f.) by means of commodity exports in 1969-1971, compared with 11 per cent of the countries in the 1-10 million population group and only 5 per cent of those with more than 10 million inhabitants (see annex table A.35).

Among the developing countries, irrespective of size, it is the mineral exporters that run active trade balances: Guyana and Surinam (bauxite), Bolivia and Malaysia (tin), Liberia and Mauritania (iron ore), Chile, Zaire and Zambia (copper) and Peru (a range of ores and metals), and most notably the petroleum producers, represented in each of the size groupings.

It is among the small countries, however, that international trade bulks largest. In no mini-State did the value of trade (measured as the average of exports f.o.b. and imports c.i.f.) constitute less than a fifth of total production in 1970. The proportion of countries with this high degree of economic openness declines with size: it was two thirds among small countries (1-5 million inhabitants) in 1970, rather less than half among those with 5-10 million, and about a fourth among those with 10-25 million, while a 20 per cent ratio was virtually unknown among the larger countries (see annex table A.36).

The decline in the quantitative significance of foreign trade as the size of the population—and the domestic economy—increases does not imply a parallel decline in its qualitative importance. The imports of a large country—whatever the stage of its development—may consist of essential food-stuffs, fuels and raw material or desirable technology. But it is clearly

[8] Based on an analysis of the trade of the 81 countries reporting in accordance with the Standard International Trade Classification (SITC).

[9] Not all countries with high food import bills have large food deficits. Some, indeed, run a food surplus: Brazil and the Philippines among the larger countries, for example, finance their cereal imports by exporting sugar and edible oils and seeds, and Egypt pays for its wheat imports with exports of rice and onions, while among the smaller countries, Dahomey (oil-seeds), Mali (fish and ground-nuts), the Upper Volta (cattle and ground-nuts) and Fiji and Barbados (sugar) were all in over-all food surplus in 1969-1971.

the smaller country that is at greater risk: the relative size of the foreign trade sector makes the whole economy vulnerable to the impact of external events. By the same token, however, the foreign trade sector is also a potential engine of growth through which development stimuli can reach the less dynamic parts of the economy.

This poses special problems for those countries that not only have a small population but also lack readily exploitable natural resources. These are the countries to which the challenge to co-operate with neighbours is most pertinent, so that the boundaries of feasible specialization can be extended by enlargement of the population base that provides the bulk of both the human input of a common enterprise and the market for its product.

Population size and economic development indicators

The problem of development strategies for small countries is important because of the numbers involved: the more advanced economies constitute only a sixth of the 63 countries with less than 5 million inhabitants, compared with a third of the medium group with 5-50 million inhabitants and half the giants with larger populations. Though the differences are surprisingly narrow, the smaller countries do tend to reveal less favourable averages when the size groups are compared in respect of various development indicators (see table 4).

The group of countries with less than 5 million inhabitants have somewhat higher average birth rates

Table 4. Socio-economic characteristics of countries grouped according to size

Indicator	*Countries[a] with a 1970 population of*					
	Less than 1 million	*1-4.9 million*	*5-9.9 million*	*10-24.9 million*	*25-49.9 million*	*50 million and over*
Number of countries:						
Total	20	43	27	26	11	13
Developing	16	37	20	17	8	6
Population (millions):						
Total	10	122	193	411	371	1,716
Average	0.5	2.8	7.2	15.8	33.7	132.0
Living in:						
Developed countries	1.5	21	58	151	102	767
Developing countries	8.8	101	135	260	268	949
Crude birth rate per thousand, 1965-1970 average	37.3	39.8	36.6	34.1	38.2	31.9
Crude death rate per thousand, 1965-1970 average	15.3	16.7	15.9	13.5	12.9	13.6
Rate of natural increase per thousand, 1965-1970 average	22.0	22.6	20.7	20.6	25.3	18.3
Age distribution, 1970 (percentage):						
0-14	39.9	40.5	37.9	37.4	40.7	35.7
15-64	55.7	55.0	56.4	56.9	54.9	57.7
65 and over	4.4	4.5	5.8	5.7	4.4	6.6
Percentage of population in urban areas, 1970	35	35	35	42	38	42
Percentage of labour force in agriculture, 1970	40	55	51	46	58	45
Average *per capita* income, 1970 (dollars)	850	678	759	818	443	1,186
Average annual increase in gross domestic product, 1961-1970	6.0	4.9	5.0	5.0	6.7	5.3
Ratio of national savings to GDP, 1968-1970 (percentage)	19.1	13.5	18.1	19.2	15.7	19.0
Average *per capita* daily consumption of calories, 1964-1966	2,368	2,393	2,437	2,521	2,462	2,568
Average *per capita* daily consumption of protein, 1964-1966 (grammes)	57	66	65	69	67	70
Average density:						
Persons per square kilometre	109	230	58	63	78	128
Rural population per square kilometre of arable land	229[b]	307	226	223	252	271

Source See table 1

[a] For composition of the country groups, see annex table A 23

[b] Excluding Iceland and Kuwait.

(about 39 per thousand) and death rates (about 16 per thousand) than any of the larger-country groups. Its child population proportion is slightly higher (over 40 per cent) and its working age proportion slightly lower (about 55 per cent). The proportion of its population in urban areas is relatively low (35 per cent) and the proportion in agriculture relatively high (53 per cent). Density of occupation is also high—about 300 rural persons per square kilometre of arable land. While the average *per capita* income, saving ratio and economic growth rate of the 20 mini-States compare favourably with those of larger countries, these indicators are substantially lower in the group of 43 countries with 1-5 million inhabitants, confirming the impression that the process of economic development is particularly difficult in small countries.

Chapter II

THE IMPACT OF RECENT DEMOGRAPHIC CHANGES IN THE DEVELOPED MARKET ECONOMIES

Concern over questions of population has increased in the developed market economies in recent years in three distinct but interrelated respects. The most frequently expressed concern relates to population size, especially as it impinges on certain natural resources —water, minerals and land area usable for farming, building and recreation. Linked to that is the question of the rate of population growth, regarded not only as a matter of increasing size but also in terms of the resultant changes in age composition. And, linked in other ways to the size and growth of population, is its geographical distribution: changes in that distribution, through migration—chiefly towards employment—have also become a matter of considerable concern in many countries.

The size of population

Apprehension about population size is a recent development. It reflects the material consequences of rising living standards, the spread of mechanical technologies and the resultant change in life styles. Just as the application of heat to a gas agitates the molecules and raises its pressure, so the combination of higher incomes and new production and transport techniques has caused the population to impinge with increasing intensity on the natural environment. The post-war period has seen an extraordinary increase in the volume and speed of movement of goods and people. Production in the developed market economies has expanded at the unprecedented rate of 4-5 per cent a year and their imports and exports of goods at twice that pace. And, in the face of a tremendous upsurge in the use of motor-cars and aeroplanes, there has been corresponding expansion in the amount of personal travel, both internally and between countries.

This increase in human movement has induced a new sense of crowdedness not only among lower-income groups—which have always lived in more congested circumstances—but also among the wealthier who have had to move further and further away to enjoy the privacy or isolation they once could experience close to home. Shortage of space has become most noticeable in the larger urban areas, in many of which a third or more of the land area has been given over to roads, airports and parking lots. The search for living space, coupled with the availability of personal transport, has tended to spread the population over much greater distances, with the consequent evolution of new life styles, one of the main features of which is the phenomenon of "commuting" between place of residence and place of employment. For millions of people in the developed market economies, this journey to and from work has dramatized the demographic situation, and the result has been a new awareness of overcrowding as a contemporary problem.

The changing relationship between population and space under the influence of increasing mobility has been evidenced in many other contexts: pressure on parks and beaches and other recreational facilities, for example, and the extending range of organized tourism. The escalation of land prices, especially in suburban localities, also reflects the pressure of mobile and rising-income population on a given living space.[1] Though the immediate impact of these changes on individuals is occasional rather than continuous, they, too, have contributed to the general concern over population size.

Less direct than the relationship between people and their living space is the link between population and the intake of natural resources required to sustain current modes of living. While, in general, there has been no great upsurge in the consumption of raw materials, whether expressed in average *per capita* levels or in terms of growth rates, the exponential rate of increase in industrial absorption has not noticeably slackened. Indeed, in the case of the major non-ferrous metals—prime examples of non-renewable resources—

[1] In England and Wales, for example, land prices for private housing rose at an average rate of 12 per cent a year between 1963 and 1969, three times as fast as consumer prices (see United Kingdom, Central Statistical Office, *Economic Trends* (London), February 1971, p. xlviii). In Japan, land prices in the cities are estimated to have risen 23-fold in the 18-year period 1955-1973, an increase of about 19 per cent a year, almost five times as fast as the cost of living (see Japan Institute of Real Estate Research, as reported in *Japan Economic Journal* (Nikon Keizai Shimbun) (Tokyo), 2 October 1973).

the rate of increase in world consumption between the average in the 1950s and the average in the 1960s was at or near historically high figures—around 3 per cent a year for lead and tin, 5 per cent for copper and zinc and 9 per cent for aluminium (see table 5). As a result, the absolute amounts of these metals absorbed each year now bulk very large: 4 million tons of lead, 5 million tons of zinc, 6 million tons of copper and 11 million tons of aluminium.

There has been little difficulty in providing these quantities. Known reserves of ore have been developed, new deposits have been discovered and technical advances have enabled lower grades to be mined at costs that have remained roughly in line with the prices of other commodities. Yet new doubts about supplies have been voiced, not only on the basis of the large amounts now involved and the implications in absolute terms of the continuation of current growth rates but also because of the wide disparities in *per capita* consumption. In the developed market economies, average annual rates of consumption range from 0.2 kilogramme per person in the case of tin and 3 kilogrammes of lead to 5 kilogrammes of zinc, 7 kilogrammes of copper and 10 kilogrammes of aluminium, while in the developing countries the range is between a twentieth and a fiftieth of these amounts [2] (see table 6). These disparities have been gradually narrowing and the quantitative implications of a continued rapid rise in *per capita* consumption in the developing countries have begun to influence thinking on resource management problems in the more advanced countries. Conservationist opinion has strengthened perceptibly in the developed market economies in recent years.

Though the metals are non-destructible as well as non-renewable and the great bulk of their use is non-dissipative, their recycling into the production process has not made much headway. In the United States, for example, it is only in the case of some of the minor metals—notably chromium, mercury, nickel and platinum—that scrap or secondary material was making a larger contribution to total consumption at the end of the 1960s than at the beginning of the 1950s (see table 7). In present circumstances market forces alone seem unlikely to induce much higher rates of recovery of old scrap, at least until pressure on resources has raised significantly the prices of the primary metals concerned. This has led those who are apprehensive about the maintenance of *per capita* supplies to suggest that a fiscal lever might be employed to this end in the form of a reimbursable tax or deposit added to the price of all durable goods and refunded when at the end of their useful life they are delivered for recycling.

The extension of the average useful life of such goods would also help to improve the relationship between population and metal resources. This is partly a matter of product design, partly a matter of deferring trivial innovations and changes in style and partly a matter of disseminating the skills required for organizing adequate repair services which could in turn act as the channel through which scrapped materials are returned to the production cycle.

Raising a similar set of questions are the fuels. Here the population/resource relationship is more immediate and obvious for much of fuel supply is used directly by individuals—to provide heat and light in their homes and petrol in their motor-cars, for example. The questions are also more urgent, for the resource is not only non-renewable but also destructible, being used up in generating energy. And the rate of increase in

[2] These figures are based on industrial absorption. As there is a net flow of metal-containing manufactures from the developed market economies to the developing countries, final usage is marginally less in the former and appreciably more in the latter. Even if the result was a doubling of the *per capita* consumption level in the developing countries, the disparity in the case of the major non-ferrous metals would remain over 10 to one.

Table 5. World consumption of the major non-ferrous metals, 1900-1970

(Percentage per annum)

Metal	Average annual rate of increase in consumption[a] between previous decade and					
	1911-1920	1921-1930	1931-1940	1941-1950	1951-1960	1961-1970
Aluminium	18.68	6.44	8.27	12.44	8.85	9.25
Lead	1.39	2.13	0.55	0.35	4.02	3.76
Copper	5.08	1.80	1.72	3.77	3.03	5.08
Tin	1.63	1.86	0.59	−1.42	2.28	2.81
Zinc	2.78	2.25	1.91	2.27	4.20	5.03

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on Metallgesellschaft, A.G., *Metal Statistics, 1961-1971* (Frankfurt am Main).

[a] Difference between average annual industrial absorption of metal in successive decades expressed as a compound growth rate.

Table 6. *Per capita* consumption of major non-ferrous metals, 1970

(Kilogrammes per person)

Region	Industrial absorption of				
	Aluminium	*Lead*	*Copper*	*Zinc*	*Tin*
Developing country average	0.274	0.158	0.152	0.212	0.010
Western hemisphere	0.623	0.612	0.591	0.554	0.026
Africa	0.062	0.046	0.0385	0.037	0.004
Asia	0.247	0.076	0.074	0.176	0.007
Developed market economy average	9.734	3.344	7.236	4.611	0.208
North America	16.335	3.879	9.154	5.191	0.257
Western Europe	6.567	3.453	6.203	3.891	0.174
Japan	8.835	2.034	7.928	6.020	0.244
Southern hemisphere	5.342	2.530	4.377	4.755	0.172
Centrally planned economy average	1.743	0.869	1.253	0.915	0.054
Eastern Europe and USSR	5.237	2.334	3.535	2.524	0.133
Asia	0.208	0.227	0.252	0.207	0.019
World, average	2.714	1.048	1.980	1.353	0.065

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and Metallgesellschaft, A G., *Metal Statistics, 1961-1971* (Frankfurt am Main)

Table 7. United States of America: contribution of old scrap to metal consumption, 1951-1952 and 1969-1970

Metal	Percentage of total industrial demand derived from old scrap [a]	
	1951-1952	*1969-1970*
Aluminium	7	4
Beryllium	—	1
Chromium	7	14
Cobalt	10	1
Columbium	—	—
Copper	20	18
Iron	36	29
Lead	38	38
Magnesium	1	—
Manganese	—	—
Mercury	5	13
Nickel	21	32
Platinum	11	22
Tin	36	28
Tungsten	—	3
Vanadium	—	—
Zinc	5	5

Source: United States of America, National Commission on Materials Policy, *Towards a National Materials Policy*, Interim Report, April 1972 (Washington, D C.).

[a] Total secondary recovery in the case of chromium, cobalt, nickel and tungsten

consumption has been quite high: in the 1960s it was over 5 per cent a year for fuels as a whole and about 8 per cent a year for petroleum and natural gas.

As in the case of metals, *per capita* consumption levels differ widely. There are few developed market economies (only a handful in southern Europe) in which the 1971 level of consumption of fossil fuels was below the world average of 1.9 tons per person, measured in coal equivalent, and very few developing countries (only a handful of oil producers) consuming more than the world average. Developing country consumption was about 0.5 tons per person, about a tenth of the western European average and a twentieth of that of North America.[3] The prospect of the 3.5 billion people in the rest of the world moving up to the 11 tons per person consumption of the 0.24 billion in North America raises energy supply problems of daunting magnitude.

While the consumption of metals per unit increment in total output tends to level off and then decline as income rises—in line with the movement of labour from agriculture and industry into services—this has not been the case with fuels. On the contrary, the movement of labour away from material production is itself based on the intensification of mechanization in those sectors. And not only has energy usage risen in agriculture and industry but, with rising incomes, consumer life styles and the service sector catering to

[3] These comparisons ignore the use of peat, wood and dung and therefore overstate the disparity between the developing countries where these are important sources of energy and the developed market economies where they are used very little.

them have also become more energy-intensive. In the European Economic Community (EEC), for example, gross internal energy consumption increased at about 6 per cent a year in the 1960s—4.4 per cent a year in industry, 6.4 per cent a year in transport and 8 per cent a year in the household-tertiary sector. Thus, while energy consumption increased less rapidly than material output in industry and less rapidly than the vehicle park in transport, it increased more rapidly than private consumption in the household sector.[4]

Whether energy use will continue to run ahead of total consumption in the household sector as incomes rise and the ownership of mechanized assets spreads to saturation depends as much on technological developments as on location and style of living.[5] In the developed market economies as a whole, however, it is clear that the link between fuel requirements and size of population will remain very close for the foreseeable future. This adds significance to the rate at which domestic consumption of energy has been outrunning domestic production. In EEC, the ratio of net imports (excluding bunkers) to inland consumption rose from 30 per cent in 1960 to 63 per cent in 1970. And even in the resource-rich United States, an energy deficit began to emerge in the 1950s[6] and by the beginning of the 1970s it had reached 10 per cent of over-all consumption and as much as a fourth in the case of petroleum alone.

Another natural resource that has come under strain in recent years is water, use of which has increased rapidly both directly by consumers and indirectly through production processes including, in particular, the generation of electricity. In many countries there has also been a notable expansion in the use of water for irrigation as an essential part of the technological revolution that has underpinned the industrialization of agriculture.

As a result of this agricultural transformation, the developed market economies have had relatively little difficulty in feeding their populations. Indeed, not only has the developed market economy population been better fed by fewer people on the land but these farmers have become the suppliers of critical food margins required to sustain populations in other regions. This has been achieved by increasing very considerably the claims of agriculture both on water supplies and on fuel resources—for the energy needed for the mechanization of many farm operations and as feedstock for the production of nitrogenous fertilizers and various petro-chemical pesticides and fungicides.

The population/natural resource relationship is not limited to raw material absorption and use; it is also affected by the movement of the resources through the system, serving their intended purpose but also generating unwanted side effects and leaving residual materials that call for additional handling and disposal. In this respect, too, there has been an awakening to the magnitude of the problem and a growing appreciation of the dimensions of the demographic impact on the environment.

The discharge of gaseous effluents into the atmosphere tends not only to waste heat and dissipate materials of potential value, such as sulphur, but also to corrode steel and stone structures and damage human eye, skin and lung tissues as well as trees and foliage and the creatures to which they act as host. The discharge of liquid effluents has a similar potential for harm, wasting heat and various solutes and contaminating lakes and rivers, reducing the usability of the water both for aquatic life and as a natural resource. The disposal of solid residues poses comparable problems both in terms of the waste involved —in the material itself as well as in handling and transporting it—and because of its frequently noxious characteristics.

The magnitude of this environmental impact problem rises rapidly with population density. In the United States, urban solid waste collection now exceeds 5 pounds per person per day and the amount generated by farms, mines and factories is over

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[4] See Statistical Office of the European Communities, *Energy Statistics, 1972 Yearbook* (Luxembourg), pp. 2 and 25.

[5] In the United States, gross energy consumption per dollar of gross national product declined fairly steadily between the mid-1950s and the mid-1960s and then rose sharply and by 1970 was back at the 1950s average of about 93,000 BTU per 1958 dollar of gross national product. If life styles become less energy-intensive (through a shortening of home-to-work travel, for example, or more efficient use of fuels in households) and material output continues to increase more slowly than total output as national income rises, the energy/gross national product ratio should fall. These assumptions are exemplified in the United States Department of the Interior projection, *United States Energy through the Year 2000*, by Walter G. Dupree and James A. West (Washington, D.C., December 1972), which forecasts a reversal in the acceleration in the growth of *per capita* fuel use in the household and commercial sector. On the assumption of a reduction in the rate of population growth and a saturation of households with central heating and air-conditioning and other energy-consuming devices, the average annual increase in *per capita* fuel use, which has risen steadily from 1.0 per cent to 3.3 per cent in the past four quinquennia, is predicted to decline to 1.5 per cent in the next four.

[6] Despite the fact that domestic petroleum production in the 1950s—about 24.5 billion barrels—was in excess of the entire amount produced before the Second World War. The 1950s also saw the production of more natural gas—99×10^{12} cubic feet—than had been previously produced in the United States. See United States of America, Department of the Interior, Bureau of Mines, *Production of Mineral Fuels and Hydropower in the United States since 1800*, by R. M. Gooding (Washington, D.C., 1963). This tremendous upsurge in the rate at which fossil fuel deposits were being used up has served to dramatize the crucial relationship between population and non-renewable natural resources.

4 billion tons a year.[7] The past decade has thus seen a proliferation of protective measures in all the industrial countries. Zoning laws have been tightened, limiting the locational choice of industries with effluent and waste disposal difficulties. In Japan, for example, a determined effort is now being made to prevent the further industrialization of the Tokyo-Yokohama-Nagoya-Osaka conurbation. In most countries standards have been raised in respect of the volume, temperature and toxicity of the fluid discharged from factories and power stations. And even within the general framework of stricter rules, citizen groups have often resisted particular industrial developments through court action, claiming the probability of specific environmental damage.

Much of this action has been inimical to the population/resource balance, narrowly defined. Older facilities that could not readily be modified to meet the new standards for effluents have been closed down; this has resulted in a reduction in zinc-refining capacity in the United States, for example—from 1.25 million tons in 1968 to less than 1 million tons in 1971. Mining expansion has been slowed down, the strongest resistance being manifested against open-cast techniques and stripping which destroy land in the conventional sense, especially where the run-off of rain can wash the agriculturally usable top soil into the rivers and the sea. Offshore drilling has also been strongly opposed because of the danger of oil spillage and the consequent harm to fish, birds and beaches. Opposition to the passage of a pipeline of heated oil across the tundra, because of the ecological risks, has delayed the exploitation of the North Slope oil deposits of Alaska for several years. The damming of rivers for hydroelectric purposes has also met with organized resistance, from those anxious to protect the habitat of fish and other wild life and to preserve the wilderness. Local objections to the siting of nuclear power stations have held back the process of supplementing generating facilities based on fossil fuels. Strain on fossil fuel resources has also come from efforts to prevent further deterioration in the quality of air resources: the burning of high-sulphur coal and oil has been restricted in many places, for example, and the current technology for reducing harmful emissions from internal combustion engines results in a significant reduction in the efficiency with which fuel is converted into mechanical energy.

It is clear that a definite reordering of priorities has been under way. The protection and restoration of the basic resources—land and water and air—with which the population has a direct and simple relationship have taken precedence over the further development of resources such as fuels and metals whose relationship with the population is only indirect—through a complex industrial system, shaped by a changing technology—and hence less readily perceived. It is far from clear, however, how durable these new preferences will prove. The first test may well be at hand in the present energy shortage. Will the long-established trend towards more energy-intensive life styles be reversed, if not permanently then at least for long enough to permit the development of environmentally neutral sources of energy—solar, geothermal, wind, tide and perhaps even nuclear fusion—to supplement and gradually replace the fossil fuels?

As the test has come upon the developed market economies earlier than was expected and the pattern of asset holding, the distribution of industrial influence and the established expectations of the bulk of the population are all such as to resist radical change, it is by no means certain that the new preferences will be maintained in the face of high transitional costs and inconvenience. Nevertheless, the vision of man as part of nature, of the interconnectedness of the system and of the need for caution in initiating disequilibrating changes seems likely to persist. It spread with surprising speed and influence in the 1960s, especially among the young, and it will almost certainly colour all thinking about population questions in the foreseeable future.

The rate of growth and age distribution of population

One of the major consequences of population growth is implicit in the foregoing discussion of the relationship between population and natural resources. It is clear that for purposes of economic analysis there is no such thing as a demographic unit in the abstract. A population increment takes place in a concrete socio-economic environment. When a new baby arrives it adds to total consumption a volume and range of goods and services that are largely predetermined by the standards and customs of the group into which it is born. Correspondingly, a death reduces consumption by an amount that depends on the age of the deceased and the group in which he was living. A net increase in the population requires an increase in investment sufficient to maintain the average level of fixed capital per person if the group is to preserve its industrial structure and its life style. Thus the implications for the population/resources balance of a given increment in population are much greater in the developed market economies than in the developing countries.

[7] United States of America, Council on Environmental Quality, *Environmental Quality, First Annual Report of the Council* (Washington, D.C., 1970).

Birth rates in the developed market economies varied rather erratically between 1950 and 1970, but the reductions outnumbered the increases and were generally greater, especially among the countries in which the crude birth rate in the early 1950s exceeded 20 per thousand—Australia, Canada, Cyprus, Finland, Japan, the Netherlands, Turkey, the United States and Yugoslavia, for example. Where birth rates rose it was invariably from low levels, as in the case of a number of European countries—notably Austria, the Federal Republic of Germany, Luxembourg, Sweden, Switzerland and the United Kingdom—so there was a perceptible tendency for rates to converge in the 17-19 per thousand range.

Death rates also showed a general downward movement, most noticeable in countries in which they had exceeded 10 per thousand in the early 1950s —France, Ireland, Portugal, Spain, Turkey and Yugoslavia, for example—but also in Australia, Canada, Japan and New Zealand, where the rate fell to around 8 per thousand. The result was a marked narrowing in the range of rates of natural increase—a reduction in the high rates (Australia, Canada, Finland, Japan, Greece, the Netherlands, the United States and Yugoslavia) and an increase in the low rates (Austria, the Federal Republic of Germany, Luxembourg, Switzerland and the United Kingdom). The average rate of natural increase for the developed market economies as a group declined to about 10 per thousand.

On the whole, the rate of population growth has not been a matter of widespread concern in the developed market economies; much more importance has been attached to the absolute size of the population and its distribution in relation to available resources and facilities. This emphasis reflects the fact that the end of the Second World War found most of these countries with infrastructure under great strain: destruction, obsolescence and lack of investment had left the stock of housing, public buildings, transport equipment and other overhead capital severely depleted. With population growing at not much more than 1 per cent a year, the incremental problem paled into insignificance before that of over-all population/facilities imbalance. And when the backlog had been largely overcome, concern about the population growth rate was related more to the question of maintaining a 4-5 per cent per annum increase in the production of goods and services in the face of a 1 per cent increase in the labour force. While anxiety over the impact of large numbers on the natural environment mounted in the 1960s, it left attitudes to population growth rate surprisingly ambivalent.

Measures tending to increase fertility were as frequent as those tending to reduce it. Among the former were major improvements in maternal and child care services, tax allowances based on family size and the removal of discrimination—in housing or employment—against large families. In general, improvements in the housing situation have tended to stimulate family formation, as indeed have the generally high levels of employment that have prevailed in the post-war period. Common countervailing policies include the extension of sex education, birth control and family planning services, regularizing—and generally liberalizing—laws and arrangements regarding abortion, the raising of the school leaving age and the minimum age for marriage, the reduction in discrimination against women in education and employment, and the provision of day care facilities for the children of working mothers.

Intellectual and even popular opinion seems to have veered towards lower population growth rates. In 1969, the Advisory Council on Population Problems in Japan (Jinko Mondai Shingi-kai) was the first to recommend a policy of zero growth, and in 1972 a specially appointed Commission (on Population Growth and the American Future) came to the same conclusion in the United States. But official endorsement has not been forthcoming and although the sentiment has been for lower growth not only in the United States [8] but also in the Netherlands and the United Kingdom, it has tended to favour higher growth in a number of other countries—France, Greece, Japan and Spain, for example.

In the face of this ambivalent attitude towards population growth from the point of view of domestic considerations, the strongest arguments for reduced growth have tended to be motivated by concern over global resource use. The annual increment in developed market economy population at the beginning of the 1970s, was about 7.7 million compared with a developing country increment of about 43.2 million. Though the former was thus not much more than a sixth of the latter, its implicit claim on natural resources was virtually the same (see table 8 and annex table A.37).

The main difference in resource requirements lies in the volume of minerals necessary to sustain a given population increment in an industrialized economy. Given the present differential growth rate, requirements

[8] Public attitudes in the United States have been affected by the fact that greater difficulty has been experienced there than in most other developed market economies in absorbing all the new entrants into the labour force. The emergence in the 1960s of a visible pool of unemployed young people began to influence government thinking about the growth of population. However, the first important official step was not taken until early in 1966, when the Department of Health, Education and Welfare inaugurated a programme of family planning assistance at the local level. Research, training and information services in the family planning field have been greatly expanded since then.

Table 8. Implicit claim on natural resources arising from population growth, 1970

Commodity group	Consumption requirements of annual increment in population [a] in			
	Developed market economies		Developing countries	
	Per capita (dollars)	Total (millions of dollars)	Per capita (dollars)	Total (millions of dollars)
Food	71.4	550	28.6	1,240
Fibre	13.2	102	2.0	87
Fuel	65.0	500	3.6	156
Metal	87.8	675	7.7	333
TOTAL	237.4	1,827	41.9	1,816

Source: See annex table A.37.

[a] Based on estimated average annual consumption of major commodities in 1965-1970; a developed market economy population of 702 million growing at 1.1 per cent a year and a developing country population of 1,730 million growing at 2.5 per cent a year; valued at approximate prices in international trade

of agricultural commodities are twice as great in the developing countries, even at current levels of consumption.

The resources required to sustain *per capita* food consumption are between two and three times as great in the developed market economies as in the developing countries, partly because more is eaten—an average of 2,965 calories and 87 grammes of protein per day in the former, compared with 2,120 calories and 55 grammes in the latter—and partly because of the inclusion of a much higher proportion of resource-intensive items such as meat. *Per capita* consumption of the major fibres is about six times as great in the developed market economies as in the developing countries, again reflecting both differences in the volume of cloth used and the much greater use of resource-intensive materials such as the non-cellulosic synthetics. These higher rates of *per capita* consumption of food-stuffs and fibres in the developed market economies are more than offset by the differential increment in population: total new requirements in the developing countries are not much less than in the developed market economies in the case of fibres and more than twice as great in the case of food.

In the case of the minerals, however, the differences in *per capita* consumption are so large that they overwhelm those in population growth. Implicit in the relatively modest rate of increase in developed market economy population is a claim on metal resources twice as large as that associated with the massive increment in population in the developing countries. And in the case of the fossil fuels, the claim is more than three times as large. It is this differential that has led many to measure the global impact of population growth not solely in demographic terms but also and more significantly in terms of resource-consuming units.

Internally, the impact of population growth in the developed market economies in recent years has derived less from its volume than from changes in its structure.[9] Two aspects of this changing demographic structure have been of particular significance—a reduction in the average size of households and fluctuations in age composition. The dimensions of these changes have differed from country to country, but almost everywhere they have had important socio-economic consequences.

The "baby boom" of the immediate post-war years swelled the ranks of the child population. Fertility then declined and though there was an increase in the number of births between the mid-1950s and the mid-1960s, the upsurge expected as the post-war generation reached maturity did not materialize. In half the developed market economies the highest number of live births in any of the first 25 years after the war was recorded in the 1940s. In no country was the peak crop later than the mid-1960s and in three fourths of them the number of babies born in 1970 was smaller than the number born in 1960 (see table 9). Thus the proportion of the population under 15 years of age, which rose in a majority of countries in the 1950s, tended to recede in the 1960s; in 1970 the average for the developed market economies was not much above the 27 per cent registered in 1950 and it was still declining. In a few countries—Finland, Greece, Japan and Malta—the under-15 population was smaller in 1970 than in 1950, not only relatively but also in absolute terms.

These swings in birth rates caused major fluctuations in demand. In the United Kingdom, for example, the number of births in the mid-1950s was a fifth less than 10 years before and the 1947 peak of over 1 million was never regained. The early upsurge set off a massive school-building programme. Between 1945 and 1970 over 6.5 million new school places were provided. Enrolment in 1970, however, was only 2.5 million greater than in 1951, most of the new places contributing to reduce class densities, improve facilities, extend nursery schools and accommodate physical movement of the population. Similar changes have been taking place in the United States, where, after a 27 per cent expansion in school enrolments in the 1960s, the 1970s are expected to call for only a marginal 1 per cent increase—compounded of a large (50 per cent) rise in college admissions and an absolute decline (of 10 per cent) in the number of children in elementary schools.[10]

[9] The greatest impact has stemmed from changes in geographical distribution, discussed in the following section.

[10] See United States of America, National Planning Association, *United States Economic and Demographic Projections: 1972-1981* (Washington, D C).

Table 9. Developed market economies: number of live births, 1946-1970

(Thousands)

Country	Highest annual total		Lowest annual total		1950	1960	1970
	Year	Number	Year	Number			
Austria	1963	134.8	1951	102.8	107.9	125.9	112.3
Belgium	1964	160.6	1969	141.8	145.7	154.8	141.8
Canada	1959	479.3	1946	343.5	372.0	478.6	372.0
Denmark	1946	96.1	1970	70.8	79.6	76.1	70.8
Finland	1947	108.2	1970	64.4	98.1	82.1	64.4
France	1964	877.8	1953	804.7	862.3	819.8	848.3
Germany, Federal Republic of	1963	1,082.2	1946	718.6	791.2	947.1	790.6
Greece	1967	162.8	1949	139.1	151.3	157.2	144.9
Ireland	1947	69.0	1958	59.5	63.3	60.7	64.1
Italy	1946	1,039.7	1953	842.3	911.8	910.2	900.1
Japan	1949	2,696.6	1952	1,005.2	2,337.5	1,606.0	1,932.8
Luxembourg	1964	5.2	1949	4.0	4.1	5.0	4.5
Netherlands	1946	284.5	1953	228.0	229.7	239.1	238.9
Norway	1946	70.7	1951	60.6	62.4	61.9	64.6
Portugal	1948	221.0	1970	172.9	205.2	213.9	172.9
Spain	1964	694.6	1950	562.4	562.4	660.1	663.7
Sweden	1946	132.6	1960	102.2	115.4	102.2	110.2
Switzerland	1964	112.9	1951	81.9	84.8	94.4	99.2
United Kingdom	1947	1,025.4	1955	789.3	818.4	918.3	903.9
United States	1957	4,279.7	1946	3,303.8	3,571.9	4,257.9	3,717.9
Yugoslavia	1950	494.2	1970	361.6	494.2	432.6	361.6

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on United Nations, *Demographic Yearbook*.

Table 10. Developed market economies: primary and secondary school enrolments, 1955-1969

Country	1955 enrolment (thousands)		Index of enrolment (1955 = 100)					
			Primary			Secondary		
	Primary	Secondary	1960	1965	1969 [a]	1960	1965	1969 [a]
Australia	1,314.4	441.3	119	127	135	148	206	245
Austria	747.0	273.4	97	103	119	109	115	138
Belgium	838.7	489.3	110	117	121	133	131	173
Canada	2,643.8	461.4	120	135	145	215	345	...
Denmark	525.6	239.6	106	99	102	115	131	137
Finland	591.0	175.8	92	78	67	203	249	283
France	5,171.2	1,335.0	113	107	97	171	244	308
Germany, Federal Republic of	4,865.5	3,651.0	104	114	125	85	101 [b]	117 [b]
Greece	947.5	235.8	97	103	100	139	193	221
Ireland	500.9	87.3	100	100	103	132	195	170
Italy	4,740.7	1,551.2	95	95	100	141	197	235
Japan	12,267.0	8,455.3	103	80	77	108	131	109
Luxembourg	29.5	7.2	107	124	122	143	181	250
Netherlands	1,452.2	670.9	97	97	100	146	164	166
New Zealand	364.2	82.2	117	130	141	145	195	224
Norway	447.3	99.5	96	92	87	204	264	302
Portugal	829.5	130.6	107	108	119	175	250	311
Spain	3,117.2	524.0	102	108	122	139	231	337
Sweden	844.3	301.1	76	72	72	190	212	218
Switzerland [c]	557.4	218.2	103	...	...	123	188	213
United Kingdom	5,533.3	2,714.7	92	98	105	138	136	140
United States	26,434.7	7,753.5	113	121	121	124	221	254

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on United Nations Educational, Scientific and Cultural Organization, *Statistical Yearbook, 1967* and *1970* (Paris).

[a] 1968 in the case of Australia, Belgium and Denmark

[b] Not fully comparable with 1955 and 1960 data

[c] 1956 enrolment and indices for 1959 (primary) and 1961 (secondary)

Changes in natality resulted in declining primary school enrolments in the 1950s and 1960s in several countries, most notably in Japan as well as Finland, Norway and Sweden. In Finland, where the proportion of the population under 15 years of age fell from 30 per cent in 1950 to 25 per cent in 1970, the decline in births has continued, so the shrinking of primary enrolments is likely to continue. In the other countries—and also in France where 1969 enrolments were below the 1955 level—an upturn in births in the 1960s may reverse the downward movement in primary school population.

Since in most of the developed market economies primary school attendance is free and compulsory, virtually the whole of the relevant age group (6-11 in most cases) is generally enrolled, and changes in birth and infant mortality rates tend to have a direct impact on numbers. In the case of secondary education, the factors affecting attendance are much more varied and powerful and the impact of demographic changes is correspondingly weaker. In the period under review there were strong forces making for higher enrolments —including not only a greater appreciation of the need for training in a technologically complex society and a greater willingness on the part of generally more affluent parents to encourage their children to stay at school but also, in several countries, a raising of the age for compulsory attendance. Thus there was an upsurge in secondary enrolments throughout the developed market economies and, in most, attendance at the end of the 1960s was two or three times the mid-1950s level. The Federal Republic of Germany and Japan were among the few countries in which the demographic factor asserted itself: in a decline in enrolments between 1955 and 1960 in the former and, as a result of the low birth rates of the early 1950s, in the second half of the 1960s in the latter (see table 10).

The increase in secondary enrolments—and in third-level enrolments as well—was one of the factors inducing a rapid rise in education expenditure in the post-war period. In almost all the developed market economies public funds devoted to education increased more rapidly than total domestic expenditure: in the early 1950s outlays for education amounted to around 3 per cent of the gross domestic product in most countries but by the end of the 1960s the median outlay was nearer 5 per cent of the gross domestic product (see table 11).

Table 11. Developed market economies: public expenditure on education, 1950-1970

Country	*Percentage ratio of public expenditure on education to gross domestic product*			*Average annual rate of increase in 5-19 year old group (percentage)*
	Early 1950s	*Around 1960*	*Late 1960s*	
Australia [a]	1.8	3.7	4.0	3.3
Austria	4.0	3.7	4.8	0.5
Belgium	2.1	6.0	5.0	1.3
Canada	3.1	5.8	8.9	3.2
Denmark	3.1	4.8	6.0	0.6
Finland	...	7.1	6.5	0.9
France	..	3.9	4.5	1.9
Germany, Federal Republic of	6.2	6.2	4.8	0.7
Greece	...	1.8	2.0	−0.1
Iceland	...	3.7	4.6	0.1
Ireland	2.7	4.0	4.9	0.6
Italy	2.4	5.6	4.3	0.4
Japan	4.8	5.3	4.0	−0.3
Luxembourg	...	...	5.0	1.0
Malta	..	5.1	5.3	0.2
Netherlands	3.5	6.3	6.5	1.5
New Zealand	2.4	3.9	4.4	3.3
Norway	3.2	5.7	6.9	1.5
Portugal	1.4	2.1	1.4	0.4
South Africa	3.3	4.0	...	...
Spain	0.9	1.6	2.2	0.7
Sweden	3.5	5.9	7.3	0.6
Switzerland	2.7	3.7	4.1	1.5
United Kingdom	2.7	4.3	5.5	1.0
United States [a]	3.1	5.3	5.6	2.7
Yugoslavia	4.0	...	5.1	0.6

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on United Nations, *Statistical Yearbook* and *Yearbook of National Accounts Statistics*. United Nations Educational, Scientific and Cultural Organization, *Statistical Yearbook* (Paris) and United Kingdom, Central Statistical Office, *Social Trends, No. 4, 1973* (London, HMSO, 1973)

[a] Excluding federal expenditure.

With birth rates declining and death rates drifting downwards, life expectancy continued to increase in virtually all the developed market economies. The largest gains in the 1950s and 1960s were registered in the countries in which expectancy had been lowest —notably Japan, Portugal, Spain and Yugoslavia, where at birth in 1950 the male expectation of life had been less than 59 years. Male life expectancy at birth was approaching 70 years and female expectancy 75 years in all countries by 1970 and in Denmark, the Netherlands, Norway and Sweden it had already exceeded these figures. The reduction in mortality rates continued to be greatest in the earliest years of life—infant mortality rates were more than halved in most developed market economies between 1950 and 1970 — but in most countries the probability of survival at higher ages also continued to improve. Gains of 2 or 3 years in life expectancy at age 5 were widespread over the two decades (see table 12).

One of the consequences of the downward movement in birth rates and the upward movement in survival was a general increase in the proportion of older people in the population. By 1970, one eighth of the population of western Europe was over 64 years of age (compared with about 9 per cent in North America and Oceania and 7 per cent in Japan, where the proportion was rising, and only about 3 per cent in the developing countries where the proportion was being held fairly steady by a balance between high birth rates and improving mortality experience at higher ages). Only in Japan, among the major industrial countries, was the ratio of elderly to working age population less than 1 to 7; in many of the western European countries it was over 1 to 5 (see table 13 and annex table A.38).

The rise in the numbers and proportion of the elderly has posed a series of new problems for most of the developed market economies. While the situation differs from country to country, depending not only on age composition but also on employment patterns, income levels, family structure and customs and the institutions making up the local social security system, certain broad trends are discernible.

There is a tendency towards a more flexible attitude in respect of retirement, for example. Improvements in health status and the difficulties encountered in providing satisfying occupations for the elderly are encouraging a more relaxed view regarding the continuation of regular employment, especially where lower birth rates and the lengthening of formal education have reduced the pressure for jobs from the younger age brackets.

Social security measures relating to the elderly have been broadened and liberalized in many countries, especially where the group's electoral strength has been

Table 12. Developed market economies: changes in life expectancies, 1950-1970
(Years)

Country	Expectation of life, 1965-1970				Change in life expectancy				
	At birth		At age 5		Over a period of	At birth		At age 5	
	Male	Female	Male	Female		Male	Female	Male	Female
Austria	66.3	73.5	63.6	70.5	20	4.4	6.5	0.9	3.6
Belgium	67.7	73.5	64.7	70.2	14	5.7	6.2	2.7	3.8
Canada	68.8	75.2	65.8	72.0	15	2.5	4.4	0.9	3.2
Denmark	70.7	75.6	67.3	71.8	15	0.9	3.0	−0.2	2.1
Finland	65.4	72.6	62.1	69.0	11	2.5	3.5	1.2	2.1
France	67.6	75.3	64.1	71.6	19	4.0	6.0	1.4	3.8
Germany, Federal Republic of	67.6	73.6	64.6	70.3	17	3.0	5.1	0.1	2.7
Greece	67.5	70.7	67.3	70.3	14	1.1	1.0	0.7	0.6
Ireland	68.1	71.9	65.7	69.0	10	1.2	3.1	2.1	3.6
Italy	67.9	73.4	66.0	71.1	14	4.1	6.2	1.5	3.5
Japan	69.1	74.3	65.6	70.6	18	12.9	14.7	8.0	9.9
Netherlands	70.7	76.5	67.1	72.6	19	0.1	3.6	−1.0	2.6
Norway	71.0	76.0	67.7	72.4	10	−0.1	1.3	−0.7	0.8
Portugal	65.3	71.0	65.5	70.9	20	9.8	10.5	5.0	5.5
Spain	67.3	71.9	65.7	69.8	10	8.5	8.4	4.7	4.2
Sweden	71.9	76.5	68.1	72.6	14	1.4	3.1	0.6	2.6
Switzerland	68.7	74.1	65.8	70.8	10	2.3	3.2	1.4	2.4
United Kingdom [a]	68.6	74.9	65.3	71.3	19	2.1	3.7	1.1	2.8
United States [b]	—— 70.8 ——		—— 67.4 ——		20	—— 2.6 ——		—— 1.7 ——	
Yugoslavia	64.3	68.9	64.3	68.9	15	7.4	9.6	2.3	4.8

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on *Demographic Yearbook, 1967* and *1971* (United Nations publications, Sales Nos. E/F 68 XIII 1 and E/F.72 XIII 1)

[a] England and Wales only.
[b] Excluding Alaska and Hawaii

Table 13. Developed market economies: distribution according to ratio of elderly to working age population, 1970

(Percentage)

Countries[a] in which the ratio of those over 64 years of age to those between 15 and 64 was					
Less than 12	*12-13.9*	*14-15.9*	*16-17.9*	*18-19.9*	*20 and over*
South Africa	Cyprus	Portugal	Netherlands	Denmark	United Kingdom
Turkey	Canada	Spain	Italy	Ireland	Germany, Federal Republic of
Japan	Australia	Greece	Switzerland	Luxembourg	Norway
Yugoslavia	Finland	United States			France
	Malta				Sweden
	New Zealand				Belgium
					Austria

Source: See annex table A.38.

[a] Within each group, countries are arrayed in ascending order of the ratio of over-64 to 15-64 years old.

perceived. In the United Kingdom, for example, public expenditure on the elderly rose from 5 per cent to nearly 7 per cent of the gross national product in the course of the 10 years ending in 1971/72.[11] In Belgium, France, Italy and Luxembourg, the right of the elderly to a guaranteed minimum income has been established by legislation in recent years: this involves supplementing private income from public funds.[12] In the Netherlands, a national insurance system is designed to achieve the same purpose. In the United States, the payroll-linked social security system has been supplemented by an elaborate network of welfare benefits administered at the local level. In several countries, steps have been taken to raise the standards of private, employment-related pension arrangements, to improve their transferability and to increase the safety and certainty of retirement benefits.

Many experiments have been conducted with "old age" homes and retirement communities but, except for the affluent, the formula for adequacy and acceptability has remained elusive. Because of the lack of success with institutional programmes, greater efforts have been made to keep old people with their families or in their own homes: higher pensions, rent subsidies, mobile kitchens and libraries, itinerant nursing and house-cleaning services have all been harnessed to that end. This has often entailed special arrangements for women whose life expectancy is about 5 years greater than men's and whose income has often tended to be adversely affected by the death of the husband.

Notwithstanding these efforts, the situation remains far from satisfactory. One source of difficulty stems from the fact that the need for health care and medical services tends to rise rapidly in this age bracket. This has put increasing pressure on institutions, and everywhere these have proved hard to staff and expensive to operate. The problem has been exacerbated in recent years, not only by the expansion in the numbers and proportion of elderly people but also by the increased rate of price inflation that has characterized the developed market economies. This has been particularly harmful to those outside the employment system, and in most countries the over-64 year old group constitutes a disproportionately large section of the population living below socially acceptable standards.

The expansion in the over-64 year old group is one of the reasons for the rapid growth in the number and proportion of one and two-person households. In the United Kingdom, for example, the proportion of "pensionable people" in one-person households rose from 62 per cent to 67 per cent in the course of the 1960s, and the proportion in two-person households from 45 per cent to 48 per cent.[13] These small units also reflect a widespread tendency for young people to leave the family and set up independent homes as soon as they enter employment (and in some communities even earlier, during periods of higher education). In the 1960s, the number of one-person households increased by a fifth in Belgium, a half in the United States, two thirds in the United Kingdom and by between 3 and 4 times in Japan. By 1970, in these and in many other countries around 1 in 6 of all households consisted of only one person.

Deferment of child-raising has also become more common and many of the two-person households consist of young couples. This has now become the most frequent household size in the developed market economies and, taken together, one- and two-person

[11] United Kingdom, Central Statistical Office, *Social Trends, No. 4, 1973* (London, HMSO, 1973).

[12] See European Economic Community, *Report on the Development of the Social Situation in the Community in 1972* (Luxembourg, February 1973), p. 87.

[13] See United Kingdom, Central Statistical Office, *Social Trends, No. 4, 1973*, p. 81.

households account for almost half the total in many countries. Everywhere, the average size of household has been declining (see table 14).

The proliferation of small households has had important effects on consumer purchasing habits and the pattern of consumption. In general, it has tended to increase the capital intensity of living arrangements: there has been a greater spread of consumer hardware and less sharing and, though many items have been reduced in size, the fact that most of them get used less frequently and for shorter periods than corresponding items are used in larger households tends to increase the resources going into private overhead capital. The composition of current expenditure has also been affected: the small household is a much more receptive market than the larger one for consumer supplies packed in small containers, so-called "convenience" foods and other types of pre-prepared goods. This change in shopping patterns has also contributed to the increased energy intensity and material intensity of contemporary life styles.

The increase in the number of households and the shrinkage in their average size have had a major impact on housing requirements. There has been a general upsurge in construction of multiple dwelling units—consisting, for the most part, of relatively small flats—and a corresponding decline in the building of large houses. In many places, especially in central city areas, older houses have been converted into maisonettes or apartments or transformed into room-letting or boarding-house establishments.

In the face of widespread wartime destruction of dwellings and a more or less universal freeze on new construction, the post-war period has been one of great

Table 14. Developed market economies: distribution of population by size of households

Country	Year	Households		Percentage of households consisting of (number of persons)					
		Number (thousands)	Average size	1	2	3	4	5	6 and over
Australia	1961	2,782	3.78	10	24	19	20	14	14
Austria	1951	2,205	3.14	18	27	22	15	8	10
Belgium	1947	2,837	3.00	16	31	24	14	7	8
	1961	3,023	3.04	17	31	22	15	8	8
	1970	3,233	2.99	19	30	20	15	8	8
Canada	1951	3,409	4.11	7	21	20	19	13	20
	1961	4,555	4.00	9	22	18	18	13	19
Denmark	1950	1,327	3.23	14	27	23	18	10	8
Finland	1950	1,121	3.60	18	18	19	17	11	17
	1960	1,315	3.38	22	19	18	16	11	14
France	1962	14,562	3.19	20	27	19	15	9	11
	1968	15,763	3.15	20	27	19	15	9	10
Germany, Federal Republic of	1950	15,371	3.10	19	25	23	17	9	8
	1961	18,370	2.94	20	27	23	16	8	6
Greece	1951	1,778	4.29	9	16	18	19	16	24
Japan	1950	16,425	5.07	5	10	15	16	15	38
	1960	19,571	4.77	5	13	16	19	17	30
	1970	27,479	3.76	13	15	19	25	14	14
Luxembourg	1947	80	3.64	9	22	25	20	13	14
Malta	1967	76	4.14	12	20	18	16	12	22
Netherlands	1947	2,486	3.87	9	23	21	18	12	17
	1960	3,130	3.66	12	24	19	18	11	15
New Zealand	1951	494	3.93	9	23	21	20	13	14
Norway	1950	967	3.93	15	22	23	19	11	10
Portugal	1950	2,047	4.12	8	17	21	19	14	22
	1960	2,233	3.98	8	19	22	19	13	20
Spain	1970	8,859	3.84	8	18	19	22	15	18
Sweden	1950	2,385	2.95	21	25	23	17	8	6
	1960	2,645	2.83	22	27	21	17	8	5
Turkey	1960	4,092	6.77	4	10	14	18	17	37
	1965	5,565	5.67	3	9	11	15	16	47
United Kingdom	1951	14,554	3.36	11	27	25	19	10	8
	1961	16,189	3.28	12	30	23	19	9	7
	1971	18,187	3.07	18	31	19	17	8	6
United States	1950	42,938	3.52	9	28	23	18	10	11
	1960	53,021	3.38	14	28	18	17	11	11

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on United Nations, *Demographic Yearbook*, and United Kingdom, Central Statistical Office, *Social Trends, No. 4, 1973* (London, HMSO, 1973).

activity in the building industry. By the time the backlog had been made good, the baby boom of the immediate post-war years was giving rise to an upsurge in the rate of family formation. Combined with a reduction in house sharing and the hiving off of young and old members of many families, this kept the demand for new dwelling places very active throughout the 1960s. In two thirds of the developed market economies expenditure on residential construction increased at more than 5 per cent a year. In the second half of the decade, few countries were completing dwelling units at less than seven a year for every 1,000 in the population and all but a few were devoting a higher proportion of total output to residential construction at the end of the decade than at the beginning (see table 15).

The movement of population

Another factor in the demand for housing—and in certain times and places more important than the growth in family units—has been the geographical movement of population. Three major types of flow can be distinguished—from rural to urban areas, from city to suburbs, and migration across national boundaries. While these flows have differed from country to country in size and impact, in virtually all the developed market economies they have been among the most significant demographic phenomena in recent years.

The townward movement continued in the 1960s, even in those countries—Australia, Belgium, the Netherlands, Sweden and the United Kingdom, for example—in which three fourths or more of the population was already living in urban areas. The growth in urban population over the decade, however, was inversely related to the degree of prior urbanization: it was about an eighth in northern Europe, around a fifth in western Europe and the United States and over a third in Canada, Japan and South Africa. Almost everywhere the rural population experienced an absolute decline. Some of the largest swings occurred in Canada, Finland, France and the Netherlands where, in the course of the decade, urban populations increased by around a fourth and rural populations declined by around an eighth. Even higher rates of urban expansion were recorded in Japan, Norway,

Table 15. Developed market economies: population growth and residential construction, 1960-1970

Country	Average annual percentage rate of increase, 1960-1970 in		Average annual number of dwellings constructed per 1,000 inhabitants, 1965-1970 [b]	Percentage ratio of average annual expenditures on residential construction to gross domestic product	
	Population	Expenditure on residential construction [a]		1959-1961	1968-1970 [c]
Austria	0.4	...	6.8	4.0	14.5
Belgium	0.6	4.4	7.1	4.8	5.6
Canada	1.7	5.4	8.6	4.5	4.5
Denmark	0.8	10.3	9.3	3.4	9.1
Finland	0.4	8.7	8.4	1.1	5.6
France	1.0	10.4	8.6	4.9	6.8
Germany, Federal Republic of	0.9	2.3	9.1	...	5.4
Greece	0.4	1.5	...	5.4	7.0
Ireland	0.5	9.2	4.2	2.4	3.9
Italy	0.7	5.6	6.0	6.3	6.9
Japan	1.0	20.9	11.1	4.2	8.3
Luxembourg	1.2	...	...	5.0	16.7
Netherlands	1.1	6.4	9.6	4.5	5.4
Norway	0.8	5.6	8.1	4.4	5.0
Portugal	0.7	1.6	4.7	3.2	5.0
Spain	1.1	2.7	8.1	5.9	3.8
Sweden	0.8	8.2	12.9	5.3	5.2
Switzerland	1.4	3.0	9.7	6.6	6.5
United Kingdom	0.5	5.2	7.2	3.0	3.3
United States	1.3	−0.7	7.0	4.9	3.4

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat and United Nations, *Yearbook of National Accounts Statistics* and *World Housing Survey*.

[a] Compound rate of change in expenditure in 1960 United States dollars between 1959-1961 average and 1968-1970 average.

[b] 1965-1968 for Belgium; 1965-1969 for Norway; 1965, 1966, 1967, 1970 average for Portugal.

[c] 1967 for Portugal; 1968-1969 for Switzerland.

Switzerland and Yugoslavia, and higher rates of rural contraction in Denmark and Sweden (see table 16).

The forces inducing this rural-urban movement were varied, and weighted in each case by a unique set of circumstances. Prominent among them in all countries was the desire of the children of farm families to seek other types of employment. In many places the further mechanization of agricultural processes narrowed the scope for manual labour—as in the cotton-growing areas of the United States, for example—and farm workers were forced to seek alternative employment. In some areas—such as southern Italy—high densities and poor soil led many to decide on escape from an unrewarding agricultural life; and the spread of radio communication and, in some cases, of rural schools accelerated the movement off the land.

Though virtually all the developed market economies instituted farm support programmes designed to reduce the disparity between agricultural and industrial incomes, the differential remained large enough to stimulate a certain flow of workers in most of the countries. To many of the workers concerned, indeed, the differential seemed larger than, in real terms, it actually was: some of the satisfactions freely available in the countryside were available, if at all then only at a price, in the town, while some of the disutilities of urban life were not known or not evaluated until after the townward shift had been made.

These disutilities lie behind the second and opposite movement of population characterizing the post-war period. This movement—away from the city, but not back to rural life—has created new forms of urban structure and new life styles. Intended to combine some of the important advantages of city residence with some of those found only in the countryside, this process of suburbanization has created its own peculiar disadvantages. Made possible by improvements in the means of transport and communication, it has outrun those improvements and in many cases the result has been a great increase both in the waste of time and fuel and in the generation of air pollutants and noise.

The scale of these population movements is large and seems to be increasing. In the United Kingdom in the 1960s, for example, there was an annual movement of about 10 per cent of the population, and in the United States the proportion was twice as high, one third of the moves taking place across county lines. In the United States in the 1960s more than 80 per cent of over-all population growth occurred in the metropolitan areas (of which there were 243 in 1970) and of this metropolitan growth, 80 per cent occurred in the

Table 16. Developed market economies : change in urban and rural population, 1960-1970

Country	*Change in urban population*		*Change in rural population*	
	Number (thousands)	*Percentage*	*Number (thousands)*	*Percentage*
Australia	2,156	25.7	43	2.2
Austria	464	13.1	−89	−2.5
Belgium	666	11.0	−136	−4.4
Canada	4,077	33.3	−560	−9.9
Denmark	589	17.4	−224	−18.7
Finland	578	25.4	−296	−13.8
France	7,286	25.6	−1,827	−10.6
Germany, Federal Republic of	6,871	16.9	−1,516	−12.1
Greece	745	20.9	−180	−3.8
Iceland	33	28.2	1	1.7
Ireland	161	13.2	−40	−2.5
Italy	4,922	20.9	−897	−3.4
Japan	14,578	36.0	−4,299	−8.2
Luxembourg	31	15.9	7	5.9
Netherlands	1,849	21.3	−352	−12.5
Norway	506	44.0	−196	−8.1
Portugal	573	19.2	162	2.8
Spain	3,180	18.6	−250	−1.9
Sweden	984	18.2	−424	−20.6
Switzerland	913	33.2	6	0.2
United Kingdom	4,049	9.8	−619	−5.4
United States	26,641	21.1	−1,286	−2.4
Yugoslavia	2,558	51.0	−387	−2.9

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on United Nations, *Monthly Bulletin of Statistics*, November 1971.

suburbs. Thus by 1970, these suburbs housed 76 million people, compared with 64 million in the central cities and 63 million in the rest of the country.

Illustrative of this flux is the West Midland (Birmingham) Conurbation in the United Kingdom (population about 2.4 million): in the five years preceding the 1966 census, while 127,000 people moved into the area and 169,000 moved out, nearly 600,000 moved within the area, mostly from the centre towards the periphery.

In many cases the concurrent inflow and outflow of population have modified the socio-economic structure of the conurbation. The central city has tended to lose better-educated and higher-income families to the suburbs and receive in their place poorer-educated and lover-income families from the countryside. Such a movement resulted in the virtual exchange of over 2 million people in New York City in the course of the 1950s and 1960s.[14] Where transfers of this nature have occurred, they have had serious financial implications, simultaneously increasing the claims on city budgets and shrinking the tax base from which the requisite revenue has to be raised. The result has been a widespread tendency towards greater dependence on the central Government, even where the nominal policy has been one of decentralization and leaving to the local authorities those functions that impinge most directly on the people.

In general, official policy has been to discourage undue concentration of population in metropolitan areas, and to this end zoning and other laws governing the location of industry, the height of buildings and the density of occupation have been used to regulate both the type of economic activity and the pattern of residential construction. Nowhere, however, have the results been wholly satisfactory: conflicts among ends and misuse of means have often tended to introduce inconsistencies in government actions and to expose the fact that the social interest of an urban community is not necessarily the sum of interests of the individuals constituting it.

Thus there is often a good deal of competition between local authorities to attract new industries even when the population is already in excess of what various physical and social criteria suggest as optimum numbers. Steps are often taken to hold down—by fiat or by subsidy—urban prices that market forces are tending to push upwards. Along with more accessible social services, this tends to raise the relative attractiveness of the town to potential migrants in the countryside. This differential is often increased by the inability of the market to register social costs: this makes recorded and visible financial costs and prices a poor guide to the real relationship between population and resources in the city, again tending to make it seem more attractive than it really is.[15]

Nor is the motive of the individual for moving either uniform or simple, or amenable to long-range planning. As suggested above, a prime factor, especially in the rural-urban move, is the search for employment. This also motivates much of the intercity movement. Within the urban areas, however, housing needs and social services and amenities play a more important role. For a particular family, these change over time: as the family grows, house size and neighbourhood educational facilities become the main determinants of movement and lie behind much of the suburbanization in many countries. Later in the cycle there is hiving off and, increasingly, the setting up of one-member households, often in the central city, followed by family formation and in due course another move towards the suburbs. As age advances, employment considerations weaken and after retirement weather and physical surroundings tend to become the dominant factors; in many places this has been reflected in movement to smaller towns.

Though such intertown transfers have increased markedly in recent years, the most mobile group continues to be young adults in the period before parenthood. In terms of population distribution, moreover, the movement of this group tends itself to be disequilibrating: it transfers not merely individuals but the main force of future demographic growth. Thus the losing area tends to develop a significantly older population structure than the gaining area, which correspondingly acquires the source of accelerated internal increase.

Regional and urban policies

To slow down this cumulative process, Governments have introduced a variety of schemes to stimulate economic activity in the regions of actual or potential

[14] Between 1950 and 1970 in the United States, the "central city" population increased from 52.1 to 61.5 million, that is, by 9.4 million, of which 6.4 million were black and 2.1 million white. The "suburban" population of the metropolitan areas increased from 36.8 to 68.8 million, that is, by 32 million, of which 30 million were white and only 1.3 million black. Outside the metropolitan areas the black population declined marginally (to 6.4 million) while the white population increased from 54.2 to 64.7 million. (United States of America, Department of Commerce, *Social Indicators, 1973* (Washington, D.C.).)

[15] This is not merely a question of imposing adequate standards of performance on industry and firmly adopting the principle that the polluter must pay. It also involves recognition of the fact that the relationship between a given environment-*cum*-infrastructure and a growing population is more likely to be parabolic than linear. Beyond a certain notional optimum each additional user unit (population or motor-car or other space- and air-consuming asset) entails a progressively higher real cost on the community.

decline. Corresponding to the agricultural support arrangements referred to above, for example, various incentives—such as capital grants and accelerated depreciation—have been offered to encourage investment in new industries in areas in which activity is lagging, the population aging, unemployment rising and infrastructure being under-utilized. At the same time, efforts have been made to prevent the excessive or over-rapid build-up of population in the more prosperous areas. These include administrative restructuring of contiguous older areas and the creation of completely new towns.

The administrative changes have generally sought to give explicit recognition to the essential functional unity of separate local authorities that have been drawn together in a conurbation. Illustrative of this approach is the Greater London Council (GLC), brought into being in 1963 to consolidate the responsibilities of the 90 local authorities that then administered in a disparate manner what was essentially a single urban organism. While the land use planning function rests with GLC, responsibility for public housing, road and amenity maintenance and health and welfare services has been devolved to 32 borough councils each dealing with up to a quarter of a million residents. Surrounding Greater London is a so-called "green belt" of farms, woodland, cemeteries, playing fields and other open space whose genesis goes back to the Unwin Report of 1933 and the Green Belt Act of 1938 and now amounting to about 600,000 acres.

General policy, implemented with varying degree of intensity, has been to limit population growth within the green belt, and this has been achieved: between 1951 and 1971 the number of residents declined from 8.2 million to 7.4 million. However, this easing of internal pressure was bought, in part at least, by a rapid (50 per cent) expansion in the population of the Outer Metropolitan Region (from 3.5 million to over 5.2 million) and even, to some extent, by the slower (25 per cent) expansion of the remainder of the South East Region (from 3.5 million to over 4.3 million). In Greater London—with its disproportionate share of young one-member households—the average rate of natural increase during this period was 0.5 per cent a year, but the loss from migration was almost twice as great. In the Outer Metropolitan Region—home of the commuter and his family—the gain from natural increase averaged 0.75 per cent a year, and this was supplemented by a migration gain over twice as large. In the rest of the South East Region—with more than its share of retired people—natural increase averaged only 0.3 per cent a year but migration gains were three times as large. In a typical year in the mid-1960s the net movement of population from Greater London to the Outer Metropolitan Area was 65,200 (of which 52 per cent was in the 15-44 age bracket and 23 per cent older) and to the rest of the South East Region, 28,500 (of which 53 per cent was over 44 and only 27 per cent between 15 and 44).[16]

A "green belt" surrounding the city at a radius of 15-25 kilometres was part of the first Master Plan for Tokyo framed by a Capital City Construction Committee soon after the war. The speed of subsequent urbanization and industrialization overtook these intentions, however, and by 1965, when a revised plan was formulated, the whole area within a 50 kilometres radius of Central Tokyo had to be designated "built-up". Between 1955 and 1970, the population density of the Tokyo region increased from 587 to 824 per square kilometre, that of the Chubu (Nagoya) region from 255 to 324, and that of the Kinki (Osaka-Kobe) region from 405 to 530. In the rest of Japan average density declined from 159 to 153 persons per kilometre in this period. In the Osaka-Tokyo megalopolis, industrial districts and dormitory towns have been welded together by high-speed rail and road transit systems. In the face of the high concentration of population and soaring land prices, emphasis has now swung towards industrial decentralization: by improving infrastructure in other parts of Japan—including the relatively sparsely populated northern island of Hokkaido—it is hoped to relieve the pressure on the overcrowded south-east where the physical quality of life has been visibly deteriorating.

Another approach to the problems of urbanizing population is exemplified by the "new towns" concept. Designed to avoid the undesirable consequences of excessive piecemeal growth of existing urban concentrations by over-crowding the centre, by peripheral accretion, or by ribbon development between such concentrations, new towns have generally been planned as more or less self-contained entities with fixed boundaries and a maximum prospective size. In the United Kingdom, where the idea was endorsed by the Barlow Commission in 1940 and given institutional life by the New Towns Act of 1946, no less than 34 such towns are in various stages of growth. The 15 designated between 1946 and 1955 had an original population ranging from zero to 25,000 (total 132,000), a target population ranging from 30,000 to 134,000 (total 1.1 million) and an actual 1971 population ranging from 24,000 to 85,000 (total 750,000). Many of those designated more recently, especially since 1967, started with much larger populations and five of them have target populations in excess of 200,000.

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[16] See J. B. Cullingworth, *Problems of an Urban Society*, vol. 1, *The Social Framework of Planning* (London, Allen and Unwin, 1973), p. 45 ff.

The verdict on their operation appears to be a mixed one. On the whole, the planned layout and strict control of land use have yielded a higher physical quality of life, safer, healthier and pleasanter environments and more efficient organization of civic services. The deficiencies have arisen in part from the homogeneity of the population and in part from the "artificial" nature of relationships in such synthetic communities. The homogeneity characterizes not only employment, income levels and educational and cultural background but also the demographic situation. New towns tend to attract a disproportionate number of young couples, appropriate in terms of planned short-run employment opportunities but awkward later on when their children mature and generate a wave of educational and job requirements. Growth tends to be more balanced and less difficult to cope with in more diversified communities.

New towns are also the subject of experiment in France, though here they are being designed with less economic autonomy and with closer links to established cities. In some cases, indeed, the new settlements are more in the nature of satellite or dormitory areas accommodating overspill and relieving overcrowding in existing towns—such as Caen, Montpellier and Toulouse, for example. The main focus of attention, however, has been Paris which has come under increasing demographic pressure with a twentieth century population growth four times as rapid as that of the country as a whole.

To counter this pressure and the resultant inflation of land values, 1958 legislation permitted large areas outside the city to be purchased and put under municipal control for priority development—*Zones à urbaniser en priorité* (ZUP). Later (1962) legislation provided for the freezing of prices in anticipation of further purchases of land—to be held as a zone for deferred municipal development—*Zones d'aménagement différé* (ZAD). And in 1970 a third zone was created—*Zones d'aménagement concerté* (ZAC) for approved private development. In 1965, a Paris Regional Plan was formulated to provide for the continued but controlled growth of the conurbation. Five new towns were envisaged each within 40 kilometres of Paris, each with a projected 1985 population of about a quarter of a million, providing as much local employment as possible—14 jobs per 10 housing units—but linked, organically as well as physically (by rapid transit), to the metropolis.

In the of interest better country-wide balance, similar new towns are being developed in conjunction with some of the major provincial cities, such as Lille, Lyons, Marseilles and Rouen. Paris has continued to attract, however: its population grew at 1.5 per cent a year in the 1960s—second only to the Mediterranean region, and 50 per cent above the national average—and by the end of the decade it was approaching 10 million. Nevertheless, efforts at decentralization, combined with farm price supports embodied in the Common Agricultural Policy of EEC, were not without some results: the disparity in *per capita* production between the Paris region (with an income of almost $2,700 per person in 1970) and the western and south-western regions (with an income of about $1,700) had been reduced from 180 per cent to 160 per cent in the course of the decade (see table 17).

In the Netherlands, regional disparities are much smaller. Though they were not reduced in the 1960s —the low-income agricultural north gaining less than the national average both in population and *per capita* income—the most heavily populated region, containing the ring of towns between Amsterdam and Rotterdam, registered the lowest rate of increase. This gain tended to accrue less to the towns themselves then to the areas between them; the suburbanization process, so evident in the 1950s, was thus continued in the 1960s. This has complicated the task of provincial—as against municipal—administration and has greatly increased the amount and distance of home-to-work commuting.

In Italy, the movement of population from south to north continued in the 1960s though at a somewhat slower pace than earlier. The highest-income regions (Lombardy and the north-west region, embracing the Milan-Genoa-Turin triangle) showed high rates of population increase—almost twice the national average. The most rapid gain, however, was registered by the Latium region, with the city of Rome, the principal magnet, passing the 2 million mark by the end of the decade. Across the peninsula, Abruzzi-Molise was one of the very few regions in Western Europe to experience an absolute decline in population in the 1960s. The movement of population and the official efforts to encourage investment in the south combined to narrow the income disparity, but in 1970 the industrial north was still reporting a *per capita* income twice that of Campania (Naples) and the area to the south, with a population of 11.5 million.

On a smaller scale, the north south imbalance is evident in Belgium, too. The southern region, hinged around the Charleroi-Mons axis of declining coal mining, registered a very small increase in population in the 1960s and dropped sharply below the national average *per capita* income. The income gain was greatest is the north, in the area dominated by the Antwerp-Ghent industrial conurbation. But the most rapid expansion in population was in the central (Brabant) region, with Brussels and its suburbs accounting for more than a million inhabitants by 1970.

Table 17. European Economic Community : growth in regional population and income, 1960-1970

Country and region [a]	Population		Gross domestic product			
	Size 1970 (thousands)	Annual average rate of increase, 1958-1970 [b] (percentage)	Eur [c] per capita, 1970	Ratio to national average		
				1960	1970	Change
Belgium	9,691	0.6	1,882	1.00	1.00	
Brabant	2,178	1.0	2,706	1.45	1.44	−0.01
North	4,563	0.6	1,776	0.89	0.94	0.05
South	2,950	0.3	1,645	0.97	0.87	−0.10
France	51,030	1.0	1,986	1.00	1.00	
Région parisienne	9,638	1.5	2,671	1.42	1.35	−0.07
Méditerranée	5,368	1.7	1,947	0.96	0.97	0.02
Centre-est	5,921	1.2	1,936	0.95	0.97	0.02
Est	4,803	1.0	1,880	0.94	0.95	0.01
Bassin parisien	9,360	1.0	1,834	0.92	0.92	—
Nord	3,864	0.7	1,812	0.91	0.91	—
Sud-ouest	5,440	0.6	1,762	0.82	0.89	0.07
Ouest	6,636	0.6	1,659	0.79	0.84	0.05
Germany, Federal Republic of	61,848	1.0	3,006	1.00	1.00	
Hamburg	1,817	0.1	5,368	1.75	1.79	0.04
Bremen	756	1.0	3,831	1.36	1.27	−0.09
Berlin (West)	2,125	−0.4	3,279	1.04	1.09	0.05
Hessen	5,502	1.4	3,193	1.00	1.06	0.06
Baden-Württemberg	9,022	1.7	3,144	1.02	1.05	0.03
Nordhrhein-Westfalen	17,307	1.0	3,108	1.09	1.03	−0.06
Bayern	10,725	1.2	2,805	0.88	0.93	0.05
Rheinland-Pfalz	3,701	1.0	2,628	0.77	0.87	0.10
Saarland	1,130	1.0	2,611	0.93	0.87	−0.06
Niedersachsen	7,172	0.8	2,583	0.87	0.86	−0.01
Schleswig-Holstein	2,591	1.1	2,446	0.81	0.81	—
Italy	54,683	0.7	1,517	1.00	1.00	
Lombardia	8,443	1.4	2,081	1.51	1.37	−0.14
Nord-Ouest	6,426	1.2	1,996	1.45	1.32	−0.13
Emilia-Romagna	3,859	0.5	1,821	1.18	1.20	0.02
Lazio	4,705	1.9	1,637	1.25	1.07	−0.18
Nord-Est	6,199	0.3	1,536	0.98	1.01	0.03
Centro	5,631	0.3	1,491	0.92	0.98	0.06
Sardegna	1,502	0.6	1,144	0.71	0.75	0.04
Sicilia	4,883	0.3	1,058	0.62	0.70	0.08
Abruzzi-Molise	1,532	−0.7	1,042	0.58	0.69	0.11
Campania	5,191	0.8	1,026	0.69	0.68	−0.01
Sud	6,312	0.1	965	0.55	0.64	0.09
Netherlands	13,108	1.3	1,363	1.00	1.00	
West	6,068	1.0	1,480	1.08	1.09	0.01
Zuid	3,141	1.5	1,295	0.96	0.95	−0.01
Oost	2,477	1.7	1,246	0.91	0.91	—
Noord	1,422	1.0	1,210	0.90	0.89	−0.01

Source: European Communities, Statistical Office, *Economic Facts in Figures, 1955-1970* (Luxembourg), pp. 46-49, 54-57

[a] Regions listed, within each country, in declining order of *per capita* gross domestic product.

[b] 1955-1970 in the case of Italy

[c] The Eur is the EEC unit of account and was equivalent to the United States dollar during the 1960-1970 period.

Population growth has tended to be more uniform in the Federal Republic of Germany. Furthest from the national average of 1 per cent a year in the 1960s were West Berlin (where population declined) and Hamburg (where there was hardly any change) and at the other end of the scale, Baden-Württemberg, a largely agricultural area around the Stuttgart industrial complex in the Neckar Basin, which registered one of the highest rates of population expansion in Western Europe. *Per capita* income in the three urban regions —Hamburg, Bremen and West Berlin—remained well above the national average. The older industrial areas —Saarland and the Ruhr (Rhineland-Westphalia)— maintained their share of population but, reflecting the

difficulties in coal mining lost ground in *per capita* income.

These population figures represent *de facto* totals, and therefore include foreign workers enumerated at their place of employment, rather than *de jure* in their home areas where, in many cases, their families were counted. Because there is no common definition of a "foreign worker" and because there has been a good deal of illegal immigration, the numbers of such workers are not known with certainty but the most authoritative estimates put the 1972 EEC total at about 4.4 million—over 5 per cent of the combined domestic labour force or, excluding Italy, the source of much of the flow, almost 8 per cent of the labour force of the five host countries, and over 11 per cent of the male labour force.

Migration across national boundaries

This flow, which represents an extension across national boundaries of the rural-urban movement discussed earlier in this section, has been institutionalized in the course of the post-war period, both by arrangements and legislation within the Community and by means of specific labour agreements signed between individual Community members and such countries as Greece, Spain, Turkey and Yugoslavia, where difficulties were being encountered in providing the local labour force with suitable employment. Earlier provisions regarding the social security of foreign workers were consolidated by Community action in 1959, and during the 1960s most of the rights of domestic workers were assured to all Community nationals. By 1968, free movement was guaranteed, subject only to a safeguard clause which reserves the right to restrain immigration to defined Community procedures. In 1970 over a million Community nationals (mostly Italians) were working in other Community countries, half of them in the Federal Republic of Germany.[17]

Because of the differences in the demand for Labour between the industrialized area of north-west Europe and the peripheral region to the south and east, there has been a much greater inflow from beyond the Community—from the southern tier of European countries and from North Africa. Quite apart from the incidence of illegal and unrecorded entries, the problem of evaluating this movement is complicated by its state of flux. Few of the migrants intend permanent residence and some are strictly seasonal, seeking employment in agriculture or tourist-related activities. Many take 12-month contracts, renewed if the economic situation and other circumstances are favourable, otherwise terminated, though this is not necessarily followed by return home.[18] Most are male and in the younger (under-45) age groups. Most are unaccompanied, though the proportion with families has been rising—particularly in France—and the number of dependents who subsequently follow the male to his place of work has been increasing.

In 1969, a year of active movement, about a million workers entered the European north-west, a fifth each from Italy and Yugoslavia, an eighth from Turkey, a tenth each from Portugal and Spain, 7 per cent from Greece and the remaining 15 per cent chiefly from North Africa and the Caribbean area. Two thirds of them went to the Federal Republic of Germany and most of the remainder to France and Switzerland. The number leaving the Federal Republic in 1969 was about half of the number arriving, giving a net increase of about 350,000. Smaller increments, cumulated throughout the 1960s, brought the total of resident foreign workers to about 2.3 million by the beginning of the 1970s. A similar cumulation of net inflows brought the total in France to about 1.7 million, and to about 0.3 million in the Benelux area (see table 18).

Outside EEC, a number of other European countries have become accustomed to similar population movements. In Austria there are an estimated 0.2 million foreign workers—over 6 per cent of the local labour force—mostly from Yugoslavia. A similar number of foreigners work in Sweden, coming in this case largely from Finland. Switzerland has become much more dependent on foreign labour: in 1972 there were about 0.6 million so-called "permanent" foreign workers with Swiss domicile or annually renewable permits, constituting over a fifth of the total labour force. A large body of permanent foreign workers has also been built up in the United Kingdom: they have come mainly from the West Indies and Asian members of the Commonwealth and by 1972 they were providing 7 per cent of the labour force.

The number of dependants associated with these workers—sometimes accompanying them on their original search for employment, sometimes joining them later—varies from country to country. The ratio is thought to average only 1 to 5 in the Federal Republic of Germany and around 1 to 2 in Denmark, the Netherlands and the United Kingdom; but elsewhere the dependents are beginning to outnumber the workers in this migrant population and in France the average size of the Foreign worker's family is 2. Thus, in the aggregate—including Commonwealth

[17] European Communities, *The Common Market and the Common Man* (Brussels, June 1972), p. 7.

[18] In the case of the Federal Republic of Germany, for example, almost half the incoming workers remain for five years or more and a fourth settle down for "permanent" residence.

Table 18. Estimated deployment of foreign workers in Europe, 1972

Country of origin	Number of foreign workers employed in													Total [a]	Percentage of labour force	
	Austria	Belgium	Denmark	France	Germany, Federal Republic of	Italy	Luxembourg	Netherlands	Norway	Spain	Sweden	Switzerland	United Kingdom		Total	Male
Austria		—	1	—	99	[b]	—	—	[b]	[b]	3	18	—	122	3.7	6.2
Belgium	—		—	25	11	[b]	7	9	—	1	[b]	—	10	53	1.4	2.0
Denmark	—	—		—	4	[b]	—	[b]	5	—	18	—	6	22	1.0	1.5
Finland	—	—	—	—	5	—	—	[b]	1	—	109	—	—	114	5.1	8.4
France	—	15	1		51	1	6	2	[b]	5	1	54	34	122	0.6	0.8
Germany, Federal Republic of	5	5	5	25		1	4	15	1	5	11	49	40	122	0.5	0.7
Greece	1	7	—	5	270	[b]	—	1	—	—	10	—	4	287	7.3	10.7
Italy	2	85	1	230	422		11	9	[b]	2	4	311	100	993	4.9	6.6
Luxembourg	—	1	—	2	1	[b]		[b]	—	—	[b]	—	[b]	4	2.8	3.9
Netherlands	—	14	1	5	70	[b]	1		1	2	1	—	10	80	1.6	2.2
Norway	—	—	—	—	1	—	—	[b]		—	13	—	—	14	0.9	1.2
Portugal	—	3	—	370	63	1	9	3	—	5	1	—	8	452	13.6	16.7
Spain	—	30	1	260	184	1	2	13	[b]		2	136	22	599	4.9	6.1
Sweden	—	—	—	—	2	[b]	—	[b]	2	1		—	—	4	0.1	0.2
Switzerland	—	—	1	—	9	[b]	—	[b]	[b]	1	1		—	12	0.4	0.6
United Kingdom	—	—	3	10	19	[b]	[b]	3	2	6	2	—		46	0.2	0.3
Yugoslavia	165	—	4	50	472	2	[b]	9	1	—	24	—	2	727	7.9	12.1
Algeria	—	3	[b]	[b]	2	[b]	[b]	[b]	[b]	[b]	[b]	—		[b]	...	...
Morocco	—	16	[b]	[b]	15	[b]	[b]	14	[b]	[b]	[b]	—	2	[b]	...	...
Tunisia	—	2	[b]	[b]	11	[b]	[b]	[b]	[b]	[b]	[b]	—		[b]	...	...
Turkey	23	11	5	18	498	[b]	—	21	[b]	—	3	—	14	567	3.6	5.8
Other	14	26	14	650	107	7	3	9	7	16	18	81	1,530 [c]	954	...	...
Total	211	220	36	1,650	2,317	13	41	109	19	44	221	649	1,782	5,518	3.2	4.6
Percentage of labour force:																
Total	6.4	6.0	1.6	7.5	8.8	0.1	28.5	2.2	1.3	0.1	6.2	22.8	7.1	3.2		
Male	10.7	8.4	2.4	11.4	13.9	0.1	39.4	2.9	1.7	0.4	9.3	33.3	10.6	4.6		

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on various estimates made by the secretariats of the Economic Commission for Europe, EEC Bureau de coordination, the Organisation for Economic Co-operation and Development, and the International Catholic Migration Commission, Geneva, and on I. M. Hume, "Migrant workers in Europe" in International Monetary Fund and World Bank Group, *Finance and Development* (Washington, D.C.), March 1973.

[a] Excluding the United Kingdom but including an estimated 10,000 migrants in Finland, Ireland and Portugal.

[b] Included in "other"

[c] Including 343,000 from India and Pakistan, 274,000 from Jamaica, 200,000 from Ireland and 180,000 from other Asian and Caribbean countries.

immigrants in the United Kingdom—the number of foreign workers in Europe is now approaching 8 million and the total migrant population exceeds 11 million.

The impact of this population movement has been magnified not only by its flux but also by the degree to which the foreign workers have tended to concentrate geographically and occupationally. Distinguished from the indigenous population by language and customs, and usually lagging in education and skills, they have typically found employment in many of the heavy and menial jobs that the more affluent local workers tend to avoid. Intent on sending home or taking back with them as much of their earnings as possible, they live frugal lives, complicated in many cases by difficulties in obtaining suitable accommodation at rents within their modest means.

Their cultural isolation and abnormal age and sex structure have made these migrant worker groups difficult for the local community to deal with, and as their size and numbers have grown their degree of acceptance has diminished. The recent increase in the proportion of family migration and settlement has not improved relationships, however; indeed, with the sort of problems long experienced in housing now spreading to education, there seems to have been a general hardening of attitudes towards immigration. This was foreshadowed in Switzerland with its large alien population: in 1970 a referendum on a proposed constitutional amendment limiting the proportion of foreign residents in any canton to 10 per cent of its population was only narrowly defeated. In France a new effort has been launched to reduce illegal immigration and enforce the regulations requiring employers to provide adequate housing for their foreign workers. In 1972 the Federal Republic of Germany curtailed independent immigration by requiring all recruitment of foreign workers to be channelled through the government labour office. Here too, the obligation on employers to house their foreign workers is being more strictly enforced and the recruitment capitation fee has been trebled, to about $400. The Netherlands is also trying to discourage new recruitment and to control the internal movement and treatment of migrants more effectively.

Signs of disquiet are also surfacing in the countries from which the migrants come. Though there is little evidence of labour shortage in any of these countries, it is realized that foreign employment has a differential appeal and misgivings are now being expressed regarding the long-range consequences of the loss —seemingly permanent in an increasing number of cases—of many of the most vigorous and enterprising members of the population. While, in general, the "guest workers" in Europe are not regarded as part of the "brain drain"—for very few arrive with particular skills or training [19]—disappointment has been expressed that they rarely return with new skills that might be usefully deployed for development of the economy. The greatest contribution of the migrants comes from their remittances which in the early 1970s reached an annual total of over $2.5 billion. In several countries—notably Turkey and Yugoslavia in recent years—this flow of funds has become a major source of foreign exchange receipts. Apart from being generated in hard currency, a migrant's annual earnings—and in many cases even his remittances—are often above the average *per capita* income level in his home country. Nevertheless, it is being argued that the development process would be better served if, instead of labour migration with all the personal costs and discomforts associated with fringe employment, the requisite capital and technology moved to the source of labour—as tends to happen in the case of a depressed or lagging area within one of the more advanced countries.

Offsetting the tendency for national policies to become more restrictive are projections of continued labour shortage in Western Europe, reflecting in part the low birth rates that have characterized recent years and in part the growing reluctance of a better-educated and higher-income domestic labour force to participate in heavy and repetitive work. Also making for a continuation of the movement that developed in the 1960s is the existence of a now well-established pipeline and a network of recruiting and processing offices to facilitate the entry and repatriation of new workers, the over-all supply of whom shows few signs of drying up.

The very size of the migration in relation to the natural increase of population would seem to militate against a rapid shrinkage. In the period 1950-1970, a third of the total increase in population in Western Europe came from the excess of immigrants over emigrants. The net gain from migration was over half the natural increase in France, two thirds of it in Luxembourg and Switzerland and as much as 80 per cent of it in the Federal Republic of Germany (see table 19).

The counterpart to the migration gains of Western Europe were the losses of southern Europe. These

[19] French immigration records between 1964 and 1968 show that only 1 in 5 of incoming workers was classified as skilled (I. M. Hume, *op. cit.*). The 1971 Yugoslav census indicates that a fourth of departing workers claimed to be "skilled"; this corresponds more or less to the ratio for the labour force as a whole.

Table 19. Developed market economies : contribution of natural increase and migration to population growth, 1950-1970

Country	Increase in population (thousands)			Ratio of net migration to population increment (percentage)
	Total	From natural increase	From net migration	
Western Europe	26,176	17,428	8,748	33.4
Austria	488	591	−103	−21.1
Belgium	1,044	833	211	20.2
France	9,407	6,149	3,258	34.6
Germany, Federal Republic of	10,732	5,952	4,780	44.5
Luxembourg	55	33	22	40.0
Netherlands	2,863	2,913	−50	−1.7
Switzerland	1,587	957	630	39.7
Northern Europe	8,389	9,087	−698	−8.3
Denmark	675	707	−32	−4.7
Finland	703	917	−214	−30.4
Ireland	−14	544	−558	
Norway	626	636	−10	−1.6
Sweden	1,026	729	297	28.9
United Kingdom	5,373	5,554	−181	−3.4
Southern Europe	14,742	20,761	−6,019	−40.8
Greece	1,326	1,977	−651	−49.1
Italy	6,898	8,856	−1,958	−28.4
Malta	−3	78	−81	
Portugal	1,156	3,108	−1,952	−168.9
Spain	5,365	6,742	−1,377	−25.7
North America	61,457	52,759	8,698	14.2
Canada	7,689	5,887	1,802	23.4
United States	53,768	46,872	6,896	12.8
Oceania	5,247	3,390	1,857	35.4
Australia	4,295	2,583	1,712	39.9
New Zealand	952	807	145	15.2
Total change, 22 countries	116,011	103,425	12,586	10.8

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, "Trends in international migration, 1950-1970" (E/CONF.60/CBP/18), and International Labour Office, *Labour Force Projections, 1965-1985* (Geneva).

outweighed the natural increase in Malta and amounted to a fifth of the natural increase in Italy and Spain, a third in Greece and almost two thirds in Portugal. Finland and Ireland also experienced a sizable outflow of population—the former chiefly to Sweden, the latter chiefly to the United Kingdom. The United Kingdom, notwithstanding a large inflow of immigrants—not only from Ireland but, as indicated above, also from the West Indies and the Indian subcontinent—experienced a net loss over the 20 years.

Most of the emigrants from the United Kingdom, and many from continental Europe, went to North America or Oceania. In New Zealand and the United States, around one seventh of over-all population growth stemmed from migration gains, in Canada, almost a fourth and in Australia, over a third.

The United States was one of the few countries to liberalize immigration rules and procedures in the 1960s and as a result the proportion of population increase accounted for by immigrants rose in the second half of the decade, reaching a fifth in the early 1970s, compared with about 9 per cent in the corresponding period of the 1950s and 1960s. More of these immigrants had professional qualifications—about an eighth in 1970, 50 per cent more than 10 years earlier—and, with the ending of national quotas in 1965, fewer were coming from northern and Western Europe and more from Asia and Africa.

Though some of the immigrants into North America and Oceania return home after a relatively short stay, there has been more settlement and permanence in the case of this movement than in the case of the labour migrations in Europe. The longer the latter continue, however, and the more prevalent the tendency for the young male migrant to be accompanied (or later joined) by a wife or other dependants, the more likely it is that the end result will be a permanent population transfer. This is already the case in the United Kingdom, where the immigration law has been amended in recognition of the fact, and it reflects the *de facto* situation in France and Switzerland. The "guest worker" phenomenon of the 1950s and 1960s may be evolving into a more conventional form of population movement.

Chapter III

POPULATION AND ECONOMIC DEVELOPMENT IN EASTERN EUROPE AND THE USSR

Outline of main demographic trends

Between 1950 and 1970, the total population of the European centrally planned economies, an area which includes the Eastern European countries and the Union of Soviet Socialist Republics, increased from about 270 million to almost 346 million. As shown in table 20, the population of the Soviet Union increased considerably faster than that of the other six countries of the region, from 180 million to 243 million (about 35 per cent or 1.5 per cent a year), while that of Eastern Europe increased from 89 to 103 million (about 17 per cent or 0.8 per cent a year). There were also considerable differences in population growth among the Eastern European countries. At the one extreme, the population of the German Democratic Republic decreased by about 1.3 million, around 7 per cent, and at the other extreme, the population of Poland increased approximately as fast as that of the USSR.

In all the countries of the region, population trends were considerably influenced by the direct and indirect effects of the Second World War. The distorting effect on the age and sex structure of the population was felt most strongly in the countries where the loss of lives during the war—especially those of young males—was heaviest, namely, in the USSR, Poland and the German Democratic Republic. Even as late as 1970, the sex ratio was still distorted in the USSR and the German Democratic Republic: for every 1,000 males there were about 1,170 females in these countries. The high wartime mortality among the young made for a larger share of the elderly in the total population. This was the case in varying degree throughout the region. In contrast to the distortion in the male/female ratio, which gradually diminished, the subsequent decline in fertility reinforced this aging effect: in the German Democratic Republic, the share of the over-65 age group reached 15.7 per cent of the total population by 1970.

There was a marked deceleration in the growth of the population during the 1960s as compared with the 1950s. For the area as a whole, the annual rate of growth declined from 1.5 per cent in the 1950s to 1.1 per cent in the 1960s. The slowdown was sharpest in Poland (from 1.8 per cent to 0.9 per cent), in Czechoslovakia (from 1.0 per cent to 0.6 per cent) and in Hungary (from 0.7 per cent to 0.3 per cent). In the

Table 20. Centrally planned economies of Eastern Europe and the USSR: population growth, 1950-1970

Country	*Mid-year population (millions)*			*Average annual rates of growth*		
	1950	*1960*	*1970*	*1950-1960*	*1960-1970*	*1950-1970*
Bulgaria	7.25	7.87	8.49	0.8	0.8	0.8
Czechoslovakia	12.39	13.65	14.47	1.0	0.6	0.8
German Democratic Republic	18.39	17.24	17.04	−0.6	−0.1	−0.4
Hungary	9.34	9.98	10.31	0.7	0.3	0.5
Poland	24.82	29.56	32.47	1.8	0.9	1.3
Romania	16.31	18.40	20.25	1.2	1.0	1.1
Eastern Europe	88.50	96.70	103.03	0.9	0.6	0.8
USSR	180.08	214.33	242.77	1.8	1.3	1.5
Eastern Europe and USSR	268.58	311.03	345.80	1.5	1.1	1.3

Source: Demographic Yearbook, 1970, pp. 131-132, and *1971*, pp. 135-136 (United Nations publications, Sales Nos. E/F.71.XIII.1 and E/F.72.XIII.2)

Soviet Union, the deceleration was from 1.8 per cent in the 1950s to 1.5 per cent in the 1960s. In Bulgaria, on the other hand, population growth was fairly steady, while in the German Democratic Republic the decline in population growth was brought to a virtual halt in the 1960s.

In some countries of the region, especially the German Democratic Republic until 1961, but also in Bulgaria in the early 1950s, in Hungary in 1956 and in Czechoslovakia in 1968, the population trends were affected by emigration.

However, the main cause of the slowdown in population growth and the convergence of rates of natural increase was the sharp drop in fertility. Even in the more agricultural countries this fell very close to or below the long-run zero-growth level.[1] This sets the European centrally planned economies as a group sharply apart, in demographic respects, from the other European countries.

By the late 1960s crude birth rates stood in the neighbourhood of 15 per cent in all Eastern European countries, compared with the 34 per cent in the early 1950s (see table 21). Though in several countries the death rate had declined from the level of the early 1950s, this was not sufficient to counterbalance the effect of falling fertility levels, and by the 1960s the aging of the Eastern European populations was reflected in generally rising mortality rates which reinforced the fertility trends.

The resultant variations in population growth was mirrored with a time lag in variations in the expansion of the working age population and the labour supply. The baby boom of the early post-war period and the very steep declines in the birth cohorts of the 1960s are echoed 15 years later in rapidly increasing and subsequently very much diminished entering groups of the working age population, with the sharpest declines projected for the middle and late 1970s in most countries.[2]

In several of the Eastern European countries, the high birth rates and falling death rates of the 1950s brought about a steep increase in the "dependency burden" (as measured by the ratio of the dependent pre- and post-working age groups to the working age population) (see table 22). This was followed by a somewhat slower decline during the next decade which left the 1970 dependency ratios generally a bit above their 1950 levels. A notable exception to this pattern was the German Democratic Republic, where emigration losses superimposed on wartime losses had generated an especially distorted age pyramid and produced a continued increase in the age-dependency ratio. At the same time, the structure of the dependent age groups of the population changed, with a pro-

[1] By the latter part of the 1960s, gross reproduction coefficients (GRC) had reached or fallen below unity—a level at which the net reproduction coefficient is certainly below the long-run zero-growth level—in at least four and perhaps five of the seven countries (Hungary since 1960; Czechoslovakia since 1966; Bulgaria between 1964 and 1967; Romania around 1965; and perhaps the German Democratic Republic after 1968). The Polish GRC has been below 1.1 since 1968. No recent data are available for Romania, where the fertility decline (GRC of 0.9 in 1966) triggered strong pro-natalist policy measures which resulted in a near doubling of the fertility rate (from 5.6 births per 1,000 women age 15-49 in 1966 to 10.4 in 1967), followed by a slow downward drift to a level of 7.3 in 1972, still somewhat above those observed in other countries of the region (generally 6.4 to 6.9). Only the GRC of the USSR remained in the neighbourhood of 1.2. By comparison, an unweighted average of Western European GRC in 1967-1968 stood well above 1.2.

[2] The size of the entering class of the working age group is of particular significance for quality changes in the labour force, as it is this group which brings in the new skills contributed by the expanding educational system. The sharpest decline during the 1970s will be experienced in Hungary, Poland and Romania, where the absolute number of births decreased by over 30 per cent from 1955 (working age entrants after 1970) to 1965 (working age entrants after 1980). In Bulgaria, Czechoslovakia and the USSR this decline was 16-18 per cent, and about 3 per cent in the German Democratic Republic.

Table 21. Centrally planned economies of Eastern Europe and the USSR: birth and death rates and rates of natural increase, 1950-1970

(Rates per thousand of mid-year population)

Country	Births			Deaths			Natural increase		
	1950	1960	1970	1950	1960	1970	1950	1960	1970
Bulgaria	25.2	17.8	16.3	10.2	8.1	9.1	15.0	9.7	7.2
Czechoslovakia	23.3	15.9	15.9	11.5	9.2	11.5	11.8	6.7	4.4
German Democratic Republic	16.5	17.0	13.9	11.9	13.6	14.1	4.6	3.4	−0.3
Hungary	20.9	14.7	14.7	11.4	10.2	11.7	9.5	4.5	3.0
Poland	30.7	22.6	16.6	11.6	7.6	8.1	19.1	15.0	8.5
Romania	26.2	19.1	21.1	12.4	8.7	9.5	13.8	10.4	11.6
USSR	26.7	24.9	17.4	9.7	7.1	8.2	17.0	17.8	9.2

Source: Council for Mutual Economic Assistance. *Statisticheskii ezhegodnik stran-chlenov SEV. 1971* (Moscow, 1972), p. 8.

nounced rise in all countries of the share of the post-productive ages.[3]

The 1950-1970 period was further characterized by increasing urbanization connected with rapid industrialization (see table 23). The rate of increase of the urban population was especially high in the least industrialized countries of the region, Bulgaria and Romania, and in the Soviet Union and Poland, where it was fed by the high rate of population growth. The large-scale migration from the countryside, primarily of people in the younger working age groups, profoundly affected the rural age structure which in all countries but Poland is now unbalanced in the marginal age groups. In Bulgaria, where the highest rate of rural outflow was experienced during the 1960s, this produced the unusual result of a rural crude birth rate lower than the urban one, reflecting not a reversal of the typical fertility relationships (the rural fertility ratio is still higher than that of the cities) but the population deficit in the fertile age groups.

[3] As the maintenance costs of an aged person are generally higher than those of a child, the true economic "dependency burden" will, because of this structural change, have risen faster than is indicated by the change of the dependency ratios in table 22. A reaggregation of the pre-productive and post-productive ratios on the crude assumption that expenditures per child are 0.50 and those per aged person 0.85 of the maintenance cost of a member of the working age group, shows this to be true in all cases. Some implications of this increase for the allocation of national income are discussed below.

Table 22. Centrally planned economies of Eastern Europe and the USSR : dependency ratios, 1950 to 1970 : pre-productive (A), post-productive (B) and total dependent population (C) as percentage of working age population

Country	1950			1960			1970		
	A	B	C	A	B	C	A	B	C
Bulgaria	42 [a]	9 [a]	51 [a]	39	11	50	34	14	51
Czechoslovakia	38	12	50	43 [b]	14 [b]	56 [b]	36	18	54
German Democratic Republic	31	16	46	33	21	54	39	27	66
Hungary	37	11	48	39	14	52	30	18	48
Poland	45	8	53	55	10	65	41	13	54
Romania [c]	42	10	52	39	12	51	42	15	57
USSR [d]	...	...	...	46	10	56	...	...	...
USSR [e]	...	...	...	44	6	50	44	7	51

Source. Eugeniusz Kowalczyk, "Obciazenie 'ludnoscia' w wieku przed i poprodukcyjnym" (The "burden" of pre- and post-productive population), *Wiadomosci statystyczne* (Warsaw), 1973, No. 10, and national demographic reports. Age groups are 0-14 for pre-productive, 65 and over for post-productive, and 15-64 for working age. Percentages do not always add to totals shown because of rounding.

[a] 1946
[b] 1961
[c] 1956, 1965 and 1972
[d] 1959.
[e] Working age 15-69, post-productive age 70 and over.

Table 23. Centrally planned economies of Europe and the USSR : urbanization and rural contraction, 1950 to 1970

(Percentage)

Country	Share of urban population in total population			Average annual rates of change			
				Urban population		Rural population	
	1950	1960	1970	1950-1960	1960-1970	1950-1960	1960-1970
Bulgaria	28	38	53	4.2	4.1	—0.7	—2.0
Czechoslovakia	51	57	62	2.1	1.4	—0.3	—0.8
German Democratic Republic	71	72	74	—0.5	0.2	—1.0	—0.7
Hungary	38	42	46	1.6	1.4	0.0	—0.4
Poland	37	48	52	4.5	1.7	—0.2	—0.1
Romania	25	32	41	3.8	3.4	0.2	—0.4
Eastern Europe	43	49	54	2.2	1.6	—0.2	—0.5
USSR	40	50	57	4.0	2.6	—	—0.3
Eastern Europe and USSR	41	50	56	3.4	2.3	—0.1	—0.4

Source. Council for Mutual Economic Assistance, *Statisticheskii ezhegodnik stran-chlenov SEV, 1971* (Moscow, 1972), p. 6, and *1972* (Moscow, 1973), p. 11.

Table 24 : Centrally planned economies of Eastern Europe and the USSR : growth of total population, working age population and economically active population during the intercensal periods

Country	1950s			1960s		
	Total population	Working age population	Economically active population	Total population	Working age population	Economically active population
Bulgaria	0.8	0.8	...	0.9	1.1	0.3
Czechoslovakia	1.0	0.6	0.9	0.5	0.8	0.9
German Democratic Republic	−0.6	−1.1	0.4	0.1	−0.1	−0.3
Hungary	0.7	0.5	1.4	0.3	0.6	0.5
Poland	1.8	1.0	1.2	0.9	1.6	2.0
Romania	1.2	...	...	0.9	0.9	−0.1
USSR	...	...	...	1.3	1.6	1.4

Source: United Nations, *Demographic Yearbook*, various issues, and national census reports

NOTE: "Working age population" refers to the age group from 15 to 64 years, except for the USSR where the age group 15-69 was used.

POPULATION GROWTH AND LABOUR SUPPLY

In most of the centrally planned economies of Eastern Europe, the working age group increased more slowly than the total population in the 1950s and, as the post-war generation came of age, more rapidly than the total population in the 1960s (see table 24).[4] However, the acceleration during the later decade was insufficient fully to offset the slow growth during the earlier one, with the result that in the late 1960s the share of the working age population in total population was still slightly lower than it had been around 1950 in all countries except Bulgaria (see table 25).

The age composition of the working age group shows a considerable degree of variation between countries (see table 26). At the beginning of the 1950s, the German Democratic Republic had by far the oldest labour supply, followed at some distance by Czechoslovakia and Hungary. Over time, the share of the older age groups declined in the German Democratic Republic as the age structure of the population slowly recovered from the war-caused imbalances, whereas in the other countries of the area, an ageing trend during the 1950s was reversed during the 1960s by the entry of the post-war peak cohorts into the working age group. The female share in the working age group declined over the same period in all countries as the sex ratios were normalized by the inflow of the sex-balanced younger working age groups, though in the countries most severely affected by the war, the USSR and the German Democratic Republic, the male deficit among the older generation was still reflected as late as 1970 in over-all female shares of 55 and 54 per cent (as against the 51 per cent found in most of the other countries).[5]

Table 25. Centrally planned economies of Eastern Europe and the USSR : share of working age population (15-64) in total population

(Percentage)

Country	Census year nearest		
	1950	1960	1970
Bulgaria	66.3	66.2	67.5
Czechoslovakia	66.7	63.9	65.6
German Democratic Republic	66.6	61.7	61.2
Hungary	67.6	65.7	67.4
Poland	65.3	60.6	65.1
Romania	...	66.1	66.1
USSR [a]	...	66.6	66.4

Source: National census reports. [a] Population age 15-69.

[4] In the analysis of age and occupational structure it has been necessary to use census data. Hence, as intercensal periods do not in all countries coincide with the decadal intervals, the "1950s" here refers to the period between the first and second rounds of post-war censuses and the "1960s" to the period between the second and third rounds, as follows:

	1950s	1960s
Bulgaria	1946-1956	1956-1965
Czechoslovakia	1950-1961	1961-1970
German Democratic Republic	1950-1964	1964-1971
Hungary	1949-1960	1960-1970
Poland	1950-1960	1960-1970
Romania	1948-1956	1956-1966
USSR	...	1959-1970

In the Soviet Union, the first post-war census was taken only in 1959.

[5] A more detailed discussion of changes in the age and sex structure of the Eastern European labour supply can be found in *Economic Survey of Europe in 1968* (United Nations publication, Sales No. E.69.II.E.1), chapter 3.

Table 26. Centrally planned economies of Eastern Europe and the USSR : age and sex structure of labour supply and labour force

(Percentage)

Country	Share of 45-64 age group in working age population [a]			Share of women in economically active population		
	Census year nearest			Census year nearest		
	1950	1960	1970	1950	1960	1970
Bulgaria	25.9	30.7	31.3	...	42.0	44.0
Czechoslovakia	33.0	37.8	33.9	38.4	40.8	44.8
German Democratic Republic	41.3	39.0	34.0	39.8	44.2	46.3
Hungary	31.8	37.1	34.5	29.2	35.5	41.1
Poland	27.5	32.4	29.5	44.7	44.3	46.0
Romania	...	29.9	29.8	...	45.3	45.2
USSR	... [b]	31.0 [b]	31.7 [b]	...	48.0	...

Source: National census reports.

[a] Working age population, 15-64.

[b] Share of population age 45-69 in population 15-69

The active labour force, as measured by census data on the size of the economically active population, appears to have grown faster over the two decades than the working age group in all but the two least developed countries of the group (table 24).[6] This advance of economic engagement of the population was concentrated in the first intercensal period, where a faster growth of the active population is uniformly observable in all countries for which data are available, whereas a more varied pattern emerged during the 1960s. Only in Poland and Czechoslovakia did the economically active population grow faster during both decades. In Bulgaria and Romania, where the rural share of the population was above 70 per cent in 1950, the entry into urban-industrial life on balance reduced economic participation, and the active population grew more slowly than the working age group.

A distinctive feature of the labour force development in the European centrally planned economies was the significantly faster growth of the female than of the male active population, which raised the share of women in the labour force in spite of the contrary trend in the working age population (table 26). In several countries, women provided almost the entire or more than the entire intercensal increment in the labour force (German Democratic Republic during the 1950s, Bulgaria, Czechoslovakia and Hungary during the 1960s). Only in Romania was female participation in the labour force lower in the mid-1960s than in the mid-1950s.

These trends are summarized in the labour force participation ratios, which in all countries had risen substantially above the 1950 levels by the end of the 1960s (see table 27). The over-all participation in the Soviet Union, at 72 per cent of the 15-69 age group, is probably somewhat below the average level of the six Eastern European countries (78 per cent of the 15-64 age group).[7] As compared to the beginning of the 1960s, these rates had fallen substantially in Bulgaria and Romania and by lesser amounts in several other countries, a decline which reflects the inroads of expanded education and retirement systems upon participation in the youngest and oldest cohorts of the working age population.

The participation rates of the male and female population taken separately show opposite trends. Over the decade of the 1960s, the participation rates of males declined in the six Eastern European countries from an average level of 95 per cent to 88 per cent, and in the USSR from 86 per cent to 80 per cent, whereas over the same time, the participation of the female population rose from 65 per cent to about 69 per cent in Eastern Europe and from 60 to 65 per cent in the USSR.

A breakdown of participation rates by major age groups (see table 28) indicates that the decline in the

[6] No data are available for Bulgaria, Romania and the Soviet Union for the 1950s, but employment estimates support the general statement for this period also (see table 30). Changes and intercountry differences in the census magnitude of the "economically active" have to be interpreted with some caution, as the definition of "economic activity" may vary significantly between countries. Measurement differences are most frequent with respect to unpaid family labour in agriculture, especially female labour. This appears to affect here especially Hungary, where the limits of coverage in this class may have been drawn rather more narrowly than in the other countries, resulting in a particularly low initial female participation rate. The employment estimates used for the further analysis below give slightly different growth rates but change the relationship between the growth rates of working age population and labour force only in the case of the USSR.

[7] Owing to the absence of a 60-65 age group in the data breakdown reported for the Soviet 1970 census, the ratios cannot be made fully comparable.

Table 27. Centrally planned economies of Eastern Europe and the USSR : labour force participation rates,[a] total and by sex

(Percentage)

Country	Census year nearest: 1950			1960			1970		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Bulgaria	...	...	...	82.3	95.3	69.4	76.8	85.6	67.9
Czechoslovakia	69.7	86.1	50.5	73.3	88.6	58.6	74.1	83.2	65.3
German Democratic Republic	64.7	91.9	44.7	79.5	98.5	64.0	78.8	91.3	67.9
Hungary	65.6	97.8	36.5	72.8	97.7	49.7	71.8	86.9	57.6
Poland	75.9	89.2	64.1	77.0	89.5	65.5	79.8	88.3	71.8
Romania	...	...	...	90.4	102.2	79.3	82.1	91.8	72.7
USSR [b]	...	...	...	71.2	85.7	60.2	71.8	79.9	65.0

Source: National census reports.
[a] Economically active population as percentage of working age population (15-64)
[b] Economically active population as percentage of population (15-69).

Table 28. Centrally planned economies of Eastern Europe and the USSR : selected age-specific labour force participation rates

(Percentage)

Country and year	Labour force participation in age brackets: 15-19		20-59		60 +	
	Male	Female	Male	Female	Male	Female
Bulgaria						
1956	59.6	52.4	94.5	67.7	68.1	28.9
1965	44.1	39.2	91.7	70.8	35.0	9.8
Czechoslovakia						
1950	85.8	71.0	92.8	49.3	37.2	17.9
1961	45.9	53.7	93.6	58.8	35.4	15.3
1970	34.7	41.3	93.6	68.8	21.1	8.9
German Democratic Republic [a]						
1950	89.8	72.9	94.3	40.2	45.1	11.4
1964	63.1	54.7	96.2	65.9	50.3	13.5
1971	49.3	42.8	96.1	73.2	44.2	14.4
Hungary						
1949	77.6	55.6	94.3	29.6	68.5	21.8
1960	78.9	52.5	97.1	45.9	61.6	22.5
Poland						
1950	62.3	59.1	95.7	61.2	71.4	35.7
1960	51.0	43.4	94.3	65.0	66.9	37.2
1970	31.5	25.6	94.2	75.1	66.7	39.0
Romania [b]						
1956	82.2	75.0	90.5	73.1	77.5	46.1
1966	40.3	42.8	94.7	72.5	50.5	28.2
USSR						
1959	60.5	62.0	91.4	69.9	47.3	38.8

Source. Economic Survey of Europe in 1968 (United Nations publication. Sales No E 69 II E 1). p 202. and national census reports

a Age groups are 14-24 and 25-59.
b Youngest age group is 14-19.

over-all male labour force participation was caused by a marked decline in the participation levels of the marginal age groups, the 15-19 year olds and those 60 years and over, whereas the economic participation of the central working age groups remained substantially unchanged at over 90 per cent in all countries. In the female population, the same declining trend in the extreme age groups was more than offset by the steep increases in the economic activity of the central age groups in all but the two still highly agricultural countries.

The change in the activity level at the young end of the scale reflects both the shift of the population into the cities—participation rates still being rather higher in the countryside where agriculture offers more employment for marginal labour than do the typical urban activities—and, more importantly, the extension of educational opportunities and of the length of time spent in schooling. School enrolments at the primary and secondary levels increased faster than the population in the school age cohorts.[8]

In the 60 and over age group, the reduction of activity levels is caused not only by the effects of urbanization but also by the introduction of retirement pension schemes in the nationalized sector and, more recently, their spread to the non-state (collective farm) labour force. The retirement age for women in most countries is now set five years earlier than that for men (at age 55 in all countries but Poland and the German Democratic Republic, where it is at age 60). This is reflected in the much sharper decline and lower levels of the female participation rates. The trends in the older age group, however, are not as uniform across the countries of the group as those among the young. In the German Democratic Republic, severe labour shortages may have induced a rising male employment level during the 1950s and a continued increase in the 1960s in that of women, and in Poland, the significant weight of a large (and ageing) private agricultural sector probably accounts for the relatively high (and rising in the case of females) participation rates among the older group.[9]

The employment structure of the economically active population showed very large changes over the 20-year period (see table 29). Around 1950, two of the countries, Bulgaria and Romania, were still agricultural economies by a generally employed classification scheme (agricultural employment share above 60 per cent), and with the exception of the German Democratic Republic, all others were at a semi-industrial level of development (agricultural employment share of 35 to 59 per cent). By the time of the latest census round, only Bulgaria and Romania were still at the semi-industrial state, all others having passed into the industrial group (agricultural employment share below 35 per cent).

Poland, with its very high population growth rate, was the only country of the area which did not experience a significant decline in the absolute size of the population engaged in agriculture. For the group as a whole, the agricultural population declined by about 20 million persons during the 1960s alone, while the economically active population increased by 20 million people and industrial employment rose by an equal number (or about 29 per cent).

During the 1960s, and one can suppose during the 1950s as well (though data are not available for several countries), the highest rates of growth of industrial employment were experienced in the least developed countries of the area, with Bulgaria far in advance of the others. The rate of structural change appears to have generally accelerated during the second intercensal decade, with a shift of focus to the tertiary (service) sectors where employment growth increased in a number of the centrally planned economies as the rate of employment growth in industry slowed down.

Demographic change and economic policy

Extensive versus *intensive development strategy*

The development strategy shared by the countries of the centrally planned group resulted over the 20-year period in very substantial though decelerating growth of output (see table 30), and in a marked convergence of structure among the seven countries which had started out from very different levels of development. This is evident, whether viewed from the production side in terms of the shares of sectoral value added in gross domestic product and the sectoral shares in total labour and capital inputs (see table 31), or from the distribution side in terms of shares of major final uses in total output (see table 32).[10]

[8] In Poland, for instance, school enrolment among the 14-17 year olds increased from 44 per cent of the age cohort in the mid-1950s to 87 per cent in the 1970/71 school year.

[9] The data for the Hungarian economy fit the general trend in neither of the two age groups, but, as noted earlier, this is probably caused by differences in coverage.

[10] The two tables reflect different macro-accounting concepts. Data in tables 32 to 34 are based on the net material product measure employed in the national accounting of the centrally planned economies, while those in tables 30 and 31 use estimates of the Economic Commission for Europe relating to the gross domestic product. The latter differs from the former, apart from its grossness, primarily by the value added of the tiertiary (service) sectors of production, and was preferred for the discussion of production structure because its sectoral components can be directly juxtaposed to a similar partitioning of total factor use.

The "industry-biased" nature of the development strategy resulted in well-defined differences between the output structure of the centrally planned economies and that found in the industrial market economies. Industry contributed a much larger share of total GDP at any given level of development (GDP *per capita*) than is the "norm" for comparable market economies, and the "other" sector (construction, transport and services), a much smaller share.[11] The "bias" is not reflected in the same manner in the labour distribution, where industry has a "normal" share, agriculture a higher and services a lower than "normal" share.[12] The data show that productivity growth in all European socialist countries is much higher in industry than in the other two sectors, the inverse of the relationship found in industrial Western Europe over the past 20 years.[13] While it is true that the significance of the comparison of output shares is affected by inter-country differences in valuation practices (which are known to raise the industrial share in the centrally planned economies), the finding on productivity growth is not likely to be affected by these differences. Hence, one possible interpretation of the "industry bias" is that it consists not so much in a relatively higher stress

[11] These differences from the pattern of market economies, which can also be observed in the rather crude comparison of regional averages in table 31, have been studied by means of cross-country regressions in *Economic Survey of Europe in 1969*, Part I (United Nations publication, Sales No. E.70.II.E.1), p. 26 ff.; see also Gur Ofer, "Industrial structure, urbanization and growth strategy of socialist countries", paper presented at the annual meeting of the American Economic Association (New York, December 1973), and, for the Soviet Union, the same author's *The Service Sector in Soviet Economic Growth; A Comparative Study* (Cambridge, Mass., Harvard University Press, 1973).

[12] Unfortunately, the capital stock distribution has not been similarly studied.

[13] See *Economic Survey of Europe in 1971*, Part I, p. 11.

Table 29. Centrally planned economies of Eastern Europe and the USSR: intercensal changes in the sectoral structure of the economically active population

(Percentage)

Country and sector [a]	Shares in total economically active population, Census year nearest			Average annual rates of growth	
	1950	1960	1970	1950s	1960s
Bulgaria					
Agriculture	...	64.2	44.3	...	−3.7
Industry	...	18.6	33.3	...	7.0
All others	...	17.2	22.4	...	3.3
Czechoslovakia					
Agriculture	38.6	24.0	18.3	−3.4	−1.5
Industry	36.3	46.4	46.2	3.2	1.4
All others	25.1	29.6	35.5	1.0	3.6
German Democratic Republic					
Agriculture	21.7	16.4	12.1	−1.8	−4.5
Industry	47.2	47.4	49.7	−0.1	1.3
All others	31.1	36.2	38.2	1.2	1.4
Hungary					
Agriculture	53.9	38.7	25.7	−1.6	−3.5
Industry	22.0	34.4	43.9	5.6	3.0
All others	24.1	26.9	30.4	2.4	1.7
Poland					
Agriculture	53.4	43.4	34.1	−0.1	−0.2
Industry	26.2	32.2	36.5	4.1	3.6
All others	20.4	24.4	29.4	3.8	4.2
Romania					
Agriculture	...	69.7	56.8	...	−2.1
Industry	...	16.7	24.6	...	3.9
All others	...	13.6	18.6	...	3.0
USSR					
Agriculture	...	38.8	25.1	...	−2.5
Industry [b]	...	36.9	45.8	...	3.4
All others	...	24.3	29.1	...	3.0

Source: National census reports.

[a] Agriculture includes forestry; industry includes mining, manufacturing and construction.

[b] Including transport and communication.

Table 30. Centrally planned economies of Eastern Europe and the USSR: growth of inputs into value added in major sectors, 1950s and 1960s

(Compound annual growth rates)

Country and sector	Value added		Employment		Fixed capital		All factors		Productivity	
	1950s	1960s	1950s	1960s	1950s	1960s	1950s	1960s	1950s	1960s
Bulgaria										
Total	6.4	7.4	0.7	0.4	5.3	7.9	2.1	2.6	4.2	4.7
Industry	15.5	11.5	7.4	4.8	13.4	14.0	9.2	7.5	5.8	3.7
Agriculture	1.3	1.8	−1.9	−3.9	5.1	8.6	...	...	...	...
Other	6.4	7.2	4.4	4.4	3.8	5.3				
Czechoslovakia										
Total	5.7	4.8	1.0	1.3	3.2	3.8	1.6	2.0	4.0	2.7
Industry	8.0	5.5	2.7	2.0	4.6	5.1	3.3	2.9	4.6	2.5
Agriculture	−0.5	−0.3	−2.1	−3.0	4.3	5.6	...	...	...	...
Other	6.1	5.4	2.5	3.2	2.6	3.1				
German Democratic Republic										
Total	7.1	4.5	0.7	0.1	1.9	3.6	1.1	1.1	6.0	3.3
Industry	10.1	5.2	1.3	−0.1	3.6	5.7	2.0	1.6	8.0	3.5
Agriculture	2.3	1.7	−2.6	−2.3	3.2	6.4	...	...	...	...
Other	5.1	4.0	1.9	1.3	1.1	2.2				
Hungary										
Total	4.1	5.5	1.2	0.7	3.6	4.6	1.9	1.8	2.1	3.6
Industry	7.1	8.7	4.8	3.0	8.5	7.8	5.9	4.4	1.1	4.3
Agriculture	2.0	0.5	−0.8	−2.8	4.4	4.5	...	...	...	...
Other	2.6	3.9	1.5	2.4	2.3	3.5				
Poland										
Total	6.2	6.0	1.7	1.9	2.7	4.0	2.0	2.5	4.1	3.4
Industry	9.4	8.3	4.0	3.5	3.1	7.0	3.8	4.5	5.3	3.6
Agriculture	2.2	1.6	−0.1	—	1.8	3.0	...	...	...	...
Other	6.4	5.8	3.1	3.3	2.8	3.2				
Romania										
Total	6.3	8.0	1.4	0.4	4.9	7.1	2.4	2.4	3.8	5.5
Industry	11.9	13.2	3.8	4.8	8.4	10.7	5.2	6.5	6.4	5.3
Agriculture	3.3	2.2	0.4	−2.3	2.4	4.8	...	...	...	...
Other	5.5	6.8	3.9	4.9	4.3	5.6				
USSR										
Total	8.3	6.9	1.9	2.1	9.3	8.4	4.1	4.0	4.1	2.8
Industry	11.2	9.4	2.8	3.5	11.8	10.0	5.4	5.4	5.5	3.8
Agriculture	5.7	2.1	−0.2	−1.6	8.0	6.9	...	...	...	...
Other	7.5	6.3	4.2	4.5	8.6	8.0				

Source: Economic Survey of Europe in 1971, Part I (United Nations publication, Sales No. E.72.II.E.1), tables 1.2 and 1.8 for the value added, employment and fixed capital growth rates. Combined factor inputs and factor productivity computed from these data.

NOTE. Total value added refers to estimated GDP at 1963 prices. *Industry* covers extractive industries and manufacturing, *agriculture* comprises also forestry and fishing, and *other* includes construction, transport and communication, trade, and material and non-material services. The time periods are 1950-1952 to 1958-1960 (1950s) and 1958-1960 to 1967-1969 (1960s). *Combined factor inputs* computed from the employment and fixed capital growth rates in a logarithmic aggregation with weights of 0.7 for labour and 0.3 for capital. *Factor productivity* obtained as the logarithmic difference between the growth indices of value added and combined factor inputs. As noted in the text, the *level* of the last two indicators is very sensitive to the weighting used, which is essentially arbitrary, but the *direction of change* between the two periods is invariant over the range of reasonable weights

Table 31. Centrally planned economies of Eastern Europe and the USSR : sectoral structure of GDP and major inputs, 1951-1952 (A) and 1967-1969 (B)

(Percentage of totals)

Country	*Share of sectoral value added in GDP*						*Sectoral share in total employment*						*Sectoral share in total fixed capital*					
	Industry		*Agriculture*		*Other*		*Industry*		*Agriculture*		*Other*		*Industry*		*Agriculture*		*Other*	
	A	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*
Bulgaria	17.0	46.3	49.0	20.4	34.0	33.0	12.0	29.6	71.5	39.1	16.5	31.3	10.8	31.9	13.4	14.0	75.8	54.1
Czechoslovakia	42.4	53.6	23.1	9.1	34.5	37.3	31.4	38.2	36.5	19.3	32.1	42.5	24.3	30.0	7.2	9.1	68.5	60.9
German Democratic Republic	40.2	54.9	14.0	7.7	45.8	38.1	40.2	41.6	23.8	14.7	35.9	43.7	25.3	34.7	5.6	7.9	69.1	57.4
Hungary	32.1	52.8	23.6	13.0	44.3	34.2	20.6	33.1	47.8	29.4	31.6	37.5	13.4	25.8	11.7	12.3	74.9	61.9
Poland	29.6	45.6	31.9	16.0	38.5	38.4	18.4	25.5	55.0	40.6	26.6	33.9	18.3	24.3	18.8	16.1	62.9	59.6
Romania	21.4	49.6	46.1	22.7	32.5	27.7	11.7	20.7	73.9	53.3	14.4	26.0	20.9	36.0	18.5	12.5	60.6	51.5
Eastern Europe	33.5	50.3	27.4	13.7	39.1	36.0	22.4	30.0	51.5	34.8	26.1	35.2	20.8	29.3	12.0	12.0	67.2	58.7
USSR	31.1	47.5	26.4	14.4	42.8	38.1	24.2	29.4	47.6	29.0	28.2	41.6	21.9	30.0	15.4	12.3	62.7	57.7
Eastern Europe and USSR	32.0	48.3	26.7	14.2	41.3	37.5	23.6	29.6	48.9	30.8	27.5	39.6	21.2	29.7	13.3	12.2	65.5	58.1
Western Europe	34.0	39.1	10.5	7.3	55.5	53.6	33.1	34.7	21.5	11.3	45.4	54.0	37.2	32.0	7.0	5.2	55.8	62.8
Southern Europe	24.9	37.4	38.0	24.0	37.1	38.6	24.9	37.4	38.0	24.0	37.1	38.6	...	...	...	...	...	...

Source: Economic Survey of Europe in 1971, Part I (United Nations publication, Sales No. E.72.II.E.1), table 1.3 and p. 9, text table.

Table 32. Centrally planned economies of Eastern Europe and the USSR: personal consumption and net capital formation, 1960 to 1970

(Shares in net material product and average annual compound growth rates, computed at constant prices; percentage)

Country and item	Shares in net material product [a]			Average annual growth rates		
	1960	1965	1970	1960-1965	1965-1970	1960-1970
Bulgaria [b]						
Personal consumption	64	64	63	6.5	7.0	6.9
Net capital formation	27	29	30	9.6	10.4	10.0
Czechoslovakia [c]						
Personal consumption	65	68	58	2.9	5.4 [d]	. .
Net capital formation	18	13	22	−4.3	8.1 [d]	.
German Democratic Republic						
Personal consumption	74	72	67	2.1	4.3	3.4
Net capital formation	18	20	24	5.1	9.6	7.3
Hungary						
Personal consumption	70	67	64	3.1	5.8	4.4
Net capital formation	20	20	25	3.8	11.1	7.4
Poland						
Personal consumption	68	63	60	4.6	5.0	4.8
Net capital formation	24	26	27	8.3	6.7	7.5
USSR [b]						
Personal consumption	65	65	61	6.0	7.3	6.6
Net capital formation	26	28	29	7.5	9.2	8.3

Source: *Yearbook of National Account Statistics, 1971*, vol. III (United Nations publication, Sales No. E.73.XVII.3, vol. III), with the exception of the German Democratic Republic whose net material product was reconstructed on the basis of the national statistical yearbook for 1971.

[a] The two components shown do not add up to 100. The residual represents the allocation to material consumption in the non-material sphere serving individuals and the community as a whole (i.e., material inputs into the production of services), the trade balance in domestic currency and the error and omissions term.

[b] At current prices.

[c] The two series 1960-1965 and 1966-1970 are expressed, respectively, at 1960 and 1967 prices and cannot be linked.

[d] 1966-1971

on labour allocations to industry as in the adoption of more capital-intensive techniques in industry and more labour-intensive techniques in agriculture than is common in market economies of a comparable level of development.

The reliance on input increments to obtain additional output—which in the economic strategy discussions of the centrally planned economies has been characterized an "extensive" growth policy—raises the question: to what extent have demographic developments affected or constrained the policy?

Differences in the availability of labour among the seven countries, whether from the growth of the working age population or from the transfer of surplus agricultural labour to the non-agricultural sectors, were very large. Cross-country comparisons are bound to be inconclusive, however, because, by and large, demographic growth factors were weaker in those countries where the level of development was higher [14] and where a slower rate of structural shift towards the non-agricultural sectors, especially industry, as well as lower rates of input growth in these sectors, was to be expected in any case because of their larger initial significance in the economy.

The growth of total labour inputs does indeed show a rough correlation in the intercountry comparison with the growth rate of the working age population. Employment grew faster over the 20-year span (at almost 2 per cent per annum) in the countries with the highest demographic growth, the Soviet Union and Poland, and slowest (at 0.4 per cent per annum) in the

[14] The inverse correlation is not quite precise since the highest demographic growth rates occur in the USSR and Poland, which within the group would be ranked at a medium level of development, above Romania and Bulgaria which show lower rates of demographic growth

German Democratic Republic, where working age population contracted. In the in-between group, however, Czechoslovakia and Hungary, both known for perennial labour shortage problems, showed a higher employment growth rate (over 1 per cent per annum) than Romania and Bulgaria (0.9 and 0.5 per cent, respectively), the reverse of their demographic growth ranking.[15]

Except in the last two countries, the least developed of the group, employment expanded faster than the working age population. This reflects the "extensive" growth policy based on massive input increments and the significant contribution of "mobilization", that is, the recruitment of hitherto non-participating members of the working age group—primarily women—into the active labour force. The "mobilization" policy largely freed the centrally planned economies' development drive from constraints stemming from demographic developments and thus served as a substitute for the labour import policies pursued in most of the European industrial market economies. Since the female labour participation ratio climbed to levels far above those found in the industrial market economies not only in those centrally planned economies with a relatively slow labour supply growth but also in Poland and the Soviet Union, however, the activization of women appears to have been less a policy response to the demographic situation than a basic feature of the social and economic system. Egalitarian strands in the socio-political value structure make for greater female role equality. Labour-hoarding incentives built into the operation of the economic mechanism may well make more jobs available for female labour than would otherwise be the case. And in the period under review these factors are likely to have been reinforced by the planners' desire to economize on infrastructure outlays during the urbanization process by maximizing the number of labour units made available per unit of expenditure on social overhead.

While similar "mobilization" tendencies were undoubtedly also at work in Romania and Bulgaria, as is shown by the relatively high female labour force participation ratios, especially in the towns (see table 27),[16] their effect was overshadowed by the changes occurring in the large rural sector where participation in the labour force by women, the very young and the very old, is traditionally high. The withdrawals from the active labour force occasioned by the modernization process, with its expansion of the educational system and the spread of retirement pension schemes, apparently more than offset the effect upon the over-all labour force participation rate of the increased entry of working age females into the urban industrial labour force.

Total factor inputs and factor productivity

In all countries the growth of total employment was accompanied by pronounced changes in its sectoral structure and rapid growth of the stock of fixed capital.

As already noted, the transfer of labour from agriculture into the non-agricultural sectors played an important role, especially in the less developed countries of the group, in providing labour inputs for the growth-carrying sectors. With the exception of Poland, agricultural employment contracted in all the Eastern European countries at an accelerated rate during the 1960s, after the completion of collectivization in the countryside during the 1950s. A similar acceleration, though at a considerably slower rate, occurred in the Soviet Union. Between the 1950s and the 1960s the growth of labour inputs generally slowed down in the case of industry (except in Romania and the Soviet Union), whereas in the case of other non-agricultural activities (construction, transport and services) there was an acceleration in the growth of employment in most countries (except the German Democratic Republic).

Fixed capital inputs generally expanded at a higher rate in the 1960s than in the 1950s in the non-agricultural sectors, especially in industry. Only in the Soviet Union, the country which shows by far the highest growth rate of fixed capital assets (9 per cent per annum over the 20 years), did the growth of capital inputs decelerate between the two decades.[17]

[15] It should be noted that as measures of the real growth of labour inputs, the employment growth rates in table 30—which refer to total employment (including agricultural and non-agricultural self-employment, wherever applicable) in an approximation of man-years—are, in spite of their comprehensiveness, somewhat crude proxies. Two mutually offsetting corrections would be desirable: (*a*) an adjustment to allow for the quality improvements in the labour force due to its rising educational level, and (*b*) an adjustment for the general downward trend in the average annual hours worked. Since the former would raise and the latter lower the growth rate of labour inputs, it is not possible to state in which direction the net effect would go.

[16] For an East-West comparison of urban participation ratios, see *Economic Survey of Europe in 1968* (United Nations publication, Sales No. E.69.II.E.1), page 249.

[17] The observed capital stock growth rates conform rather well to the hypothesis that with a given capacity to save (which is likely to be largely institutionally determined and therefore very similar for the countries of the centrally planned group) this rate should vary inversely with the level of development (and thus presumably the initial capital endowment) and directly with the length of time spent in the socialist system, reflecting the fact that in the absence of large-scale trading possibilities the physical capacity of the investment goods industry forms a constraint which can be removed over time by a suitable reshaping of the inherited industrial structure. As the capital stock grows, larger increments will be required to maintain a given growth rate; hence, unless

To measure the precise extent to which the acceleration in capital inputs compensated for the generally slowing growth in labour inputs in achieving the expansion in industrial and total output that was recorded in the 1950s and 1960s, it would be desirable to have market valuations for the services of the two factors. While, in the absence of a market-based method of combining them, the *level* of the factor input growth rates cannot be calculated, it appears that for any given country the *direction of change* in the growth of the combined inputs can be determined since, over a wide range, it is unaffected by the weights assigned to each of the components.[18] Between the two decades the growth rates of total factor inputs—represented by a combination of labour inputs with a 0.7 weight and capital inputs with a 0.3 weight—accelerated in some countries and decelerated in others (see table 30). But the growth of total factor productivity declined in all countries except Hungary.[19] Stated in the form of a direct relationship between combined factor inputs and output, this means that, except in Hungary, the growth of inputs explained an increasing part of all output increments, and generally a significantly larger part in industry than for the economy as a whole:

Contribution of aggregated labour and capital input growth to total output growth [a]

(Percentage)

Country	Gross domestic product		Industry	
	1950s	1960s	1950s	1960s
Bulgaria	34	36	61	66
Czechoslovakia	29	42	42	53
German Democratic Republic	16	25	20	31
Hungary	47	33	84	52
Poland	33	42	42	55
Romania	39	31	45	51
USSR	50	59	50	58

Source: Data in table 30.

[a] Logarithm of the combined factor input index divided by the logarithm of the output index.

In industry, the sector whose output growth rate everywhere exceeded and thus pulled up the over-all growth rate, this appears to be true in spite of a slowing down in most countries of the growth of total factor inputs,[20] caused by a deceleration of labour inputs not completely offset by the acceleration in the growth of capital inputs.

It thus appears that only part of the slowdown in economic growth in the 1960s can be ascribed to the falling rate of input growth in which demographic developments were a contributing factor. A significant part must be attributed to efficiency problems of various sorts that caused the rate of increase in productivity to decline.

The situation was complicated by two other developments. The first was diminishing economic returns, exemplified by rapidly expanding capital/output ratios as, with advancing urbanization and rising incomes, the need for increased infrastructural social welfare and housing investments became more urgent. The second was a tendency to translate the increasing opportunity costs involved in the extraction (mainly in the USSR) and consumption (all over the centrally planned economies area) of primary products into fear either of rapid depletion of non-renewable natural resources, or of increasingly heavy foreign exchange pressures inherent in unchecked, extensive growth.[21]

Demographic trends and future factor supply

The expectation that the constraints on factor input growth are likely to become more severe rather than easier underlay the economic policy debates of the late

there is no limit on the rate of saving (as a proportion of national income), at some point the increment to stock must become a declining proportion of the base. The rank order configuration of the capital stock growth rates in table 30 fits well into this simple model both on the aggregate level and for the industrial sector: the USSR, as the country longest "in the system", shows by far the highest growth rate and is the only one to register a slowdown. In the smaller Eastern European countries, capital stock growth accelerated in their second decade as socialist countries, the rates of growth varying inversely with their level of development (excepting only Poland with its very low total and negative *per capita* capital stock growth during the 1950s).

[18] For all countries the *direction of change* was invariable, in a logarithmic aggregation, over a range of labour weights from 0.6 to 0.8, and for most over a range from 0.5 to 0.9. The rates shown in the last two columns of table 30 are based on an (arbitrary) mid-point set of weights. It should be stressed that the absolute *level* of these rates is very sensitive to weight changes, in contrast to the *direction* of their change over time.

[19] The direction of change in the growth rates for the productivity of combined inputs (obtained from the logarithmic difference between the growth rates of output and combined inputs) was even less sensitive to changes in the weights than the factor input measure.

[20] Combined inputs to industry accelerated only in Poland (where during the first decade the capital stock had grown at a lower rate than labour inputs in the non-agricultural sectors and thus capital endowment per worker had actually declined, an unusual situation in the socialist group), in Romania and, if labour is assigned a weight of 0.8 or larger, also in the USSR.

[21] It may be of interest to point out that similar concerns also played a considerable role in the developed market economies, under the general headings of "quality of life" and "conservation" both of which, together with a new population control philosophy, have often been sheltered under the common umbrella of "environmental concern". However, while the attack on economic growth in developed market economies seems to have been mounted primarily by biologists, chemists, ecologists and demographers rather than economists (see R. O. Hieser, "The economic consequences of zero population growth", *The Economic Record* (Victoria, Australia), June 1973, p. 241), in the centrally planned economies the thrust towards intensive development seems to have come mainly from economists, assisted by some cyberneticists, mathematicians and statisticians.

1960s with their stress on a changeover from a strategy relying on "extensive" use of inputs to one stimulating much more "intensive" utilization of the available factors of production.

The limitations affect both parts of the factor input stream discussed here, though with different degrees of rigidity (and certainty). As far as the rate of capital stock expansion is concerned, it is to be noted that even during the 1960s, the observed acceleration in the growth of capital inputs into the growth-leading industrial sector was insufficient to offset the declining rates of labour input growth. This reflects in part capacity constraints in the investment goods industries and in part the increasingly insistent capital needs of agriculture and the "other" sectors which, having been under-emphasized during the initial period of the industrialization drive, could no longer be ignored.[22]

Even if capital stock growth could be further accelerated in some of the countries—and, as noted, in the USSR in the 1960s it actually slowed down from its very high growth rate—it is almost bound ultimately to be limited by the conflicting claims of consumption on the national dividend. The labour input growth rate, moreover, is expected to fall in all the centrally planned economies during the 1970s.[23] The expansion rate of the working age population will fall everywhere as a result of the steeply declining birth trends of the late 1950s and early 1960s. The slowdown will be quite sharp and in several countries there will even be an absolute contraction in working age cohorts.

The shift from agriculture into non-agricultural employment, even if it is to continue at the high rates experienced in several of the countries, will yield decreasing absolute increments as the base contracts. Finally, as noted earlier, where labour force scarcities did occur, they appear in the past to have been mitigated not by a different growth policy but by the "mobilization" of labour force reserves, primarily of women. This element of flexibility may by now have been largely exhausted—not only because there may exist a *de facto* ceiling against which the female labour force participation rates in Eastern Europe (which are some 20 percentage points above those in Western Europe) are beginning to bump, but also because of the probable relationship between high female labour force participation and the extremely low fertility levels recently experienced in those countries, which will feed back into lowered future labour supply. In a number of countries this has already induced pro-natalist policy measures including, in addition to material and financial incentives for increased family formation, extensions of the maternity leave period up to several years, which by themselves indirectly or directly (if successful) may reduce female employment levels. It seems likely, therefore, that demographic growth will have a significantly stronger impact upon the labour supply and development policy. Because of the substantial convergence between the Eastern European countries in output and demographic patterns, however, this may not bring about greater differences in development patterns.

The dilemma facing the planners of Eastern Europe lies in the dual role played by investment and the limited degree of substitutability between capital and the remaining factors of production. As the level of investment determines the level of income and, therefore, the size of accumulation, which in turn affects the volume of productive capacity, it follows that income must grow if the expansion of capital accumulation is to be financed, However, if technologies remain unaltered and labour productivity does not improve, the expansion of capital has to be accompanied by a corresponding expansion of the labour force. Conversely, at any given level of income, to the extent that substitution between factors is possible, lower rates of population expansion must be accompanied by productivity improvement through higher rates of capital accumulation. And the greater the role played by labour-saving technological progress, invention and innovation, the higher does the rate of accumulation have to be if growth is to be maintained.

Impact on final demand shares

As indicated above, the pattern of economic development followed by all centrally planned economies of Europe during the 1950s was characterized by high growth rates of output associated with a massive deployment of all factors of production. The first few years of the 1960s, however, brought to light pressures and imbalances of various kinds which caused considerable fluctuations in the expansion of income (see table 33).

The simultaneity of these imbalances throughout the area—despite wide country differences in economic status and in the incidence of specific events—suggests that the similarity that characterized planning strategy

[22] It should be noted that, in most countries of the region, capital inputs into agriculture expanded at notably high and accelerating rates while labour input declined and output grew at relatively low rates. As a result, capital per worker increased at by far the highest rates in this sector in all countries with a collectivized agriculture, though not in Poland, and the marginal capital/output ratio in this sector increased sharply everywhere. Capital claims of the "other" sector include not only those of the production sectors complementary to industry (construction and transport), but also those of housing.

[23] Cf. L. Degtiar', "Ob ispol'zovanii trudovykh resursov v stranakh-chlenakh SEV" (On the utilization of labour resources in the CMEA member States), *Voprosy ekonomiki* (Moscow), 1974, No. 1, and country labour force projections cited there.

Table 33. Centrally planned economies of Eastern Europe and the USSR : growth of total and *per capita* net material product, 1950 to 1970

(Compound annual rates of growth of net material product at constant prices; percentage)

Country and item	1950-1955	1955-1960	1960-1965	1965-1970	1950-1960	1960-1970
Albania						
Net material product	...	...	8.7	...	...	...
Net material product *per capita*	...	...	5.3	4.6	...	4.9
Bulgaria						
Net material product	12.2	9.5	7.0	8.6	10.9	8.2
Net material product *per capita*	11.5	8.6	6.1	7.8	10.1	7.4
Czechoslovakia						
Net material product	8.2	6.9	1.2	6.9	7.6	4.2
Net material product *per capita*	7.0	6.0	0.5	6.4	6.5	3.6
German Democratic Republic						
Net material product	13.1	7.1	3.5	5.2	10.1	4.5
Net material product *per capita*	13.7	8.0	3.7	5.0	10.8	4.5
Hungary						
Net material product	5.7	6.0	4.5	6.8	5.9	5.4
Net material product *per capita*	4.6	5.8	4.2	6.4	5.2	5.1
Poland						
Net material product	8.6	6.6	6.0	6.0	7.6	6.2
Net material product *per capita*	6.5	4.7	4.6	5.1	5.6	5.2
Romania						
Net material product	14.2	6.6	9.0	7.7	10.3	8.3
Net material product *per capita*	12.7	5.3	8.3	6.4	9.0	7.3
USSR						
Net material product	11.3	9.1	5.9	8.4	10.2	7.1
Net material product *per capita*	9.4	7.3	4.8	6.4	8.3	5.6

Source: *Yearbook of National Accounts Statistics, 1972*, vol. III (United Nations publication, Sales No. E.74.XVII.3, vol. III); supplemented by national sources

and techniques and the parallel phasing of investment programmes were largely responsible for them. The first half of the 1960s saw a critical reappraisal of traditional planning methods in the light of a new appreciation of the constraining effects of factor limitations (including that imposed by the demographic situation) and of competing claims on resources and products (including those arising from the urbanization process). The result was a series of economic reforms aimed at improving the methods of management and economic administration.[24]

At the same time as the structural imbalances inherent in the type of growth strategy followed during the 1950s were manifesting themselves, a new attitude towards economic development was gaining ground. As noted earlier, the "extensive" development policy began to give way to the notion of "intensive" development based on more rational allocation of resources, improved efficiency in the utilization of factor inputs, and new methods of balancing supply and demand not only in production but also in final use.

Though the need to adopt a strategy of intensive development was felt more urgently in countries with inelastic factor supply than in countries better endowed with natural resources and labour reserves, the development plans of the second half of the 1960s and early 1970s reflected essentially similar policy measures in all countries of the area, thus preserving that marked convergence in economic structure and pattern of growth noted above. Generally, the share of accumulation in national income showed a rising trend, as indicated in table 32. In some countries, the necessity to devote more resources to capital formation arose directly from the increasingly tight labour constraints, but others, facing less rigid factor supplies, adopted essentially similar accumulation and capital formation policies.

In varying degree, this reflects the fact that additional, and to some extent competitive, pressures on

[24] See "Recent economic developments in Eastern Europe and the Soviet Union", in *Economic Survey of Europe in 1968* (United Nations publication, Sales No. E.69.II.E.1).

the rate of accumulation were developing at the same time under the influence of the changing structure of consumer demand. As a joint effect of the changing age and occupational composition of the population and of the urbanization process, the demand for services increased rapidly, especially in the housing, health and education spheres. In the second half of the 1960s, as the level of disposable incomes improved, household expenditures on material products (personal consumption) also began to grow faster in several countries, even though throughout the area the growth of personal consumption remained substantially below that of the volume of goods used in the personal and public service sectors (see table 34).

Table 34. Selected centrally planned economies: growth of components of consumption, 1960 to 1970

(Average annual rates of growth, at constant prices)

Country and consumption item	*1960-1965*	*1965-1970*	*1960-1970*
Czechoslovakia [a]			
Personal consumption	2.9	5.4	..
Personal services	5.5	6.7	..
Housing	5.5	7.1	...
Education	6.2	6.8	...
Health	4.6	6.4	...
Communal services	5.2	6.8	...
German Democratic Republic			
Personal consumption	2.2	4.3	3.3
Personal services	3.0	5.7	4.3
Communal services	4.1	8.2	6.1
Hungary			
Personal consumption	3.1	5.8	4.4
Personal services	6.7	7.1	6.9
Housing	5.5	8.7	7.1
Education	8.2	6.6	7.3
Health	5.6	7.0	6.3
Communal services	8.5	8.2	8.3
Poland			
Personal consumption and personal services	4.6	5.0	4.9
Communal services	8.5	8.5	8.5
USSR [b]			
Personal consumption	6.0	7.3	6.6
Personal services	6.4	8.2	7.3
Communal services	11.9	10.0	11.0

Source. Yearbook of National Accounts Statistics. 1972 (United Nations publication. Sales No. E.74.XVII.3).

[a] The two series cannot be linked. Coverage of the second period is 1966-1971.

[b] At current market prices.

As the structure of final consumption changed, new claims on the already strained accumulation fund were generated. In addition to financing the modern capital-intensive technologies needed for the implementation of the policy of intensive economic growth (and made viable by the improved qualification level of the labour force), resources had to be made available to expand the housing stock and the educational, health and other social facilities required to meet the rising demand of the population. Against the background of an increasing rate of accumulation, investment in the service sectors began to grow at much accelerated rates in the second half of the 1960s (see table 35).

Though the pressure to meet this new structure of final demand was unevenly felt throughout the area, the related policy measures were introduced at approximately the same time in all countries. It seems that the pull towards a similar strategy of economic development in the European centrally planned economies prevailed over such differentiating factors as the level of industrialization, resource endowment, dependence on foreign markets and differing rigidities in the labour supply.

The Soviet Union, with its vast area, its relatively high rate of population growth, its large agricultural labour force (exceeding that in industry in 1960), rich in natural resources, with well-developed extractive and energy sectors and an extremely varied industrial pattern, was able to avoid serious income fluctuations. Nonetheless, as the growth rate of net product slowed down considerably during the first half of the 1960s and sectoral imbalances manifested themselves, the share of capital formation in net material product was raised and that of personal consumption reduced (table 32).

A surprisingly similar development occurred in such smaller, densely populated countries as Czechoslovakia and Hungary, which are less endowed with primary products and therefore more dependent on foreign trade. Substantially different in economic structure from the Soviet Union, yet characterized by a highly diversified and advanced industrial base, these two countries had run up against a number of supply rigidities and were able to maintain expansion only after repeated adjustments of the mechanism of economic planning and administration, accompanied during the 1966-1970 period by a noticeable expansion of the share of capital formation in net material product. Between 1960 and 1970, the share of personal consumption in the net material product was reduced from 70 to 64 per cent in Hungary, and in Czechoslovakia from 68 to 58 per cent, the lowest level in the centrally planned economies area. One factor behind these drastic changes was the severe constraint on the

Table 35. Centrally planned economies of Eastern Europe and the USSR: major components of gross fixed capital formation, 1960 to 1970

(Percentage)

Country and investment destination [a]	Share in total gross fixed capital formation			Average annual growth rates of investment components		
	1960	1965	1970	1960-1965	1965-1970	1960-1970
Albania [b]						
Material production	86.3	92.8	86.2	10.3	3.4	6.8
Services	13.7	7.2	13.8	−4.3	9.6	6.9
Bulgaria [b]						
Material production	70.3	74.6	76.3	10.5	15.2	12.9
Personal services	10.8	11.7	13.4	11.2	17.9	14.5
Communal services	2.4	1.6	2.3	1.3	23.2	11.7
Czechoslovakia [c, d]						
Material production	75.7	77.9	70.9	5.1	3.8	. .
Personal services	21.7	16.1	20.5	1.0	10.8	. .
Communal services	2.6	2.9	3.6	7.2	13.2	. .
Hungary [c]						
Material production	70.7	71.4	71.7	6.4	11.9	9.0
Personal services [f]	22.4	23.2	21.2	6.9	11.6	9.2
Communal services	6.9	5.5	5.1	1.5	10.1	5.7
Poland [b]						
Material production	69.1	75.4	73.4	10.5	8.8	9.5
Personal services	21.2	16.6	16.1	3.1	8.1	5.5
Communal services	2.7	2.9	5.1	10.1	7.6	8.9
Romania [c]						
Material production	83.6	86.1	87.9	14.5	10.6	. .
Personal services [f]	14.8	13.2	10.7	11.0	6.5	. .
Communal services	1.6	0.7	0.8	2.9	14.9	. .
Soviet Union [c]						
Material production	65.2	69.5	69.6	7.6	7.6	7.6
Personal services	29.0	24.2	24.7	2.5	8.1	5.2
Communal services	5.7	6.1	5.5	8.3	5.1	6.5

Source: *Yearbook of National Accounts Statistics, 1971*, vol. III (United Nations publication, Sales No. E.73.XVII.3, vol. III); supplemented by national statistics.

[a] The breakdown of investment destinations corresponds to that used in the system of material balances (see *Basic Principles of the System of Balances of the National Economy* (United Nations publication, Sales No. E.71.XVII.10)), which distinguishes between material production and two service spheres: personal services (including housing, except owner-occupied, public utilities, education, culture and art, health and welfare) and communal services (science and research, finance, credit and insurance, and general government).

[b] At current market prices.

[c] Constant prices of different years; the series cannot be linked.

[d] Coverage of the second period is 1966-1971.

[e] At constant prices.

[f] Housing includes owner-occupied dwellings.

labour supply: by 1970, the natural rate of population growth had dropped to 0.4 per cent in Czechoslovakia and 0.3 per cent in Hungary.

The only country in the area facing a more constraining demographic situation in the 1960s was the German Democratic Republic, where the economically active population actually decreased at an average annual rate of 0.1 per cent. It is not surprising that in order to maintain a smooth, if decelerating income expansion in the 1960s, the German Democratic Republic not only sought intensive economic co-operation with the Soviet Union but also cut the share of personal consumption in net material product by almost 25 per cent in favour of a rapid expansion in the share of capital formation.

That the demographic trend as such was not the only factor involved in the shift between accumulation and consumption during the second half of the 1960s is suggested by the experience of Bulgaria,[25] Poland and

[25] The only information available for Bulgaria is in current prices.

Romania. In these countries no serious labour supply constraints were felt during the 1960s. Furthermore, the return to a relatively regular expansion of income after the fluctuations early in the decade could have rested on the growing industrial diversification and large labour reserves in the countryside, as well as on the availability of untapped natural resources. Notwithstanding this comparative freedom from the constraints experienced in more industrialized Eastern European economies, these countries also increased the share of accumulation in the net material product in the 1960s, reducing the share of personal consumption.

The structure of capital formation

As the centrally planned economies diverted additional shares of income into accumulation, the structure of capital formation began to differ substantially from country to country. As a reflection of the new strategy of intensive development, which attempted to balance demand and supply in all sectors more carefully than before, investment policy began to respond more closely to the composition of demand. Although the pressures from consumer demand impinged more heavily on the services than on household consumption throughout the region, it would seem that the various components of personal services —housing, education and health—were subject to different strains in different countries (see tables 34 and 37).

Some of these strains reflect differences in demographic pressure and the varying effectiveness of policy measures geared to keep under control the urbanization process and the associated concentration of the increasingly expensive demand for services. While some countries controlled domestic migration by a

Table 36. Selected centrally planned economies of Eastern Europe: capital formation in housing and social services, 1960 to 1970

(Percentage)

Country and item	Shares in total fixed capital formation			Average annual compound growth rates		
	1960	1965	1970	1960-1965	1965-1970	1960-1970
Albania [a, b]						
Housing	8.4	4.2	8.3	−5.1	25.4 [c]	7.4 [c]
Education and health	5.2	2.8	5.5	−3.6	24.7 [c]	8.1 [c]
Bulgaria [a]						
Housing	22.1	19.3	16.4	−0.3	18.7	8.8
Education	3.2	3.0	3.4	7.9	17.6	12.6
Health	1.5	1.4	1.5	8.4	16.5	12.4
Czechoslovakia [d, e]						
Housing	15.3	13.7	21.6	1.9	12.5 [f]	.
Education	7.7	6.1	3.6	0.0	0.7 [f]	.
Health	1.9	1.7	1.9	2.7	13.4 [f]	.
Hungary [d]						
Housing	17.1	16.8	15.6	7.1	11.3	9.2
Education	3.5	3.6	2.8	8.5	5.9	7.2
Health	1.8	2.8	2.8	22.4	11.6	16.9
Poland [a, e]						
Housing	20.1	15.2	15.3	2.6	9.0	5.7
Education	5.3	4.4	3.6	4.1	4.2	4.1
Health	2.7	1.7	1.9	0.7	10.6	5.8
Romania [a, d]						
Housing	10.3	10.1	7.1	9.6	3.4	.
Education	2.9	1.9	2.1	6.1	13.8	.
Health	1.6	1.2	1.5	5.6	17.1	.

Source. *Yearbook of National Accounts Statistics, 1972*, vols. II and III (United Nations publication, Sales No. E.74.XVII.3, vols. II and III); supplemented by national statistics.

Note. Shares do not add up to the "personal services" share in table 34 since housing investment here includes owner-occupied dwellings.

[a] Current market prices.
[b] Housing does not include owner-occupied dwellings.
[c] 1965-1969 and 1960-1969.
[d] Constant prices.
[e] Series not fully comparable.
[f] 1966-1971.

strict policy of residence registration, others relied on financial incentives to divert the flow of rural population from the larger to the smaller cities.

The shifts in the pattern of demand had a direct bearing on the allocation of investment expenditure to different uses. In Bulgaria, Czechoslovakia and Hungary, the rapid expansion of fixed capital formation was reflected in substantial growth rates of all three major components of investment: (*a*) capital formation in material production ("productive" investment), (*b*) in personal services (including housing, education, health and welfare, art and recreation), and (*c*) communal services (public administration, finance, insurance and research) (see table 35).[26] The increase was particularly noticeable in the investment in personal services in Czechoslovakia and Hungary. In Hungary, rapidly growing health outlays expanded the number of hospital beds by 15 per cent annually from 1960 to 1970, while in Czechoslovakia housing investments took the lead, raising the living area of newly completed dwellings from 32 square metres per 100 inhabitants in 1960 to 52 in 1970, the highest rate of housing stock increments in the European socialist area (see tables 36 and 37). As a result of these policies, the low annual growth rates of investment in personal services attained in both countries in the period 1960-1965 were substantially raised during the following quinquennium, from 6.9 to 11.6 per cent in the case of Hungary and from 1.0 to 10.8 per cent in Czechoslovakia.

Bulgaria, on the other hand, with a rate of urbanization higher than anywhere else in Eastern Europe (table 23), seems to have opted for a faster expansion of the network of social infrastructure: investments in communal services, which had expanded at a suprisingly low rate during the first half of the 1960s (1.3 per cent annually), grew at an exceptionally high 23.2 per cent per annum during the 1965-1970 period. In the case of housing, however, its share in gross capital formation decreased, from 22.1 per cent in 1960 to 16.4 per cent in 1970, and the annual *per capita* additions of floor space in newly completed dwellings remained more or less unchanged. The share in total capital formation of the two remaining types of investment in personal services, health and education, did not change. The trend of the latter indicator undoubtedly reflects the diverging movement of the rate of school and university attendance between 1960 and 1970 (see table 37).

[26] The breakdown is that employed in United Nations, *Yearbook of National Accounts Statistics* where the components are designated, following a CMEA nomenclature, as investment (*a*) in the material sphere of production, (*b*) in the non-material sphere serving individuals, and (*c*) in the non-material sphere serving the community as a whole.

Table 37. Centrally planned economies of Eastern Europe and the USSR: selected indicators of population services, 1950 to 1970

	1950	*1960*	*1970*
Education			
Pre-university enrolment per 100 population:			
Bulgaria	14.7	17.1	16.9
Czechoslovakia	15.8	19.8	20.0
German Democratic Republic	18.1	14.9	19.1
Hungary	14.9	17.6	16.3
Poland	17.0	20.3	23.2
Romania	12.7	15.0	18.6
USSR	20.2	18.3	23.0
University enrolment per 1,000 population:			
Bulgaria	4.6	7.0	10.8
Czechoslovakia	..	6.9	9.1
German Democratic Republic	1.7	5.9	8.1
Hungary	3.5	4.5	7.8
Poland	5.0	5.5	10.2
Romania	3.2	3.9	7.5
USSR	6.9	11.1	18.8
Health care			
Hospital beds per 10,000 population:			
Bulgaria	39.2	62.5	77.2
Czechoslovakia	61.7	76.1	79.7
German Democratic Republic	102.0	119.0	111.0
Hungary	52.5	67.2	77.4
Poland	51.1	70.3	74.1
Romania	42.2	72.5	80.0
USSR	56.0	80.0	109.0
Housing			
New construction, square metres of floor space per 100 population:			
Bulgaria	..	35	34
Czechoslovakia	25	32	53
German Democratic Republic	9	25	25
Hungary	..	33	37
Poland	12	27	32
Romania	...	..	30
USSR	22	51	43

Source: Council for Mutual Economic Assistance, *Statisticheskii ezhegodnik stran-chlenov SEV, 1971* (Moscow, 1972).

In the USSR, the needs of productive sectors were accorded priority among competing claims: the annual rate of growth of productive investment remained unchanged throughout the decade and its share in total capital formation rose from 65 per cent in 1960 to almost 70 per cent in 1970. Investment in communal services increased faster in the first half of the decade, investment in personal services in the second half, but in 1970 neither accounted for as large a share in total capital formation as it had in 1960. In spite of accele-

rated growth, during the second half of the 1960s, of outlays on new facilities needed to support the substantial expansion of school and university enrolment, to meet the growing demand for medical attention and to extend the network of day-care centres vital in the campaign to recruit women into the labour force, investment in personal services obtained a smaller share of total capital formation in 1970 (25 per cent) than in 1960 (29 per cent). Housing policy followed the same course: in 1970, the *per capita* floor space of new dwellings completed was appreciably lower than in 1960.

In the three remaining countries of the area, Albania, Poland and Romania, the pattern was more varied. The growth rate in productive investment decreased markedly between the first and second halves of the 1960s, but trends in the service sphere were mixed. In Romania, a shift of priorities from housing to education and health is observable. In Poland, outlays for new dwellings were especially high: *per capita* additions of housing space in 1970 were 23 per cent above the 1965 level.[27] In Albania, investment expenditures on personal services doubled during the second half of the 1960s, though their share in total investment remained among the lowest in the area.

Education and improvement of labour force quality

The changing structure of final demand reflects one aspect of development policy common to all countries of the area: the determined effort to raise the educational level of the population and, concomitantly, the quality of the labour force—a requirement which was reinforced by the demand for education generated by rising income levels. The claims of the educational system on the disposition of the national product represent one of the variables most directly affected by demographic trends. At the same time, changes in the level of educational attainment of the population have a considerable bearing on the composition of consumer demand. On the supply side of the national product, furthermore, the investment in human resources to raise the qualifications of the labour force was a precondition for the introduction of more complex and capital-intensive production technologies.

The educational effort took several forms. There was a general tendency, which still continues, to extend the period of minimum compulsory education from the seven to eight years prevalent in the region at the beginning of the period towards a basic 10-year system.[28] In Eastern Europe, the inherited school systems—élitist and compartmentalized—were restructured and made more accessible, making movement from the lower to the secondary and higher levels of education possible for a much larger proportion of the population. Institutional innovations played a significant role, especially in raising the qualifications of the adult labour force during the 1950s, when historical lags had to be remedied in the urban labour force and large inflows of unskilled rural labour had to be absorbed into the industrial system. Consequently, all levels of education saw the introduction of various types of part-time, evening and correspondence schools, factory schools and training courses.

The resultant broadening of the educational network is reflected in substantial increases in the age-specific enrolment ratios, especially at the secondary and higher levels of education (see table 38). This intensive aspect of educational growth was especially pronounced during the early 1950s, when the demographic pressure from the post-war birth cohorts was beginning to rise, but it continued into the 1960s as this generation reached secondary school age. After 1965, the absolute number of secondary school students began to decline in most countries.

Given the expansion of plant and instructional staff, the diminution of demographic pressure made possible a further broadening of the educational base and, as noted above, the late 1960s saw an extension of the obligatory schooling period in several countries.

At the same time, however, the sharp decline in the rate of increase in labour supply created a conflict between the need for additional manpower (which called for the channelling of the increments in the working age population into the labour force as fast as possible) and the need for improved qualification levels (which required the withholding of the entering cohorts in order to provide them with more intensive education). This conflict was not equally serious throughout the area; consequently, the policy measures adopted during the decade differed from country to country. In the Eastern European group, the change in the rate of growth of investment in education and the change of its share in total fixed capital formation were positively correlated with the demographic pressure and, even more strongly, with the rate of growth of income, but negatively related with the level

[27] An explanation of the Polish policy orientation may be found in the fact that post-war reconstruction was still claiming part of the available investment resources, thus adding to the strains of urbanization.

[28] In the Soviet Union, the length of compulsory schooling was raised from seven to eight years in the late 1950s, and to 10 years at the end of the 1960s. In Poland, the compulsory period was extended from seven to eight years in 1965, and in the German Democratic Republic, 10 years of school attendance has been the obligatory minimum since 1964.

of *per capita* income (tables 33 and 36). As it seems reasonable to expect that these relationships will continue during the 1970s, the countries that are planning a rapid further expansion and diversification of their industrial base, and therefore need a further improvement in the level of training of the labour force, will have to continue to enlarge their educational outlays. This would seem to apply especially to Albania, Bulgaria, Romania and, rather less, to Poland. On the other hand, the more mature economies of the area, Czechoslovakia, the German Democratic Republic and Hungary, would seem to be in a position to channel more of their capital formation into the other components of personal and social services, particularly housing and health, for which the demand has not yet shown any sign of slackening.

Table 38. Centrally planned economies of Eastern Europe and the USSR : expansion of education, 1950 to 1970

Country, level of education, and approximate age span	*Total enrolment (thousands)*				*Enrolment ratios (students as percentage of age group)*			
	1950	*1960*	*1965*	*1970*	*1950*	*1960*	*1965*	*1970*
Albania								
Primary (7-13)	169	248	348	465	69 [a]	93	103	. . .
Secondary (14-17)	7	24	45	51	3 [b]	20	31	. . .
Higher (20-24)	0.3	6	12	23 [c]	.	4.5	8.2	. . .
Bulgaria								
Primary (7-14) [d]	822	1,050	1,129	1,053	86	99	105	101
Secondary (15-18) [d]	192	279	367	367	47 [e]	59	65	68
Higher (20-24)	34	61	100	99	. . .	10.5	17.0	14.3
Czechoslovakia								
Primary (6-14)	1,685	2,152	2,221	1,966	99	93	98	97
Secondary (16-18)	144	306	398	388	28 [e, f]	36	39	37
Higher (20-24)	45	94	144	131	. . .	10.9	13.9	10.4
German Democratic Republic								
Primary (7-14)	2,374	1,922	2,322	2,534	109	111	109	117
Secondary (15-18)	1,051	487	564	639	. . .	51	71	61
Higher (20-24)	28	69	74	138 [d]	. . .	7.3	9.2	15.0
Hungary								
Primary (6-13)	1,193	1,392	1,413	1,115	99	101	101	99
Secondary (14-17)	91	281	408	465	15	47	60	61
Higher (20-24)	25	29	51	80 [d]	. . .	4.3	6.8	10.1
Poland								
Primary (7-13)	3,281	4,841	5,177	5,256	107 [a]	108	105	102 [a]
Secondary (14-18)	557	836	1,491	1,400	30 [e]	39	48	40
Higher (20-24)	125	157	165	330 [d]	. . .	7.5	13.0	11.5
Romania								
Primary (7-14)	1,777	2,297	2,931	2,878	72	97 [g]	101	109
Secondary (14-16)	284	328	491	659	22 [h]	42	49	62
Higher (20-24)	53	71	130	151	. . .	9.8	9.8	9.8
USSR								
Primary (7-14)	31,701	30,059	38,343	40,321	. .	104	104	104
Secondary (15-17)	2,793	3,595 [d]	8,529 [d]	9,152 [d]	20	60	69	66
Higher (20-24)	1,247	2,396	3,860	4,580	. .	11.0	30.0	25.0

Source: United Nations Educational, Scientific and Cultural Organization, *Statistical Yearbook, 1970* and *1972* (Paris, 1971 and 1973).

Note: Coverage of enrolment data varies between countries especially with regard to the treatment of part-time, evening and correspondence students; hence cross-country comparisons of enrolment ratios are generally not feasible. The age spans indicated are those used for the enrolment ratios, but do not necessarily define the age limits of the student body. Secondary education includes vocational and teacher-training programmes, and higher education includes university-level teacher-training and technical institutes

[a] Ratio refers to age group 7-14.
[b] Ratio refers to age group 11-18.
[c] 1969.
[d] Including enrolment in evening and correspondence courses.
[e] Ratio refers to age group 15-17.
[f] 1955.
[g] Ratio refers to age group 7-13.
[h] Ratio refers to age group 15-18.

Chapter IV

THE IMPACT OF RECENT DEMOGRAPHIC CHANGES IN THE DEVELOPING COUNTRIES

As indicated in chapter I above, the developing countries are in various stages of the demographic transition from high vital rates to low. About 18 per cent of the 1.7 billion people in the developing countries for which plausible estimates can be made live in the 38 countries that have not yet begun the change. About a billion people—almost 60 per cent of the developing country total—live in the 28 countries in which the death rate has begun to decline. About 11 per cent live in the 15 countries that are far along in the transition, with death rates down to low levels even though birth rates have changed very little. A similar group represents the next stage in the transition, in which natality has also begun its decline. Only three countries —Argentina, Israel and Uruguay—have reached the mature stage of low vital rates.

The main demographic characteristics of the developing countries thus stem from the prevalence of high natality and high, but rapidly declining, mortality.[1] The first of these is the high rate of natural increase —averaging about 2.5 per cent a year, compared with about 1 per cent in the more advanced countries. The second is the short life expectancy—averaging about 50 years for a newly born infant, compared with about 70 years in the more advanced countries.[2] The third is the youthfulness of the population—more than 41 per cent of the total are under 15 years of age, compared with less than 27 per cent in the more advanced countries.

[1] In the past 20 years, average crude death rates have hovered between 9 and 10 per 1,000 of the population in the more advanced countries and fallen from 24 to 16 in the developing countries.

[2] Because infant mortality rates have declined much more slowly in the developing countries than in the more advanced countries (between the early 1950s and the late 1960s their average decline was about a fourth in the former and a half in the latter) and, at about 140 per 1,000 live births, are still about five times as high, survival through infancy tends to lengthen life expectancy in the developing countries. Thus, average expectation at age 5, for example, differs much less between the developing and the more advanced countries: estimates of age-specific mortality based on censuses taken in the 1960s covering about 1.5 billion population more or less equally divided between the developing countries and the rest of the world, suggest that life expectancy in the more advanced countries was three years less at age 5 than at birth, whereas in the developing countries it was about seven years greater.

Apart from these basic demographic features, the developing countries are characterized by a geographical distribution of population that distinguishes them from the more advanced countries: in the former about a fourth of the population lives in urban areas, as against two thirds in the latter. Rural populations tend to be not only much larger in the developing countries, but in some cases much more concentrated. Partly as a result of the distribution, the pace of urbanization is much faster in the developing countries. However, while in the more advanced countries the townward movement has brought about an absolute as well as a relative decline in rural population, in the developing countries rural populations have continued to increase at the relatively high rate of 1.7 per cent a year.

This expansion in population has impinged upon the process of economic and social development at many points. It has affected the balance between consumption and investment, for example, as well as the pattern of expenditure, both private and public. It has also complicated the task of economic diversification on which development so greatly depends: fitting the stream of those graduating into the labour force—often from the subsistence sector—into useful employment in the exchange economy has been, and remains, a matter of extreme difficulty in many developing countries.

The precise economic impact of the demographic factor is impossible to determine. In the developing countries, much more than in the more advanced countries, the dominant force tends to come from the foreign trade sector, from the discovery and exploitation of natural resources and even from the weather, rather than from changes in the size, or composition or distribution of the population. Nevertheless, over a period of years, changes in family size and composition clearly shape the pattern of household expenditure. Cumulated, the changes in household behaviour play their part in determining the course of national adjustment. Moreover, apart from the aggregative effects of responses to demographic changes at the micro level, there is a direct impact on the decisions that are made

at the macro level: the tax structure is influenced by the age composition and expenditure pattern of the population, for example, and public outlays reflect the claims of age groups and population concentrations. Thus, although the demographic factor is glacial rather than volcanic in its impact and can rarely be separated from the multitude of other factors—some much more powerful and immediate—that help to determine policies, decisions and events, there can be no doubt about its long-run potency.

Feeding the population

Perhaps the most direct link between demographic and economic factors is the food supply required to sustain the population. Though it is almost certain that the conversion of the developing countries from a net exporting group in the 1930s to a net importing group in the 1950s was largely the result of the acceleration in population growth, it is difficult to quantify the subsequent course of events. Insufficient is known about actual food consumption—as against the rate of apparent disappearance of a number of the better-documented food items—to be able to separate population effects from those of internal income changes and foreign trade. It is clear, however, that many developing countries have experienced difficulty in feeding their populations, even in terms of basic calorie sources, and that the rapid growth of population has been one of the factors involved.

This is not to say that it has been the countries in which population has been increasing most rapidly that have lagged farthest behind in food supply. Some of the forces involved operate in the opposite direction: improvement in food supply, for example, tends to reduce the incidence of deficiency diseases and hence lower mortality, especially of infants. Moreover, food supply is not solely a function of domestic agriculture; larger populations may be fed even when domestic agriculture does not respond, if resources are available for financing additional imports.

Thus, among the developing countries that achieved an appreciable expansion in *per capita* food production in the 1960s [3]—about a fifth of the total—were not only cases of relatively slow population growth but also several in which rates of growth of over 3 per cent a year were recorded (see table 39). The group

[3] As measured by indices of gross production. It should be borne in mind that this is a very rough indicator: it is based on major crops (and thus neglects many food items that may be important in local diets), its change over a period is strongly influenced by the weights used in combining items (complicated as this is by uncertainty about local prices, inapplicability of international prices and the wide fluctuations in production that tend to characterize many crops in developing countries) and it depends on estimates of harvests which are often far from reliable, especially when the bulk of the crop is consumed on the farm.

Table 39. Developing countries in which food production outran population growth in the 1960s

Country [a]	Population, 1970 (millions)	Rate of growth, 1960-1970 (percentage per annum)		Rural population per square kilometre of agricultural land, 1970	Average daily per capita consumption [b] of		Cereals: ratio of production to consumption [c] (percentage)	Imports of foodstuffs, [d] 1969-1971	
		Population	Food production		Calories	Protein (grammes)		Average annual per capita (dollars)	Ratio to total imports (percentage)
Gabon	0.5	0.9	72	307	2,180	51	17	14.5	9
Argentina	23.4	1.5	15	18	3,160	105	205	2.1	3
Mozambique	7.7	2.1	72	269	2,130	40	86	2.5	8
United Republic of Cameroon	5.8	2.1	82	63	2,230	59	87	3.7	9
Republic of Korea	30.7	2.4	53	862	2,490	72	78	10.3	16
Ivory Coast	4.3	2.4	81	38	2,430	59	71	10.5	13
Mauritius	0.9	2.5	...	476	2,370	50	1	27.9	33
Israel	2.9	2.5	10	142	2,990	92	10	49.3	9
Malaysia	10.8	2.7	56	180	2,190	49	64	18.5	21
Guatemala	5.1	2.8	63	236	2,020	50	88	5.0	9
Khmer Republic	7.1	2.9	76	209	2,230	58	106	1.1	7
Nicaragua	2.0	2.9	56	134	2,330	63	97	8.5	9
Rwanda	3.6	2.9	91	507	1,900	57	95	0.6	10
Lebanon	2.8	3.0	47	525	2,360	70	8	37.7	19
Panama	1.4	3.1	43	138	2,370	59	81	17.7	7
Thailand	36.2	3.3	76	270	2,210	51	119	1.5	4
Venezuela	10.8	3.4	26	65	2,430	60	50	13.5	8
El Salvador	3.6	3.5	57	327	1,850	45	93	7.2	12

Sources: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of United Nations Secretariat, United Nations, *Yearbook of International Trade Statistics* and *Commodity Trade Statistics*, Food and Agriculture Organization of the United Nations, *Production Yearbook* and *The State of Food and Agriculture* (Rome), United States of America, Department of Agriculture, *Agricultural Data Book for the Far East and Oceania*, *Indices of Agricultural Production for the Western Hemisphere* and *Indices of Agricultural Production in Africa and the Near East*, and national plans

[a] Countries are listed in ascending order of rate of population increase.

[b] Based on mid-decade food balance-sheets

[c] Based on production and net imports, 1968-1970 or thereabouts

[d] For definition of food-stuffs, see foot-notes to annex table A.17

included some countries that were net exporters of cereals (Argentina, the Khmer Republic and Thailand) as well as some that produced less than an eighth of their cereal requirements (Israel, Lebanon and Mauritius). In most cases over 60 per cent of the population was engaged in agriculture, but in some the proportion was less than 30 per cent (Argentina, Israel and Venezuela). Rural population densities varied widely—from less than 100 persons per square kilometre in Argentina, Ivory Coast, the United Republic of Cameroon, and Venezuela to over 500 in Lebanon, the Republic of Korea and Rwanda.

Despite the relatively satisfactory agricultural performance, sizeble food imports were required in a number of cases: at the end of the decade they amounted to more than a sixth of all imports in Lebanon, Malaysia and Mauritius and cost over $25 a year per inhabitant in Israel, Lebanon and Mauritius. And these imports, combined with the high rates of increase in *per capita* food production, did not always ensure adequate nutritional status of the population: *per capita* calorie intake was below 2,100 calories a day in El Salvador, Guatemala and Rwanda and *per capita* protein intake below 50 grammes a day in El Salvador, Malaysia and Mozambique.

Thus, even a high rate of increase in food production may not obviate a rising food import bill in countries in which population is growing rapidly or pressing heavily on the land. In the Republic of Korea, for example, the very high rural density has made it extremely difficult to produce adequate supplies of grain. With all the lowlands under cultivation, increasing areas being taken over for urban, industrial and transport uses, and attempts to reclaim tidelands —which had yielded an extra 5,000 hectares a year in the second half of the 1960s—now abandoned as too costly, an increasing proportion of land is being planted with higher-price, labour-intensive crops such as vegetables and fruits. Demand for grain—especially rice and wheat—has been increasing at about 6 per cent a year, almost twice as fast as production, leaving a widening gap to be filled by imports, and this gap may widen even faster if demand for meat increases more rapidly in the wake of rising incomes.[4]

The demographic pressures are easing in the Republic of Korea. Under the combined influences of rising levels of living and public policy in respect of family planning, the growth rate is decelerating (to below 2 per cent in the early 1970s) and, as a result of rapid urbanization, the rural population has begun to decline in absolute numbers (in 1971 it was estimated to be 7 per cent below its mid-1960s peak). A reduction in both the average size of households (by about 5 per cent in the course of the decade to just under six persons) and in the average number of households per square kilometre of arable land is expected to permit improvements in farm organization, especially in the upland, rain-watered areas.

A high population density also determines the pattern of agriculture in Lebanon, where only a fourth of the land area is arable and most farm households supplement their income from other types of employment. Though food output has outstripped population growth, the increase has been chiefly in fruit and vegetables, a large proportion of which is exported; imports still provide the bulk of domestic requirements of cereals and sugar. In Rwanda, too, there has been little or no advance in *per capita* grain production; the increase in food output has been partly in beans and peas, partly in potatoes and cassava but chiefly in plantains and bananas. Mauritius, another country of extremely high rural density, continues to be almost completely dependent on imports for cereal supplies; the increase in food production has been confined to sugar and vegetables and other intensive crops.

El Salvador has a more balanced agriculture. In the 1960s, cereal production increased more than that of coffee and cotton, the main export crops, mainly as a result of higher yields. High population density has made it difficult to expand areas under cultivation. The extension that has occurred has often been into marginal land and up unsuitable hillsides. This has given rise to accelerated soil erosion and has also introduced a greater element of instability in output.

In most of the other countries in which food production has been running ahead of population, pressure on the land is less intense. In most cases, indeed, the expansion in output in the 1960s was in large measure the result of extension of cultivation. This has given rise to difficulties in some areas of locally high density or unfavourable climate or topography. Even in Thailand, for example, the exhaustion of cropland reserve is now thought to lie only a decade away. In the north-east, where population densities tend to be highest, land that is officially classified as forest has suffered major inroads for purposes of "shifting" cultivation. Even in the more productive central region of the country, farm size is getting smaller and the problem of fragmentation of holdings more serious.

In Thailand, and in other countries in which farming is a largely self-sufficient operation, the availability of land has prevented an upsurge in unemployment: the bulk of the increment in the labour force has been

[4] Food-grain imports were approaching 3 million tons a year in the early 1970s, almost six times as much as in the early 1960s and over one third of domestic production. Feed-grain imports, which were negligible in the early 1960s, had reached 0.5 million tons. The most rapid expansion in food consumption in the 1960s was of milk and eggs.

more or less satisfactorily accommodated on new farms, while the leakage of manpower from the rural area has been absorbed in non-agricultural employment. The main problem has been to diversify agriculture sufficiently to reduce seasonal and other forms of under-employment and to raise productivity and incomes by making available appropriate new inputs so as to avoid any undue widening in the disparity between urban and rural levels of living. As pressure on the land mounts, such a policy becomes increasingly difficult to implement.

The incidence of difficulties in the balance between population and the land is appreciably greater among the countries in which food production has been lagging seriously behind the growth of population. These countries were twice as numerous as those with a relatively high rate of food increase in the 1960s (see table 40). As in the other group, however, these also cover a wide spectrum of economic conditions. Some had less than a third of their labour force in agriculture (Barbados, Guyana and Jamaica) while in others the proportion ran in excess of 90 per cent (Chad, Mali and Nepal). Rural density ranged from less than 50 persons per square kilometre of arable land (Central African Republic, Chad and Mali) to over 550 (in Bangladesh, Egypt, Indonesia and Kenya). The availability of food energy was below 2,000 calories

Table 40. Developing countries in which food production lagged seriously behind population growth in the 1960s

Country [a]	Population		Proportion of population engaged in agriculture, 1970 (percentage)	Rural population per square kilometre of agricultural land, 1970	Average daily per capita consumption [b] of		Cereals: ratio of production to consumption [c] (percentage)	Imports of foodstuffs, [d] 1969-1971	
	(Millions, 1970)	Rate of growth (per-centage per annum)			Calories	Protein (grammes)		Average annual per capita	Ratio to total imports (per-centage)
Barbados	0.2	1.0	23	538	2,380	73	8 [e]	86.4	19
Jamaica	1.8	1.2	27	519	2,280	59	2	40.6	14
Lesotho	1.0	1.8	...	292	...	...	84	...	...
Central African Republic	1.5	2.1	87	19	2,170	48	91	2.5	12
Somalia	2.8	2.2	82	232	1,770	57	64	2.9	17
Mauritania	1.2	2.2	85	414	1,990	73	72	10.7	21
Congo	0.9	2.2	45	105	2,160	40	24	9.7	13
Guinea	3.9	2.2	83	...	2,060	45	95	...	...
Sierra Leone	2.6	2.2	73	62	2,160	49	79	6.5	17
Nepal	11.3	2.2	92	514	2,030	52	108	...	...
Republic of Viet-Nam	18.0	2.2	74	467	2,200	49	86	8.7	24
Burma	27.8	2.3	64	119	2,010	44	108	0.3	5
Chad	3.7	2.3	91	49	2,240	78	98	2.0	15
Mali	5.1	2.4	91	39	2,130	68	98	1.5	18
Afghanistan	17.0	2.4	82	197	2,060	65	99	0.7	9
Senegal	3.9	2.4	76	52	2,300	64	72	14.6	28
Nigeria	55.1	2.5	67	195	2,290	60	97	0.6	8
Togo	1.9	2.5	75	74	2,210	51	93	3.8	12
Guyana	0.7	2.6	32	59	2,080	46	111	24.6	14
Dahomey	2.7	2.6	52	151	2,170	52	94	2.5	11
Indonesia	118.5	2.7	70	562	1,920	43	94	0.9	13
Egypt	33.9	2.7	55	677	2,770	80	92	4.0	19
Bangladesh	68.2	2.7	85	705	2,350	...	...	...	...
Democratic Yemen	1.3	2.8	62	361	2,020	67	30	10.3	18
Zambia	4.1	2.9	69	68	2,250	69	85	10.8	9
Libyan Arab Republic	1.9	3.0	43	55	2,630	66	15	50.7	15
Peru	13.6	3.1	46	235	2,260	55	73	7.9	16
Tunisia	5.2	3.1	46	64	2,200	63	56	12.7	23
Algeria	14.0	3.3	56	118	1,890	56	82	9.3	20
Kenya	10.9	3.3	80	586	2,200	68	104	0.9	3
Jordan	2.3	3.3	39	96	2,400	65	24	22.0	24
Colombia	21.4	3.4	45	164	2,140	50	87	1.7	4
Southern Rhodesia	5.1	3.4	63	220	2,550	73	98	...	...
Iraq	9.7	3.4	47	50	2,050	58	97	4.8	10

Source and foot-notes a to d: See table 39

[e] Ratio of exports to net imports.

per person per day in Algeria, Indonesia, Mauritania and Somalia but it was over 2,600 in Egypt and the Libyan Arab Republic. There was also a wide range in average daily protein intake—from less than 45 grammes (in Burma, the Congo and Indonesia) to over 75 grammes (in Chad and Egypt). These differences reflect not only domestic food production but also sharp differences in relationship with the outside world. Barbados, Jamaica and the Libyan Arab Republic produced less than a sixth of their own basic cereal requirements; Burma, Guyana, Kenya and Nepal were net exporters of cereals. Burma, Colombia and Kenya spent very little on food imports (less than $2 per person in 1970 and less than 5 per cent of total import expenditure) whereas Barbados and the Libyan Arab Republic spent more than $50 per person and Jordan and Senegal about a fourth of their total import expenditure.

What is being labelled a lag in food production is the failure of agriculture to match the acceleration that had taken place in population growth: food output was continuing to increase at the longer-run historical rate of 1-2 per cent a year. In some cases there were very specific reasons for this failure. In Chad, Jordan, Nigeria, the Republic of Viet-Nam and Democratic Yemen, for example, war and civil disturbance played a major disruptive role. In some countries a reorganization of agriculture in the wake of political changes tended to inhibit production. In Algeria, Kenya and Tunisia, for example, the withdrawal of European settlers necessitated a major readjustment, as did the dissolving of the Federation and subsequent political difficulties in the case of Southern Rhodesia and Zambia. Changes introduced into the rice sector in Burma also seem to have had a negative effect on output.

The weather also played its part, both in year-to-year fluctuations in crops and also in holding back the rate of feasible increase. The latter involves the whole ecological balance, including soil and water supply, natural vegetal cover and animal and human population. Wide differences in the carrying capacity implicit in this balance invalidate simple cross-country comparisons of rural density. Thus, the 50 persons per square kilometre of agricultural land in Mali and Senegal may represent as heavy a burden as six times that density on the volcanic soils of Indonesia or the deltaic plains of Bangladesh. The population/land balance, moreover, is a function of land use: the extent to which water and fertilizers are supplied, the appropriateness of crop rotation and the size of livestock herds. Where livestock constitute a significant part of the agricultural scene, indeed, the carrying capacity of the land cannot be measured in terms of the human population alone: the unit of occupation is the farm household plus the number of livestock units [5] needed to make it viable.

In many countries there are areas of declining yields where overstocking has exposed the soil to wind and water erosion or where cultivation has been extended on to slopes that are vulnerable to rapid water run-off. Even in countries that have a seemingly acceptable over-all average rural population density there are such pockets of overcrowding. In many parts of Africa and Central America, for example, population growth has pushed farmers up hillsides (in preference to the often malarial valleys) where the removal of tree and grass cover has initiated or accelerated serious erosion.

One of the difficulties that hampers adjustment when increasing population density calls for modification in agricultural techniques arises from the fact that migration from the rural area is often heavily weighted by young males. By draining off many who are among the most active and enterprising of rural households, the urbanization process leaves behind in the agricultural sector an older and less innovative population, at a time when special measures may be called for to raise the rate of increase in food production above the rate of population growth.

The proportion of countries in which population was expanding at over 3 per cent a year was no higher in the group in which food production was lagging than in the group in which food production had been keeping ahead of population growth. And it was about the same (a fourth) in the group in which food production and population trends were more or less parallel (see table 41).

This group shows the same sort of diversity as the others. The proportion of the population in agriculture was less than a fifth in Trinidad and Tobago and Uruguay, but over 90 per cent in Botswana and the Niger. Rural density was under 30 persons per square kilometre in Liberia and the Niger, but over 600 in Pakistan and Saudi Arabia. Angola, Madagascar, the Niger, Pakistan and Uruguay produced more grain than they consumed around 1970 but Botswana and Trinidad and Tobago were dependent on imports for over 80 per cent of their grain consumption. Foodstuffs accounted for a mere 4 per cent of the import expenditure of Ethiopia, Mexico, the Philippines and Uganda, but over a fifth of that of India, Laos, Saudi Arabia and Sri Lanka. Even with imports, food consumption provided less than 1,800 calories per person per day in Bolivia and the United Republic of Tanzania, whereas in Uruguay the average exceeded 2,700

[5] Based on grazing requirements. These are roughly proportionate to animal size with due allowance for special needs (for lush as against dry pasture, for example) and special habits (such as the tendency of goats to tear out grass roots).

Table 41. Developing countries in which food production increased more or less in line with population in the 1960s

Country [a]	Population		Proportion of population engaged in agriculture, 1970 (percentage)	Rural population per square kilometre of agricultural land, 1970	Average daily per capita consumption [b] of		Cereals: ratio of production to consumption [c] (percentage)	Imports of foodstuffs, [d] 1969-1971	
	(Millions, 1970)	Rate of growth (per-centage per annum)			Calories	Protein (grammes)		Average annual per capita	Ratio to total imports (per-centage)
Group A									
Liberia	1.2	1.8	74	27	2,290	41	70	15.3	14
Trinidad and Tobago	1.1	2.0	17	381	2,360	64	7	26.6	8
Chile	8.9	2.0	25	57	2,560	66	79	15.5	15
Upper Volta	5.4	2.1	89	96	1,910	40	97	1.5	17
Zaire	17.4	2.2	78	203	2,040	33	73	3.4	14
Bolivia	4.7	2.4	58	99	1,760	46	72	...	...
India	548.0	2.6	68	271	1,990	49	96	0.8	21
Philippines	38.1	3.3	70	280	2,210	51	94	1.5	4
Group B									
Cuba	8.4	1.9	33	104	2,500	63	28	26.9	19
Angola	5.7	2.0	63	542	1,910	40	115	3.2	6
Botswana	0.6	2.1	91	140	...	...	18	...	...
Burundi	3.6	2.3	86	292	2,330	61	97	...	...
Morocco	15.2	2.4	61	134	2,130	58	95	5.1	13
Laos	3.0	2.5	78	267	2,040	45	93	6.1	20
Brazil	95.2	2.9	44	140	2,820	67	98	3.2	12
Dominican Republic	4.0	2.9	61	247	2,060	50	73	7.0	13
Iran	28.4	2.9	46	101	2,030	55	99	6.8	9
Sudan	15.8	3.1	80	200	2,090	59	90	1.8	11
Pakistan	62.0	3.3	59	650	2,350	...	103	...	...
Syrian Arab Republic	6.2	3.3	49	59	2,450	69	66	10.8	17
Ecuador	6.1	3.4	54	97	1,970	46	89	2.5	7
Paraguay	2.4	3.5	53	155	2,540	65	88	3.4	13
Mexico	48.4	3.5	47	92	2,620	66	95	1.9	4
Costa Rica	1.8	3.9	45	115	2,370	62	55	16.4	9
Group C									
Uruguay	2.9	1.2	17	32	2,740	91	108	2.8	5
Ghana	8.6	1.2	55	219	2,070	43	83	7.8	17
Gambia	0.4	1.8	84	165	2,320	62	77	10.6	18
Ethiopia	25.1	2.1	85	177	1,980	66	99	0.3	4
Malawi	4.4	2.4	87	140	2,400	63	89	1.9	11
Sri Lanka	12.5	2.5	52	510	2,340	49	60	12.3	36
United Republic of Tanzania	13.2	2.6	86	105	1,700	43	97	1.0	6
Madagascar	6.9	2.7	86	210	2,240	51	101	2.6	9
Uganda	9.6	2.7	86	159	2,160	56	97	0.3	3
Saudi Arabia	7.7	2.8	60	730	2,080	56	30	16.4	20
Niger	3.9	2.9	91	29	2,170	78	105	1.3	10
Honduras	2.7	3.4	67	243	2,200	55	87	8.8	10

Source: See table 39.

[a] Within each group, countries are listed in ascending order of population growth rate. Groups A, B and C contain countries in which the 1961-1970 rate of increase in food production fell respectively just short of, parallel to, and just above the rate of increase in population

[b] Based on mid-decade food balance-sheets

[c] Based on production and net imports, 1969-1970 or thereabouts

[d] For definition of food-stuffs, see foot-notes to annex table A 17

calories. Average *per capita* protein consumption ranged from less than 40 grammes a day in Angola, Upper Volta and Zaire to over 70 in the Niger and Uruguay.

The proportion of countries in which average *per capita* daily calorie consumption exceeded 2,400 at the end of the 1960s was 11 per cent among those with lagging food production, 22 per cent among those in which food production was keeping up with population growth and 28 per cent among those in which food production was outrunning population.[6] The corresponding proportions of countries in which average daily protein consumption exceeded 70 grammes per person were 14 per cent, 6 per cent and 22 per cent, respectively.[7] It is clear, therefore, that a substantial increase in food production is required to raise *per capita* intake to nutritionally acceptable levels. The difficulty that most developing countries are experiencing in keeping food output in line with an expanding population indicates the magnitude of the task of raising nutritional levels.

The problem is a threefold one: to increase the production of the present array of food-stuffs, to raise more rapidly the output of those food items that have a higher nutritional status, and to ensure that an appropriate part of the output can be moved from the farms to the rest of the population. An increase in production can be achieved by extending the area planted or by applying other inputs to the land—water, fertilizers, implements, technical innovations—in order to raise the output per hectare. An improvement in the nutritional quality can be achieved by shifting from the cultivation of starchy roots to cereals, to pulses and to livestock products. To get the increased output to the people requires not only an effective distribution system for the food but also access by the population at large to the means of earning the income necessary for financing food purchases.

All but the first of these approaches—namely, an extension of planted area—require significant additional inputs of capital and technology. Even the extension of planting involves some extra capital (in the form of seeds) and as the pressure of population on the available arable land intensifies it requires increasing amounts —for clearing, draining, reclaiming or otherwise preparing the new land for cultivation. Since these remain the simplest and best-known procedures, however, it is not surprising that the main contribution to the increase in production of the major cereals in the 1960s came from the extension in area harvested—14 per cent over the seven years between 1960-1964 and 1967-1971 as against a gain of 9 per cent in yield per hectare (see table 42). The largest increases were

[6] The reference standard for adequate nutrition ranges from 2,200 to 2,400 among the developing countries; national averages are set conventionally at 15 per cent above these levels to allow for maldistribution.

[7] The reference standard for adequate nutrition ranges from 53 to 70 grammes, plus a conventional 15 per cent for the national average.

Table 42. Developing countries : changes in cereal areas, output and yield, 1960s

Region and crop	Average annual, 1960-1964			Average annual, 1967-1971			Percentage change between 1960-1964 and 1967-1971		
	Harvested area (millions of hectares)	Production (millions of tons)	Yield (tons per hectare)	Harvested area (millions of hectares)	Production (millions of tons)	Yield (tons per hectare)	Harvested area (millions of hectares)	Production (millions of tons)	Yield (tons per hectare)
Western hemisphere									
Wheat	7.7	11.0	1.43	8.5	11.3	1.33	10	2	—7
Maize	20.9	25.3	1.21	25.9	34.3	1.33	24	35	10
Rice	5.1	8.9	1.72	6.1	9.2	1.50	20	4	—13
Africa									
Wheat	5.7	4.7	0.83	6.7	6.3	0.93	18	33	12
Maize	8.5	9.6	1.14	10.2	12.4	1.21	20	28	6
Rice	3.2	5.1	1.57	3.6	6.9	1.93	12	37	23
Asia									
Wheat	25.9	22.1	0.86	32.6	33.7	1.03	26	52	20
Maize	10.9	10.6	0.97	13.0	14.0	1.08	19	32	11
Rice	76.3	122.7	1.61	80.8	144.4	1.79	6	18	11
Developing countries									
Wheat	39.3	37.9	0.96	47.8	51.3	1.07	22	35	12
Maize	40.3	45.6	1.13	49.0	60.6	1.24	22	33	10
Rice	84.7	136.6	1.60	90.5	160.5	1.77	7	17	11
Total, 3 cereals	164.3	220.1	1.34	187.3	272.4	1.46	14	24	9

Source See annex table A 39

in wheat and maize, production of which rose at over 4 per cent a year—well ahead of population growth—two thirds from extended area, one third from higher yield. Rice area was increased by only 7 per cent, reflecting the relative scarcity of land suitable for traditional methods of cultivation: the one-sixth expansion in output was chiefly the result of higher yields, in the wake of the introduction of improved techniques in Africa and the spread of the new short-stem varieties in Asia.

Changes in harvested area played a more important part than changes in yield in most countries in all three cereals. In the case of wheat, area extension contributed more than increase in yield in two thirds of the countries in which there was an expansion in production.[8] In the case of maize, area changes were even more predominant and in the case of rice only slightly less (see annex table A.39). Only in the case of increasing rice production in Africa and Asia did gains in yield rank as often as area extension as the source of expansion.

Population density did not seem to inhibit the extension of the area under cereal cultivation in the 1960s: area increases were as frequent and as large among countries with a high rural density (Burundi, El Salvador, India, Kenya, the Republic of Korea, Surinam and Thailand, for example) as among countries in which there was a far smaller rural population per square kilometre of arable land (Argentina, Chad, Iraq, the Ivory Coast, Venezuela and Zambia, for example). In the aggregate, cases of area extension outnumbered cases of contraction by three to one and this ratio obtained in each quarter of the rural density spectrum. Increases in yield also outnumbered reductions by three to one, but the incidence of reductions was significantly greater among the lower-density countries than among the higher: countries in which there was a rural population of more than 170 per square kilometre of arable land registered five improvements in yield for every decline whereas among those less heavily settled there were only two gains for each loss in yield. The only reductions in countries with a rural density of over 250 were in Egypt, Laos and Democratic Yemen (rice) and Indonesia (maize).

The higher the rural density the less the scope for increasing area under cultivation. Where output was increased in the 1960s, higher yields played the predominant role in more than half the countries in which there were over 250 rural persons per square kilometre of arable land but in only a third of those with rural densities of less than 100. As density rises so does the need for more intensive cultivation of the land and for the various inputs—particularly water and fertilizers—that make it productive.

The wide disparities in average yield that provide a rough measure of intercountry differences in the capacity of the land to feed the population are also to be found within countries. This is particularly true in the larger countries which tend to embody a variety of soils, topography, climate and water supply conditions. Catering for the food requirements of an enlarged population (or raising nutritional standards) may be achieved with less difficulty through the expansion of output in the more productive regions than in conformity with the pattern of population growth. The prerequisite for this, however, is an effective transport and marketing system, as well as appropriate price and tax policies.

That these are not always available has been demonstrated in recent years in India where the capacity of the land to carry a rapidly growing population varies tremendously from state to state. The annual output of food-grains in the Punjab in the north-west is eight times as great per person as in the densely populated state of Kerala in the south-west, and 12 times as great per square kilometre as in the sparsely populated state of Assam in the north-east (see table 43). Punjab and the neighbouring state of Haryana produce twice as much grains as is needed by their own population of 24 million. Five other states (Himachal Pradesh, Uttar Pradesh, Madya Pradesh, Rajasthan and Orissa) normally produce a grain surplus—though sometimes only a modest one. The rest—containing about 65 per cent of the country's total population—are in deficit: their annual production of 140 kilogrammes per person in the 1968/69-1970/71 period was insufficient for domestic needs. From time to time it has proved easier to obtain grain supplies for the deficit states from abroad than to transfer it from the surplus states.

Concern about the food requirements of an expanding population should not be construed as a general endorsement of a policy of national self-sufficiency in food-stuffs. In fact, many developing countries find it necessary, or even desirable, to purchase food abroad not only to obtain items it is difficult to produce at home, but also to supplement domestic production. In many cases natural resource endowment sets a pattern of comparative advantage that suggests the importation of food and provides the means for financing such imports.

For a majority of developing countries, however, there are three considerations that have moved them towards a more vigorous policy in respect of domestic food production. First is the high proportion of the

[8] Similarly, contraction in area contributed more than reduction in yield in most of the countries in which wheat production declined in the 1960s.

Table 43. Indian food-grain production, by state

(Annual average, 1968/69-1970/71)

State [a]	Area (thousands of square kilometres)	Population (millions)	Average annual increase in population [b] (percentage)	Density (persons per square kilometre)	Proportion of sown area irrigated (percentage)	Food-grain production		
						Total (millions of tons)	Tons per square kilometre	Tons per person
Punjab	50	13.6	2.1	270	70	6.5	128.6	0.48
Haryana	44	10.0	2.8	227	40	3.2	73.3	0.32
Himachal Pradesh	56	3.5	2.3	63	17	0.9	16.8	0.26
Orissa	156	20.9	2.3	134	14	4.9	30.7	0.23
Madhya Pradesh	443	41.7	2.6	94	8	8.2	18.6	0.20
Mysore	192	29.3	2.2	153	12	5.2	27.3	0.18
Rajasthan	342	25.7	2.4	75	16	4.6	13.5	0.18
Tamil Nadu	130	41.2	2.0	317	41	6.1	47.0	0.15
Uttar Pradesh	294	88.3	1.9	300	32	14.5	49.4	0.16
West Bengal	88	44.3	2.4	505	27	6.8	77.8	0.15
Andra Pradesh	275	43.5	1.9	158	25	6.8	24.7	0.16
Assam	203	15.0	2.1	74	30	2.2	10.7	0.15
Gujarat	187	26.7	2.6	143	11	3.2	17.0	0.12
Bihar	174	56.4	2.0	324	26	7.2	41.2	0.13
Maharashtra	307	50.4	2.4	164	8	5.7	18.6	0.11
Kerala	39	21.3	2.3	547	30	1.3	33.6	0.06

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on Government of India, Central Statistical Organisation, *Statistical Abstract of India, 1969* and *1970* (New Delhi, 1970 and 1972), Directorate of Economics and Statistics, Ministry of Agriculture, *Agricultural Situation in India* (New Delhi), various issues, and United States of America, Department of Agriculture, *Foreign Agriculture* (Washington, D.C.), March 1974.

[a] States are listed in descending order of average annual *per capita* food-grain production.

[b] Growth rate implicit in the 1961-1971 census enumerations.

labour force already engaged in agriculture—over two thirds in many cases. Second is the high priority that has to be assigned to imports of capital goods, essential to the economic development effort but not currently producible at home. And third is the difficulty of finding and producing exportable goods that will generate the foreign exchange necessary to pay for needed imports. In these circumstances importation of food-stuffs has been widely regarded as inimical to the development process and many countries have set themselves the goal of self-sufficiency in food. In this context, the growth in population adds considerably to the basic task of replacing imports with domestic production and raising internal nutritional levels in line with increases in income and with efforts to attain higher standards of health and welfare.

One of the ways of improving the quality of diet is to increase the intake of milk and meat. This means raising the standards of animal husbandry and expanding livestock herds. This imposes an additional burden on the land, either direct by way of pastures or indirect by way of the cultivation of fodder crops —something that is only just beginning in the developing countries. Because of the close ties between man and his livestock, indeed, the incidence of any increase in population should, realistically, be measured not only in terms of the rise in human numbers but also with due account being taken of associated animal numbers implicit in the local culture and diet. Converted, for convenience, into "small stock units",[9] their numbers are negligible in Hong Kong and Singapore, and range from as low as 1 to every 8 people in the Republic of Korea, 1 to 4 people in the Congo, Malaysia and Trinidad and Tobago, and 1 to 3 people in Kuwait and Mauritius, all the way to about 8 units per person in Argentina, the Niger, Paraguay and Somalia, 12 in Botswana, around 16 in Mauritania and Uruguay, and 24 in Namibia.

The countries with high livestock populations tend to be those with relatively low human population densities. Thus, the proportion of countries with less than one small stock unit per person in 1970 was only 15 per cent where the average density was below 30 persons per square kilometre, compared with 38 per cent where density was 30-100 and 85 per cent where there were over 100 persons per square kilometre (see annex table A.40). The essentially pastoral countries on the southern fringe of the Sahara and around the Kalahari to the south have low human population densities but large numbers of livestock per person. The burden on the land clearly comes not from the density of human occupation as such but

[9] To allow for the relative burden on grazing land, cattle and buffalo have been given a weight of 3, goats a weight of 2 and sheep a weight of 1 in the small stock unit.

from the animal density associated with the life styles of the people. The impact of population increase can be assessed only by taking both human and animal components into account.

The need to include livestock in the demographic picture is most necessary in countries where the soils are fragile, the climate unreliable and the ecological balance precarious. The importance of the livestock population is a general one, however, in the economic development context. The improvement of animal husbandry is important both on the production side —through the raising of the productivity and the closer integration of arable and livestock farming—and on the consumption side for which its role requires the most careful consideration in planning to meet the food needs of an expanding population and to raise the quality of diets.

Increasing the savings of the population

It was pointed out above that as population expands and pressure on the land increases, the task of providing additional supplies of food-stuffs tends to become more difficult. At the very least, it requires larger amounts of capital—to prepare new land for cultivation and to produce the various inputs necessary to maintain and improve yields. Capital requirements for other purposes are correspondingly increased: if the average *per capita* endowment of various forms of fixed capital—tools and equipment, housing and social infrastructure—is not to decline, appropriate new investment is required. And quite apart from the task of providing for increments in the population, the process of economic and social development is itself dependent upon an adequate rate of investment.

Investment resources may be made available by Governments out of tax revenues, by business enterprises out of net earnings, by private households out of current income, or by foreign companies, lending institutions or development aid entities. All four sources of savings are affected, in some degree, directly or indirectly, by the population situation in general and by changes in total numbers, in age composition and in geographical concentration. The impact of such changes cannot be isolated, however, and because it is usually outweighed by other factors, no clear relationship between population and savings is discernible from intercountry comparisons.

Demographic changes in a given country have little or no direct bearing on the flow of foreign savings, though pre-transition subsistence economies may attract special forms of assistance, as indeed may countries whose development plans are being complicated by an especially rapid rate of population increase or movement. Moreover, foreign companies are likely to be affected by the demographic situation in the same way as domestic concerns, though whether the result is reflected in the deployment of their net earnings depends on many other factors.

Corporate savings represent net earnings used for new investment, usually within the enterprise. While net earnings are likely to be influenced by demographic factors on both the cost and the sales side of the accounts, the effect is not readily measurable. On the cost side, the higher the rate of increase in the labour force and the greater the resultant competition for jobs, the lower are wage levels likely to be. Other things being equal, low wages tend to mean high profits and hence larger corporate savings. On the sales side, however, contrary influences may operate: high rates of population increase are often associated with low *per capita* income, and a low wage level also means restricted local purchasing power. As far as the domestic market is concerned, therefore, gross earnings may well be held down by a high rate of population growth. The result is obviously not determinate: it depends on the company's cost structure, on how much of the output is exported, on local demand schedules, on official tax policy and on company dividend policy. The role of the company form of organization, moreover, differs considerably from country to country. It tends to be greatest—especially in respect of the savings contribution—where large-scale exploitation of natural resources is involved, and such enterprises are rarely labour-intensive and often export-oriented and hence unlikely to be directly affected to any major extent by demographic factors.

The government contribution to savings is also likely to be subject to many influences more powerful than those emanating from population changes. Nevertheless, the latter do affect both the tax base and the amount and distribution of current expenditure and therefore the volume of public savings. Inasmuch as high rates of population increase tend to lower both *per capita* income and the relative size of the working age cohorts, they tend to reduce the tax base. At the same time, moreover, high fertility and high proportions of children and low-income families in the population tend to magnify the claims on government expenditure for education, health, relief and other social services. As a result of such convergence of forces, many developing countries derive only a very small proportion of their national savings from budgetary surpluses.

Population concentration tends to strengthen the tax base: it increases and standardizes the flow of taxable goods and facilitates the collection not only of commodity taxes but also of taxes on other transactions,

on property and on incomes. However, it also has a major impact on the expenditure side of the account: much social spending that is optional and avoidable in a dispersed rural population tends to become mandatory and expected in a concentrated urban population where sanitation and health, communication and transport, the reduction of fire hazard and the expansion of various social amenities all take on a new urgency.

Government revenue is not always dependent on population-sensitive activities, however. Resource-based industries, especially those that are export-oriented, are the most prolific source of tax revenue in many countries. Hence, it is possible for some Governments to generate savings—or transfer savings from the corporate sector to the public sector—even in demographically unpromising circumstances.

It is the household sector that is most exposed to the impact of demographic changes. The decision of a family to distribute its income over the range of its present and future needs is directly affected by its size and composition. The lower the income—on a *per capita* basis—the greater is the weight of present consumption needs likely to be. An acceleration in the rate of increase in population caused by an increase in the birth rate or a reduction in mortality in the earlier or later years of life would, in the circumstances of most developing countries, cause a contraction in the household savings ratio. A reduction in working age death rates would serve to raise family income—assuming there were no difficulty about gainful employment—and a lengthening of life expectancy should improve the deployment of cumulated knowledge and skill and thus raise productivity and incomes, too. Though in countries with a well-articulated market system and a higher level of *per capita* income, families may meet the cost of an additional child either by squeezing consumption rather than savings or by forgoing leisure and earning extra income, the scope for these responses is severely limited in most developing countries. Here, the evidence of most micro surveys seems to indicate that the negative influences predominate, and savings rates tend to decline with family size.

The effect of this at the macro level depends on the national distribution of incomes. Though savings capacity increases progressively as income rises, changes in the pattern of consumption may go a long way in offsetting this, and higher levels of luxury spending slow down the pace at which family savings ratios actually rise across the income spectrum. The macro effect also depends on the efficient mobilization and deployment of whatever savings are in fact generated so as to maximize opportunities for employment and income earning. It is not surprising, therefore, that any inhibiting influence that demographic circumstances might exert on household savings rarely shows up at the national level.[10]

The countries in which dependent groups—the young and the old—outnumber the working age population are mostly in the Central American area or north or east Africa. They all have high rates of population increase, except Jamaica where the high dependency ratio reflects the emigration of working age males. Children under 15 years of age account for 46-48 per cent of the population. Their saving ratios, however, are not at all uniform: in 1968-1970 they were rather low (under an eighth of gross national product) in the Dominican Republic, Ghana and Nicaragua, around the developing country average (of about one sixth) in Costa Rica, Jamaica, Kenya, Mexico, Morocco and Uganda, and well above that average in the mineral-exporting countries of Algeria and Surinam.

At the other end of the spectrum, among the developing countries with the lowest dependency ratio (less than 70 per cent) in which children under 15 constitute around a third of the population, there is a similar wide range of savings performance. A relatively small proportion of 1968-1970 income was saved in Israel and Uruguay, a more or less normal proportion in Argentina and Hong Kong and a very high proportion (over one third) in the export-oriented economies of Equatorial Guinea and Gabon.

The availability of exportable natural resources clearly exercised a greater influence on savings performance than differences in demographic circumstances. The proportion of countries saving over a fifth of their total output in 1968-1970 was about a sixth among those in which population was increasing at 2-2.49 per cent a year and also among those with a 2.5-2.99 per cent growth rate. In both groups the countries concerned were largely mineral producers and/or export-oriented—the Congo, the Ivory Coast, Mauritania, Namibia and Zaire in the first case and Malaysia, Saudi Arabia, Singapore, Surinam and Zambia in the second. And in the group with the fastest-growing population (over 3 per cent a year) almost a third were high savers, and again largely mineral exporters—Algeria, Iraq, Kuwait, the Libyan Arab Republic, Panama, Swaziland, Thailand and Venezuela (see annex table A.41).

Most of the countries that are in the very early stage of the demographic transition have populations expanding at 2-3 per cent a year. Over half those

[10] It should also be borne in mind that some household savings are used in forms that are poorly documented—the accumulation of jewellery, for example, and the improvement of dwelling place and other family assets.

countries had low savings ratios (under one eighth) in 1968-1970. And over half had high dependency ratios (over 85 per cent). Among those with population increasing at 2-2.49 per cent a year only a fourth had a dependency ratio of over 85 per cent; all these countries—except Morocco—had low savings ratios. Three fourths of the countries in which population was increasing at 2.5-2.99 per cent a year had high dependency ratios; and of these 60 per cent had low savings ratios. The rest included some of the mineral exporters mentioned above (Malaysia, Saudi Arabia, Surinam and Zambia) and also two other mineral exporters (Guyana and Iran) as well as Pakistan, Uganda and the United Republic of Tanzania (with savings ratios of 13, 16 and 16 per cent, respectively).

The only component of savings that is likely to be sensitive to changes and differences in the demographic situation is the private household one. Unfortunately, very few developing countries attempt to attribute national savings to their source, so it is impossible to examine household savings over time or compare them between countries. It is probable that they are small in absolute terms in countries in which the subsistence sector is important and small in relative terms in countries in which corporate business activity is important or natural resource-based exports provide a convenient source of public revenue. By the same token, household savings should increase over time as population is transferred from the subsistence sector to the exchange economy and productivity and incomes rise. In relative terms, however, the process of economic development is likely to increase the contribution of business enterprise to national savings. The effect of high rates of population growth or of a decline in fertility and in the dependency ratio may well be overshadowed by those generated by changes in economic organization.

The only countries reporting a relative and absolute rise in household savings in the course of the 1960s were Panama, the Philippines and the Republic of Korea, three countries in which the national savings ratio was itself rising. In the Republic of Korea, household savings were actually negative in the first half of the decade and it was only under the influence of a marked decline in the rate of population growth and a rapid increase in *per capita* income that private households began contributing to total savings towards the end of the 1960s. A rapid increase in *per capita* incomes also lay behind the rise in private savings in Panama. The Philippines, with 70 per cent of its population in agriculture, is far more dependent on private savings for its capital accumulation. With its high rate of population increase, high age-dependency ratio and low life expectancy it has correspondingly more to gain from lower birth and death rates (see table 44).

The countries reporting an absolute and relative decline in the contribution of private savings in the 1960s obtained the bulk of their national savings from corporate or public sources. They include Honduras, Mauritius, Peru and Venezuela (where households contribute around a third of the total) and Colombia and Jamaica (where the private contribution is only about an eighth). These countries registered a more modest rate of growth in *per capita* income in the 1960s, reflecting in part their generally high rates of population increase (over 3 per cent a year except in Jamaica and Mauritius) and high age-dependency ratios (over 93 per cent, except in Mauritius).

Among the remainder of the reporting countries, there was little apparent change in the status of private savings in the 1960s. The household sector was actually dis-saving in Chile and Togo, and contributing relatively little in Bolivia and Tunisia. In Costa Rica, Guyana, Malaysia, Thailand, Trinidad and Tobago and Uruguay, on the other hand, households were responsible for the bulk of the saving. Except for the last two, these countries have high rates of increase in population and low proportions in the working age bracket, and therefore stand to gain much from a decline in fertility.

Infrastructure requirements and urbanization

The growth of population intensifies the use of existing infrastructure and makes it necessary to expand and supplement it. In this way many of the relatively new capital assets become more efficiently utilized. Others, however, become over-burdened, their maintenance becomes more difficult and the need to replace or add to them more urgent. As indicated in the previous section, this links the increase of population very closely with capital requirements and the need for saving.

In most cases infrastructure accounts for a large proportion of total investment: over two thirds in half the developing countries in 1968-1970 and under 50 per cent in very few (see annex table A.42). Since most of this investment is in the nature of social overhead, it is not directly productive. Where capital is scarce and high priority is given to raising the material well-being of the population, special efforts are needed to maximize the proportion of resources allocated to agriculture and industry, the basic production sectors, and the associated infrastructure (power and water supply and transport and communications) essential for their operation. In these circumstances,

Table 44. Selected developing countries : household savings and demographic characteristics, 1970

Country	National saving ratio [a]		Dependency ratio [c]	Urbanization ratio [d]	Proportion of labour force in agriculture	Life expectancy at birth (years)	Rate of population growth [e] (percentage per annum)	Per capita GDP	
	(Percentage)	Rate of increase [b] (percentage per annum)	(percentage)					Dollars	Rate of increase [e] (percentage per annum)
Countries in which household savings accounted for over half of national savings: [f]									
Thailand	22	0.6	94	15	76	59	3.3	179	4.4
Malaysia	21	0.2	89	41	56	57	2.7	357	3.1
Philippines	17	0.5	96	34	70	56	3.3	183	1.9
Costa Rica	17	0.4	105	37	45	67	3.9	526	2.9
Guyana	16	0.1	97	35	32	65	2.6	362	1.8
Trinidad and Tobago	15	−0.8	82	50	17	67	2.0	830	2.5
Uruguay	9	−0.5	58	78	17	69	1.2	825	0.2
Countries in which household savings accounted for between a fourth and a half of national savings: [f]									
Venezuela	27	—	93	68	26	64	3.4	965	1.9
Southern Rhodesia	19	−0.3	99	20	63	51	3.4	293	1.4
Mauritius	15	0.3	83	42	38	63	2.5	219	1.0
Peru	14	−1.0	93	51	46	58	3.1	448	1.6
Honduras	13	—	97	26	67	49	3.4	259	1.6
Countries in which household savings accounted for less than a fourth of national savings: [f]									
Panama	21	0.9	90	47	43	64	3.1	731	4.8
Colombia	18	−0.1	98	60	45	59	3.4	358	2.0
Jamaica	18	−0.3	106	38	27	68	1.2	745	4.5
Tunisia	15	0.7	95	44	46	52	3.1	268	2.0
Chile	15	0.2	80	73	25	61	2.0	718	2.1
Bolivia	12	0.5	84	34	58	45	2.4	218	3.4
Togo	11	0.8	91	13	75	39	2.5	142	4.7
Republic of Korea	−3	1.8	80	38	55	58	2.4	270	6.9

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, *Demographic Yearbook, 1971* (United Nations publication, Sales No. E/F.72.XIII.1), *Monthly Bulletin of Statistics*, November 1971, *Yearbook of National Accounts Statistics, 1972* (United Nations publication, Sales No. E.74.XVII.3), and Food and Agriculture Organization of the United Nations, *Production Yearbook, 1972* (Rome).

[a] Average annual ratio of gross national savings to gross national product, 1968-1970, expressed as a percentage.

[b] Difference between the arithmetic average annual ratios 1968-1970 and 1960-1962 divided by 8.

[c] Total population minus the 15-64 age group, expressed as a percentage of the latter.

[d] Population residing in urban areas (nationally defined) expressed as a percentage of the total population.

[e] 1961-1970, or between census years.

[f] Based on three-year averages in the second half of the 1960s. Within each group, countries are listed in descending order of national savings ratio.

overhead associated with administrative or with direct consumer satisfaction has to be given a lower priority.

There is no permanent, objective distinction between "productive" and "unproductive" infrastructure, but rather a continuum, ranging from monuments to irrigation pumps, along which a particular item may shift its position as circumstances change—in response to a change in the labour/capital requirements of the investment, for example, and the importance attaching to employment creation,[11] or the adoption of a longer time horizon which might make a larger or more elaborate investment more desirable than a series of smaller and simpler ones. Demographic changes influence this investment pattern not only through the labour market but also through direct demand—for maternity hospitals, homes for the elderly and other age-specific institutions for example, as well as, more generally, for dwelling places and, more dramatically in recent years, for the infrastructure necessitated by urban living conditions. Rapid population growth thus exacerbates the resource allocation dilemma: it increases the urgency of enlarging the output of farms and factories but at the same time adds both directly and indirectly to infrastructure requirements.

[11] See the next section for some discussion of this problem.

One of the most direct of these requirements is for housing. In 1970, almost half the developing countries were spending more than 5 per cent of their gross product on residential construction, and over a fourth were spending more then 8 per cent (see annex table A.43). Thus, just as infrastructure constitutes a major portion of total fixed investment, so housing has become a major component of infrastructure. This reflects not only the growth but also the movement of population and, in particular, the ramifications of urbanization.

The movement of population from rural to urban areas in the developing countries corresponds in a general way with the urbanization process in the more advanced countries discussed in the previous chapters. Because over-all population growth has been so much faster in the developing countries, however, the rural population so much larger and the problem of equipping it with complementary factors so much greater, the scale of townward movement has been much more extensive. In the 1960s, for example, the rate of increase in the urban population exceeded 5 per cent a year in half the developing countries, and in less than a fifth was it under 4 per cent (see table 45).

The pace of this townward movement was greatest in Africa: two thirds of the developing countries in this region saw their urban populations increase by more than 5 per cent a year, compared with only one fourth in the western hemisphere and 45 per cent in Asia. On the average over the decade, the urban population increased by about 16 million people each year, approximately half representing natural increase and the other half newcomers from the countryside. Rather less than half the increment in urban population was in Asia and rather more than a third in the developing countries of the western hemisphere. Africa, the least urbanized region in 1960, added 2.6 million people to its towns each year, and ended the decade with a higher proportion of its population in towns than was the case in Asia.

The countries in which there was a relatively modest increase in the urban population (less than 4 per cent a year in the 1960s) were for the most part either very small (Barbados, Gambia, Guadeloupe and Mauritius, for example) or those in which the proportion of the population living in towns at the beginning of the decade was already high (over 70 per cent)—Argentina, Chile, Hong Kong, Israel and Uruguay, for example.

Table 45. Developing countries: distribution of countries according to rate of urbanization, 1960-1970

Item	*Developing countries*	*Western hemisphere*	*Africa*	*Asia and Pacific*
Percentage of population in urban areas				
1960	23.2	48.4	18.0	18.4
1970	27.1	56.2	22.3	21.0
Average annual rate of increase in urban population				
Less than 3 per cent:				
Number of countries	6	4	1	1
Population (thousands)	581	573	6	2
3.0-3.9 per cent:				
Number of countries	13	3	5	5
Population (thousands)	3,897	272	99	3,526
4.0-4.9 per cent:				
Number of countries	33	13	10	10
Population (thousands)	4,749	1,621	778	2,349
5.0-5.9 per cent:				
Number of countries	30	6	15	9
Population (thousands)	5,511	3,006	801	1,705
6.0 per cent and over:				
Number of countries	21	1	16	4
Population (thousands)	1,070	72	852	145

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on United Nations, *Monthly Bulletin of Statistics*, November 1971.

They included Afghanistan, Bangladesh, Burma and India, however—large countries in which less than a fifth of the population lived in urban areas. Even with a rate of urban growth of only 3.5 per cent a year, India had to accommodate an average annual increment of over 5 million in its towns in the 1960s.

At the other end of the scale, most of the countries in which urban populations expanded at over 6 per cent a year were African, and they entered the decade with very low proportions of town dwellers—less than 10 per cent in general, but higher in the United Republic of Cameroon (about a fifth) and, even more, in Algeria, where the average annual increase in the number living in towns was 267,000, exceeded in Africa only by Egypt and Nigeria. In the western hemisphere, only the Dominican Republic registered a rate of urban growth as high as 6 per cent a year. In West Asia, there were three with higher rates—Kuwait, Saudi Arabia and Yemen.

In these countries with very high rates of urban growth, 60-70 per cent of the increment represents inward movement from the rural areas. The pattern of such movement differs from country to country, depending not only on the relationship of population to land but also on the physical size of the country and the distribution of urban centres. In many developing countries the most rapid movement has been towards towns that have grown up around mineral deposits or smelting and refining facilities (such as the copper belt agglomerations in Zaire and Zambia or the petroleum towns of Abadan in Iran or Maracaibo in Venezuela). Capital cities have also attracted large numbers: no less than 21 had over a million inhabitants in 1970 and seven had over 3 million.[12] But in most countries, it was the port cities that expanded most rapidly in the 1960s, reflecting the fact that foreign trade was usually the most dynamic element in the economy.

In some of the larger countries fairly clear migration patterns are discernible. In Brazil, for example, there has been a distinct drift away from the north-east and, to a less extent, the south-east towards the north, the south and, most notably, the central-west region (see annex table A.44). Part of this movement has been from states with a high rural density, towards the sparsely populated states in the interior.[13] Another stream has been from low-income states in the north-east southward to states where incomes are higher.[14] And cutting across these density and income motivated flows are the intra-state townward movements. Even in states in which population has been increasing at less than the national average, the main metropolitan areas have been expanding at rates substantially higher than those experienced by the cities themselves.[15] Between 1960 and 1970 the population of the nine main Brazilian cities rose from 10 million to 15 million (48 per cent) while the population of the surrounding urban areas rose from less than 2.9 million to nearly 7.4 million (160 per cent). As in the more advanced countries, some of this peripheral growth represents the "suburbanization" movement, discussed in chapter II above, made possible by rising incomes and improving transport systems. Much of the latter has been based on the private motor-car. In 1971 there were about seven persons per registered passenger car in São Paulo, compared with about 42 per car in the rest of the country. Heavy investment in urban highway systems has accompanied this population redistribution, made necessary by it, but also in turn facilitating or even inducing it.

But most of the peri-urban growth is the result not of the rich moving out of the city but of the poor arriving from the rural areas. This has been the pattern not only in Brazil but also in most other developing countries. And everywhere the inflow of people has outrun the capacity of the towns to provide the requisite infrastructure for integrating the new population into the physical framework and economic life of the urban area. The result has been the proliferation of squatter communities and similar unplanned human settlements.

As indicated above, because of the difficulty that most developing countries have in raising their savings ratios, the provision of appropriate infrastructure poses great problems when the population is growing rapidly: the natural increase adds to the needs arising from maintenance and replacement, from adaptation to new technology and from the incorporation of the quality improvements that are the essence of the development objective. Movement of the population adds considerably to this burden, especially when it is from a relatively under-capitalized rural environment to an

[12] Buenos Aires, Cairo, Karachi (while Islamabad was under construction), Mexico City, New Delhi-Delhi, Seoul and Teheran.

[13] Notably from Alagoas, Paraíba, Pernambuco and Sergipe in the north-east (where the density is about four times the national average) and Espirito Santo and Minas Gerais in the south-east to Goiás, Mato Grosso and Pará, as well as on a smaller scale, to Amapá in the far north and Rondônia in the far west.

[14] Particularly from Maranhão and Bahia where in 1968 *per capita* production was between a third and a half of the national average, to Paraná, Santa Catarina and Rio de Janeiro and. strongest magnet of all, São Paulo (where *per capita* production was nearly twice the national average).

[15] In the 1960s, for example, the population of Greater Recife grew at an average annual rate of 4.8 per cent, Greater Belém at 4.8 per cent, Greater Salvador at 5.0 per cent, Greater Curitiba at 5.4 per cent, Greater Fortaleza at 5.8 per cent, Greater Belo Horizonte at 6.8 per cent and Greater São Paulo at 7.1 per cent

urban set-up whose very functioning depends in large measure on the adequacy of the available social overhead.

The requirements make a formidable list. The concentration of population that is the distinguishing characteristic of the urban environment necessitates higher and more capital-intensive standards for dwelling construction, water reticulation, waste disposal, cooking arrangements and many other aspects of household organization.[16] It also imposes new standards for the physical accoutrements of formal education and most other group activities, as well as in the handling of communicable disease. The functioning of an urban community also depends on effective intercommunication and, as the area it occupies expands, on the adequacy of the means of moving people and goods to all parts of the nexus that make it possible for all the components—becoming increasingly differentiated in the process of development—to operate as a viable entity.

The full benefits of urbanization materialize only as these higher infrastructural standards are achieved. Thus in the context of socio-economic development there is a natural tendency for a developing country to assign a high priority in its capital budget and associated policy measures to investment related to the urban sector. This is reinforced by overriding physical needs (for safety, for example), social needs (arising from the scope and visibility of urban phenomena) and political needs (reflecting the concentration of wealthy and intellectually influential groups in the larger towns). This poses a serious dilemma for a developing country with severely limited capital resources. The more its investment pattern leans towards urban development the wider becomes the disparity between urban and rural levels of living. And as it is this disparity that constitutes one of the strongest forces behind the townward drift of population, urban investment tends never to achieve its essential purpose: population increase constantly prevents the creation of a fully operational, integrated and articulated socio-economic unit.

In some places the pace of peri-urban accretion has been too rapid to permit anything but the most superficial integration. The peripheral population then tends to become a distinct squatter community, living in a shanty town that has very little in common with the city that was the original magnet drawing people from the countryside. The links lie not in a common infrastructure but in a more or less casual series of single-purpose connexions, created as individuals in the peri-urban community succeed in finding employment in the city and as city services are stretched into the outlying area to help with housing, health or education—sometimes in campaigns that are motivated by self-defence rather than a desire to unify the "greater metropolitan area" as a functional entity.

As there is scarcely a city throughout the developing world [17] that has not experienced an influx too rapid to permit its absorption into an integral urban community, the situation has attracted increasing attention from economic planners and policy-makers. While it is generally accepted that the long-range solution lies in the slowing down of the rate of population growth, the weight of shorter-run action has been shifting to the rural areas. This is partly in response to the problem of feeding the population, discussed earlier in this chapter, and partly in the realization that a better rural/urban balance is essential and that concentration on the urban end tends to accentuate the disparities.

As the 1960s progressed, development plans began to lay greater emphasis on the agrarian sector. The problem is not only the technical one of increasing agricultural productivity—per farm family as well as per hectare—but also the often more intricate one of modifying rural institutions and structures so as to bring about a more appropriate balance between land and population and between purely agricultural activities and those associated with the production of inputs and processing of outputs. This requires more investment in rural infrastructure, to lessen the isolation of the subsistance sector, to facilitate the acquisition of new inputs and the disposition of increments in output and to permit a greater degree of industrial decentralization. It also requires vigilance to ensure that land tenure systems are consistent with efforts to improve productivity and equity. Credit systems and the price relationships between agricultural and industrial products must also be brought into line with the over-all policy of aiming for an optimal geographical distribution of population.

[16] It is the environment rather than personal preferences that tends to make urban housing requirements more specialized and more elaborate. In the rural areas of many developing countries, temporary structures, made of local materials, are still widely used; they are acceptable because their maintenance and renewal are relatively easy and they are not unduly concentrated. In urban areas, both density and the need for greater permanence call for different types of materials—more fireproof, for example, and more resistant to weathering—and for a layout and construction that will permit more indoor activity.

[17] As indicated in chapter II above, the townward movement of population has also given rise to problems in the more advanced countries. The developing countries' difficulties, however, are of different order of magnitude: their capital resources are much scarcer and their rate of population increase three or four times as great.

Educational requirements and employment

The need to slow down the pace of urbanization is not premised on any long-range view of the appropriate balance between agriculture and industry. This obviously differs from country to country. In general, however, if history furnishes any guidance, it is to be expected that the proportion of the population engaged in agriculture proper will continue to decline in the developing countries as many of the activities traditionally carried out on the farms are transferred to specialized producers in the industrial sector and as, with the progressive rise in incomes, the demand for industrial products increases to a greater extent than the demand for food-stuffs.

Recent concern about the townward drift of population stems from the frequency with which it has exceeded the rate at which the non-agricultural sector has been able to absorb new workers in gainful employment. This is partly a question of relative size: the rural population of the developing countries is almost three times the urban, and the agricultural labour force between four and five times that in industry. During the 1960s the townward migration reduced the rate of growth of the rural population from a rate of natural increase of 2.8 per cent a year to an actual expansion of 2.1 per cent (that is, by about a fourth) and raised the rate of growth of the urban population correspondingly, from about 2.5 per cent to an actual 4.3 per cent (that is, by about three fourths). Since the migration is largely one of workers, its impact on the growth of the labour force shows an even sharper contrast. In the 1960s, the labour force increased by 4.3 million a year in agriculture and by 3.8 million a year in industry. But the latter represents a rate of growth four times as great as the former (see table 46).

The difficulty in absorbing workers into the non-agricultural sectors derives in part from the shortage of complementary factors. As indicated above, few developing countries have been able to raise their savings rates sufficiently fast not only to maintain the over-all ratio of capital to population but also to permit the movement of workers from rural areas and agri-

Table 46. Developing countries : distribution of population and labour force, 1970

Region	Population			Labour force				Dependants
	Total	Rural	Urban	Total	Agriculture	Industry	Services	
Developing countries								
Total (millions)	1,730.6	1,263.7	466.9	608.1	392.6	86.7	128.8	1,122.5
Growth rate [a] (percentage)	2.7	2.1	4.3	2.1	1.1	4.4	4.0	
1970 increment (millions)	46.7	26.5	20.1	13.0	4.3	3.8	5.2	33.7
Western hemisphere								
Total (millions)	283.4	124.1	159.2	84.0	35.6	19.0	29.4	199.4
Growth rate [a] (percentage)	2.9	1.2	4.4	2.3	0.9	3.7	3.4	
1970 increment (millions)	8.2	1.5	7.0	1.9	0.3	0.7	1.0	6.3
Africa								
Total (millions)	324.4	257.9	66.5	121.2	89.2	11.9	20.1	203.2
Growth rate [a] (percentage)	2.5	2.0	4.9	2.0	1.3	4.5	4.2	
1970 increment (millions)	8.1	5.2	3.3	2.4	1.2	0.5	0.8	5.7
Asia and Pacific								
Total (millions)	1,122.8	881.7	241.1	402.9	267.8	55.8	79.3	719.9
Growth rate [a] (percentage)	2.7	2.3	4.2	2.0	1.0	4.7	4.3	
1970 increment (millions)	30.3	20.3	10.1	8.6	2.7	2.6	3.4	21.7

Source. Centre for Development Planning. Projections and Policies of the United Nations Secretariat, based on national census reports, and estimates of the Population Division of the United Nations Secretariat and the International Labour Organisation.

[a] Average annual rate of increase 1960-1970.

cultural occupations to urban areas and industrial occupations in which capital requirements are substantially greater. This is one reason why many workers end up in the labour-intensive service sector rather than the industrial sector.

Efforts to accommodate the flood of new entrants to the labour market have revealed that in many countries the plethora of workers was associated with a dearth of requisite skills. This reflects, in part, the fact that it has generally been the younger worker who has been hardest to accommodate. It also reflects the fact that many new entrants—especially from the rural areas—have had little or no formal education. But in many cases it has also revealed the inadequacy or inappropriateness of the training they had in fact received.

This has set in motion a widespread re-examination of educational systems and a great deal of discussion of the relationship between formal education and the absorption in productive employment of a rapidly increasing labour force. Since the latter has emerged as the most general of all the development problems now facing the developing countries, and education costs have become one of the largest items of public expenditure, the need to ensure that the schools provide the most useful preparation for employment is now widely regarded as a matter of great importance and urgency.

In the developing countries of the western hemisphere, the total population increased at 2.9 per cent a year in the 1960s, the urban group at 4.4 per cent and the labour force at 2.3 per cent. At the end of the decade, one fifth of the annual increment to the labour force consisted of women; and for every new entrant into the labour force there were about three new dependents. About 56 per cent of the population lived in urban areas and the industrial labour force was increasing at 3.7 per cent a year—four times as fast as the agricultural labour force. In almost 40 per cent of the countries of the region, indeed, the agricultural labour force was declining. The countries in which more than half the active population was engaged in agriculture were concentrated largely in the Caribbean area—the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras and Nicaragua—though they also included Bolivia, Ecuador and Paraguay (see annex table A.45).

Some of these Central American countries are characterized by extremely low female participation rates: in the Dominican Republic, Guatemala and Honduras, women constituted less than 15 per cent of the labour force in 1970. Mexico also has relatively few women in its labour force. Other countries in the area, by contrast—notably Barbados, Haiti and Jamaica—have female participation rates double that figure, as does Uruguay one of the most urbanized countries in the region. There is some tendency for female participation rates to rise with the process of urbanization and industrialization, but cultural factors are also involved: the proportion of women in the labour force is high not only in Uruguay which has the demographic characteristics of a more advanced country but also in Paraguay where over half the population is still engaged in agriculture and in Guyana, Haiti, Jamaica and Surinam where over 60 per cent live in the rural areas.

Among the western hemisphere countries the demographic pressure on the job market is least in Argentina, Barbados, Chile, Jamaica and Uruguay where the growth of the working-age population is lowest (because of emigration in the case of Barbados and Jamaica), the proportion of the labour force still in agriculture smallest (ranging from 15 to 27 per cent), and the proportion of women in gainful employment already relatively high (over 24 per cent). At the other end of the demographic spectrum, the need for jobs is greatest in Colombia, Costa Rica, Honduras, Paraguay and Venezuela, where the working age population is expanding at over 3 per cent a year, a high proportion of the population is still in agriculture (except in Venezuela) and relatively few women are in the labour force (except in Paraguay).

High rates of population growth are creating employment problems in most of the other Latin American countries, particularly where more than half the labour force is still in agriculture despite a rapid swing to other sectors in the 1960s, as in the Dominican Republic, El Salvador, Guatemala and Nicaragua and, to a less extent, Bolivia and Ecuador. Though the movement out of agriculture has proceeded somewhat further in Brazil, Mexico and Peru, these countries are also finding it difficult to absorb the 4-5 per cent annual increase in the industrial labour force as well as a 1-2 per cent annual increase in those working on the land. In Mexico, the urban population expanded by 1 million a year in the 1960s and in Brazil by 2 million, and both these countries still have relatively low female participation rates.

Up to the present, employment problems in Africa have arisen more from the movement of population than from its growth. However, even though total population has been increasing less rapidly than in the developing countries of the western hemisphere (2.5 per cent a year compared with 2.9 per cent), the distribution has been such that both rural and urban groups have been growing more rapidly—the former by 2 per cent a year and the latter at almost 5 per cent a year. Despite its rapid growth, the urban population accounted for only a fifth of the total in 1970, and

despite a dramatic rise in the proportion engaged in non-agricultural activities (a near doubling in a number of cases) there are very few countries in which less than half the labour force is engaged in agriculture, and they are all small ones—the Congo, the Libyan Arab Republic, Mauritius, Réunion and Tunisia. The Congo, Gabon and Mauritius are the only African countries to experience an absolute decline in the agricultural labour force in the 1960s. At the beginning of the 1970s, the African population was expanding at almost 10 million a year: rather less than 3 million were going into the labour force, 7 million were dependants. Of the increment in the labour force almost half (1.3 million) were going into agriculture, about a third (0.9 million) into trade and other service activities and about a fifth (0.6 million) into industry.

Though there is great diversity in the demographic/employment situation among the developing countries of Africa, the smallness of the urban and industrial base has generally made it difficult to provide jobs for both the natural increase in the labour force and those transferring from the agricultural sector. The problem has been most severe in countries with a very low proportion of the population in non-agricultural activities which have experienced a high rate of growth both in the working age group and in the urban population. These include most of the east African countries—Kenya, Madagascar, Malawi, Rwanda, Somalia, Swaziland, Uganda and the United Republic of Tanzania—in which over 80 per cent of the population was still in agriculture in 1970. Largely because of the organization of agriculture in these countries, most of them absorbed a high proportion of women in the labour force.

This was not the case among countries with strong Moslem traditions where female participation rates continue to be very low—as in the case of Algeria, Egypt, the Libyan Arab Republic, the Sudan and Tunisia, for example. The north African countries have relatively large urban, non-agricultural bases to receive the new entrants into the labour force. Despite large-scale temporary migration to Europe, however, a substanital proportion—estimated as high as a fourth of the working age population in 1970—have not been accommodated. A tendency for more women to enter the labour force would aggravate the employment problem. At present these countries are distinguished by the very high ratio of dependants to employed workers.

The developing countries of Asia and the Pacific are also demographically diverse. The proportion of the population active in agriculture in 1970 was over three fourths in Afghanistan, Bangladesh, the Khmer Republic, Laos, Nepal and Thailand, but under one fourth in Hong Kong, Israel, Kuwait and Singapore. Female participation was under 10 per cent of the labour force in the Arab countries of West Asia, but over a third in Indochina and Thailand, where women play a prominent role in agriculture, as well as in the industrialized countries—Hong Kong, Israel and Singapore.

In relative terms, the urbanization trend was not quite as vigorous in Asia in the 1960s as in the other two regions. Nevertheless, the rate of increase in urban population averaged 4.2 per cent a year and by the end of the decade over 10 million people were being added to the urban group each year. The rural population, however, was expanding at 20 million a year. Thus the land was being called upon to carry a larger share of the increment in population than was the case in the other regions. As rural densities were already much higher in most Asian countries than elsewhere, this tended to exacerbate tenure and farm organization problems. Some of the imbalance that emerged as visible urban unemployment in other regions, was left more diffused in rural underemployment in Asia.

This is not to say that the growth of the urban labour force was slow and easily accommodated in Asia. On the contrary, because participation rates are much higher than in Africa or Latin America, the Asian region experienced the most rapid growth in non-agricultural labour force in the 1960s—4.7 per cent a year in the industrial sector and 4.3 per cent a year in the services sector. And, as in the other regions, there were serious absorption difficulties in many countries: at the end of the decade, urban unemployment is estimated to have reached 9 per cent of the labour force in the Philippines, 10 per cent in Indonesia and Iran, 11 per cent in Sri Lanka and 13 per cent in Malaysia.

Of the various demographic factors influencing the relationship between the growth of populations and the absorption of the working age cohorts in gainful employment, the two that stand out most clearly from the experience of the 1960s are the extent of female involvement and the differentiation of the labour force through the acquisition of skills. The importance of these two factors lies in part in their dual role: they affect both the growth of the labour force and its economic deployment.

High female participation in economic life is a characteristic of the two extremes of the development spectrum. It is a feature of subsistence communities with high vital rates and a population increase of 2-3 per cent a year. It is also a feature of economically advanced countries with a much more intricate subdivision of labour, low vital rates and a population growth of less than 1.5 per cent a year (see annex

table A.46). While cultural traditions as well as economic organization are clearly involved,[18] there is a direct and negative association between female participation and the rate of population growth. The proportion of countries in which less than a fourth of the working age women are economically active rises systematically from 23 per cent of those with a low rate of population increase (less than 1.5 per cent a year), and 29 per cent of those growing at 1.5-2.5 per cent a year, to 48 per cent of those growing at 2.5-3.0 per cent a year, and 75 per cent of those growing at over 3 per cent a year.

Since the process of economic development entails increasing involvement of women in the production of goods and services, countries in which female participation rates are very low can expect to see their labour force expand at particularly high rates: in addition to the new entrants from the cohorts graduating into the working age bracket, there will be an increasing number entering from the hitherto uninvolved female group. In due course, greater female participation will probably result in a lowering of the birth rate and ultimately in a slowing down in the rate of expansion of the labour force. As in the case of most demographic phenomena, however, the braking time is inevitably lengthy: the number of new entrants into the labour force from the natural increase of the population is determined 15 years or more in advance. A rise in the female participation rate, therefore, has serious implications for the problem of job creation, especially for those developing countries that have already encountered difficulties in fitting their present stream of new entrants into productive employment. The problem is by no means trivial: over a fourth of all developing countries have female participation rates of less than 20 per cent and in three fourths of them population is increasing at more than 2.5 per cent a year. In many Arab and Latin countries, the entrance of more women on to the labour market would aggravate an already serious unemployment problem.

That this is not a remote contingency is borne out by the rapid rise that has taken place in recent years in school enrolments, female as well as male. By 1970 most of the countries in the western hemisphere had achieved a rough equality in enrolments at both primary and secondary levels: the only countries in which girls were still clearly underrepresented were Bolivia, El Salvador, Guatemala, Haiti, Mexico and Peru (plus Ecuador, Honduras and Trinidad and Tobago at the secondary level).

This was far from the case in the other regions, however: in Asia, only Israel and the Philippines had more or less equal enrolment of boys and girls, and in Africa, only Lesotho and Réunion, plus Botswana, Guinea-Bissau and Swaziland where there was some lag in the secondary schools (see annex table A.47). In many countries boys outnumbered girls by more than 2 to 1 and in some by 3 to 1 (Chad, Mauritania, Somalia and Saudi Arabia), 4 to 1 (Democratic Yemen) or even 6 to 1 (Afghanistan and Nepal).

In secondary school enrolments, which have the earliest and greatest impact on the job market, the ratio of girls to boys in most developing countries in the western hemisphere was comparable to that registered in the more advanced countries in the late 1960s. The majority of developing countries, however, had lower ratios: in nearly 60 per cent there were less than 60 girls to every 100 boys and in nearly 40 per cent less than 40 (see annex table A.48).

In general, the educational system acts as both a buffer and a training ground between demographic forces and the job market. In the 1960s in most developing countries it appears to have served the first purpose rather better than the second.

There was a vigorous and widespread growth in school enrolment, proportionately highest in those countries which started with the smallest educational base. In many cases primary enrolment rose by over 10 per cent a year and secondary enrolment by over 20 per cent. In the aggregate the number of children in primary schools increased by 6 per cent a year, twice the rate at which the relevant age group was expanding, and the number in secondary schools increased by 12 per cent a year. Though the absolute numbers were small in relation to the growth of population, enrolment in third-level education rose even faster. By the end of the decade, 43 per cent of the 5-14 age group was enrolled in primary schools, 26 per cent of the 15-19 age group was enrolled in secondary schools and the total school population (including those at the third level) was approaching 250 million.

These averages conceal sharp regional differences. The primary enrolment ratio (to the 5-14 age group) was about a third in Africa, rather more than 40 per cent in Asia and almost 60 per cent in the western hemisphere. Similarly, the secondary ratio (to the 15-19 age group) ranged from an eighth in Africa to rather more than a fourth in Asia and a third in the western hemisphere. Altogether, full-time education

[18] Adjustment to exogenous factors and events also affects female participation from time to time. Manpower losses in war tend to increase the employment of women, for example, and some of the consequences of this in Eastern Europe are discussed in chapter III above. Activation of the feminist movement may also affect the volume as well as the grade and remuneration of female employment.

was holding off the job market about 50 million persons of working age in 1970.

A fourth of the developing countries were spending more than 4 per cent of their total product on public education by the end of the 1960s and well over half were spending more than 3 per cent. This was a much smaller outlay than was being made in the more advanced countries (80 per cent of which spent more than 4 per cent of their total product) but, as it had been rising rapidly in the face of mounting claims for other forms of public expenditure, it was coming under closer scrutiny. Two features of the situation made this most necessary. Because an increasing proportion of education expenditure was for secondary and higher schooling, unit costs per student were rising particularly fast. And many enquiries into the mounting toll of unemployment in the urban areas had shown that those most difficult to absorb consisted chiefly of either the absolutely unschooled from the countryside or the product of an over academically oriented education which provided few usable skills other than literacy.

There has thus been set in motion a major effort to improve the capacity of the educational system to prepare the school age cohorts more pertinently for graduation to working age and entry into the job market. Because of the numbers involved, it is imperative that as many as possible of those who leave school be enabled to contribute as soon as possible to the country's material output. Only by equipping the school age population to be producers rather than dependants can incomes be raised and the process of lowering vital rates and completing the demographic transition be accelerated. The whole development effort is involved in this, but it is now clear how important is the link provided by the educational system.

Perhaps the most disturbing aspect of the current situation in the developing countries lies in the continuing disparity between school capacity and population growth. Notwithstanding the tremendous effort that was put into the education sector in the 1960s—raising school enrolment by over 5 per cent a year, by two thirds in the course of the decade—the number of children not in school continued to increase: it was a fifth higher in 1970 than in 1960. Not even in the western hemisphere, where enrolment ratios are highest, was the expansion in school capacity able to keep pace with the growth in school age population: the number of 5-19 year olds not in school rose by an eighth during the decade and in 1970 it still exceeded the number in school (see table 47).

Very few countries—less than 1 in 10—managed to expand enrolments fast enough to absorb the increment in the school age group. In general, the slower the growth in the 5-19 population the better the chance of accommodating the increase in schools: the proportion of countries holding the expansion in the numbers not in school to less than 10 per cent over the 1960s was three fourths in the case of those whose school age population was growing at under 2 per cent a year,

Table 47. Developing countries : growth of school age population and school enrolment, 1960-1970

(Millions, except as indicated)

Item	*Western hemisphere*	*Africa*	*Asia and Pacific*	*All developing countries*
Number in 5-19 age group				
1960	74.7	91.0	294.8	460.5
1970	101.0	116.9	395.8	613.7
Percentage change	36	29	34	34
Primary and secondary enrolment				
1960	29.9	18.3	79.9	128.1
1970	50.3	30.4	128.8	209.5
Percentage change	68	66	61	64
Children not in school				
1960	44.7	72.6	214.9	332.2
1970	50.8	86.5	267.0	404.3
Percentage change	13	19	24	22

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations Educational Scientific and Cultural Organization. *Statistical Yearbook*, (Paris), various issues

but only one fourth of those with a 2-4 per cent growth rate, and less than a fifth of those in which the number of potential pupils was rising even faster (see annex table A.49). Correspondingly, the proportion of countries in which the increase in children not in school was above the developing country average of 22 per cent was only a fifth among those with a school age growth rate of less than 2.5 per cent but over half of those with higher rates.

Since there is an inverse relationship between fertility and level of education, something of a vicious circle emerges: the impact of education on population growth is seriously reduced by the sheer magnitude of that growth. A breakthrough on this front calls for a good deal of innovation in the educational field: conventional schools and conventional curricula will have to be supplemented by other means of spreading literacy and conveying the rudiments of training essential as the personal equipment of those entering the working force in a development-oriented economy. Only by techniques that involve a lower effective budgetary cost and penetrate further into the rural as well as the urban community is the educational system likely to be able to overcome the consequences of rapid demographic growth in most developing countries.

ANNEX

STATISTICAL TABLES

Table A.1 Distribution of countries according to mortality change and *per capita* income, 1950-1970

Decline in crude death rate between 1950-1955 and 1965-1970 [a] *(percentage)*	*Countries* [b] *in each mortality group in which* per capita *gross domestic product in 1970 was (dollars)*						
	Less than 100	*100-199*	*200-399*	*400-699*	*700-999*	*1000-2499*	*2500 and over*
Less than 0					Uruguay Cyprus	Greece Hungary Austria Finland Netherlands	German Democratic Republic Norway Germany, Federal Republic of Switzerland Denmark Sweden United States
0.0-9.9	Malawi	Nigeria Kenya	Angola	South Africa	Malta	Argentina Italy Israel United Kingdom Czechoslovakia Iceland	Belgium Australia Luxembourg
10.0-14.9	Upper Volta	Gambia	Equatorial Guinea	Zambia Portugal Namibia	Spain	New Zealand	
15.0-19.9	Mali Chad Ethiopia Lesotho Burundi United Republic of Tanzania Somalia	Zaire Botswana Central African Republic Togo Sierra Leone	Bolivia Swaziland Congo El Salvador Ivory Coast	Gabon	Bulgaria Mauritania Surinam	Ireland USSR	France Canada
20.0-24.9	Rwanda Guinea Nepal Haiti Dahomey Niger	Khmer Republic Madagascar Uganda Philippines United Republic of Cameroon Senegal	Egypt Mozambique Jordan Ghana Southern Rhodesia Liberia Turkey Dominican Republic Guatemala Iran				

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(For footnotes, see end of table)

Table A.1 *(continued)*

Decline in crude death rate between 1950-1955 and 1965-1970[a] *(percentage)*	*Countries*[b] *in each mortality group in which* per capita *gross domestic product in 1970 was (dollars)*						
	Less than 100	*100-199*	*200-399*	*400-699*	*700-999*	*1000-2499*	*2500 and over*
25.0-29.9	Yemen Bangladesh Afghanistan	Laos Democratic Yemen Sri Lanka	Syrian Arab Republic Tunisia Algeria Iraq	Cuba Saudi Arabia	Panama	Japan Libyan Arab Republic	
30.0-39.9	Burma Indonesia	Democratic Republic of Viet-Nam Sudan Pakistan Thailand	Morocco Honduras Ecuador Republic of Viet-Nam Malaysia Colombia	Nicaragua Brazil Mongolia Costa Rica Yugoslavia	Chile Jamaica Romania Venezuela	Poland	Kuwait
40.0 and over	India		Mauritius Paraguay Republic of Korea Democratic Republic of Korea Guyana	Peru Albania Barbados Mexico	Hong Kong Mauritania Réunion Trinidad and Tobago Singapore		

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on estimates of the Population Division of the United Nations Secretariat, United Nations. *Yearbook of National Accounts Statistics*, and International Bank for Reconstruction and Development *World Bank Atlas* (Washington, D.C.)

[a] Difference between the two quinquennial averages expressed as a percentage of the higher rate.

[b] Within each group, countries are listed in ascending order of *per capita* gross domestic product.

Table A.2 Distribution of countries according to changes in mortality and income, 1955-1970

Decline in crude death rate between 1950-1955 and 1965-1970[a] (percentage)	*Countries[b] in each mortality group in which the annual average percentage rate of growth in gross domestic product from 1955 to 1970[c] was*						
	Less than 2	*2.0-2.9*	*3.0-3.9*	*4.0-4.9*	*5.0-5.9*	*6.0-6.9*	*7.0 and over*
Less than 0	Uruguay		United States	Switzerland Norway German Democratic Republic Denmark	Germany, Federal Republic of Austria Netherlands Hungary Cyprus Finland		Greece
0-9.9	Iceland	Luxembourg United Kingdom Portuguese Timor	Argentina	Malawi Angola Belgium Czechoslovakia Australia Italy	Malta Kenya South Africa Nigeria		Israel
10.0-14.9			Equatorial Guinea New Zealand	Gambia Guinea-Bissau Namibia Upper Volta	Portugal	Spain Zambia	
15.0-19.9	Burundi Chad	Somalia Mali	Ireland Bolivia Zaire	Central African Republic Ethiopia Canada	United Republic of Tanzania El Salvador France Sierra Leone Lesotho Togo Botswana	Congo Mauritania	USSR Ivory Coast Swaziland Surinam Bulgaria Gabon
20.0-24.9	Senegal Haiti Khmer Republic Guinea	Nepal	Madagascar Ghana	Niger Uganda Dahomey Mozambique Egypt Guatemala	Rwanda Southern Rhodesia Dominican Republic Philippines United Republic of Cameroon	Turkey Jordan	Iran Liberia

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(For footnotes, see end of table)

Table A.2 *(continued)*

Decline in crude death rate between 1950-1955 and 1965-1970[a] *(percentage)*	*Countries*[b] *in each mortality group in which the annual average percentage rate of growth in gross domestic product from 1955 to 1970*[c] *was*						
	Less than 2	*2.0-2.9*	*3.0-3.9*	*4.0-4.9*	*5.0-5.9*	*6.0-6.9*	*7.0 and over*
25.0-29.9	Democratic Yemen	Afghanistan Laos		Sri Lanka Tunisia Yemen Algeria	Syrian Arab Republic Bangladesh Cuba	Panama	Iraq Saudi Arabia Japan Libyan Arab Republic
30.0-39.9		Mongolia	Sudan Indonesia Republic of Viet-Nam Chile Morocco	Honduras	Burma Colombia Malaysia Ecuador Pakistan Thailand Venezuela	Democratic Republic of Viet-Nam Poland Yugoslavia Jamaica Brazil Nicaragua Costa Rica	Kuwait Romania
40.0 and over		Mauritius	Guyana Barbados Paraguay	India Peru	Trinidad and Tobago	Mexico	Democratic Republic of Korea Republic of Korea Hong Kong Guadeloupe Réunion Singapore Martinique

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on estimates of the Population Division of the United Nations Secretariat and United Nations, *Yearbook of National Accounts Statistics*.

[a] Difference between the two quinquennial averages expressed as a percentage of the higher rate.

[b] Within each group, countries are listed in ascending order of rate of growth of gross domestic product.

[c] 1960-1970 in the case of a number of countries.

Table A.3 Distribution of countries according to changes in mortality and degree of urbanization, 1960-1970

Decline in crude death rate between 1955-1960 and 1965-1970[a] (percentage)	*Countries[b] in each mortality group in which the percentage change in proportion of urban population[c] between 1960 and 1970 was*					
	Less than 5	*5-14*	*15-24*	*25-34*	*35-44*	*45 and over*
Less than 0	German Democratic Republic	United States Germany, Federal Republic of Netherlands Austria Denmark Uruguay Sweden Greece Hungary Switzerland	Finland Cyprus	Norway		
1-9.9	United Kingdom Australia Luxembourg Israel Argentina Belgium	Iceland South Africa Czechoslovakia Italy Portuguese Timor		Nigeria Malta	Angola	Malawi Kenya
10-14.9		New Zealand Spain Portugal	Zambia	Guinea-Bissau	Upper Volta Namibia Equatorial Guinea	
15-19.9		Ireland El Salvador Surinam Canada France Somalia	Bolivia USSR Sierra Leone Mali	Chad Congo	Ethiopia Bulgaria Burundi Mauritania United Republic of Tanzania Central African Republic Ivory Coast Gabon	Zaire Togo
20-24.9		Jordan Guatemala Egypt Philippines	Turkey Senegal Khmer Republic Iran	Madagascar Haiti Dominican Republic Southern Rhodesia Nepal Ghana	Liberia Niger	Dahomey Guinea Mozambique United Republic of Cameroon Uganda

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(For footnotes, see end of table)

Table A.3 *(continued)*

Decline in crude death rate between 1955-1960 and 1965-1970[a] *(percentage)*	*Countries*[b] *in each mortality group in which the percentage change in proportion of urban population*[c] *between 1960 and 1970 was*					
	Less than 5	*5-14*	*15-24*	*25-34*	*35-44*	*45 and over*
25-29.9		Cuba Tunisia Iraq Panama Afghanistan	Libyan Arab Republic Syrian Arab Republic Japan	Democratic Yemen Sri Lanka	Algeria Saudi Arabia	Laos Yemen
30-39.9		Kuwait Poland Costa Rica Morocco Nicaragua Chile	Sudan Burma Venezuela Ecuador Indonesia Thailand Honduras Mongolia Brazil Romania	Colombia Republic of Viet-Nam Malaysia Democratic Republic of Viet-Nam Jamaica	Yugoslavia	
40 and over	Mauritius Hong Kong	Guadeloupe Barbados Paraguay India Réunion Peru	Mexico Guyana Singapore Albania	Trinidad and Tobago Martinique Democratic Republic of Korea		

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on estimates of the Population Division of the United Nations Secretariat and United Nations, *Monthly Bulletin of Statistics*

[a] Difference between the two quinquennial averages expressed as a percentage of the higher rate.

[b] Within each group, countries are listed in ascending order of degree of urbanization.

[c] Difference between the percentage of the population living in urban areas in 1960 and in 1970, expressed as a percentage of the former

Table A.4 Distribution of countries according to changes in birth rate and degree of urbanization, 1960-1970

Decline in crude birth rate between 1955-1960 and 1965-1970[a] (percentage)	*Countries[b] in each fertility group in which the percentage change in the proportion of urban population between 1960 and 1970[c] was*					
	Less than 5	*5-14*	*15-24*	*25-34*	*35-44*	*45 and over*
Less than 0.0	United Luxembourg	Belgium Germany, Federal Republic of Austria Denmark Sweden Portuguese Timor Switzerland	Sierra Leone Mongolia	Nigeria Jamaica Guinea-Bissau Democratic Republic of Korea	Liberia	Togo
0.0-0.9		Iraq Tunisia Spain Surinam Italy	Bolivia Mali Zambia	Madagascar Dominican Republic Southern Rhodesia Congo	Ethiopia Angola Burundi Mauritania Upper Volta Namibia United Republic of Tanzania Equatorial Guinea Central African Republic Niger Ivory Coast Gabon	Zaire Malawi
1.0-1.9		Ireland Portugal Morocco Egypt	Senegal Indonesia Syrian Arab Republic	Democratic Yemen Chad	Saudi Arabia	Dahomey Kenya Guinea United Republic of Cameroon Yemen
2.0-4.9	German Democratic Republic	Kuwait South Africa Uruguay El Salvador Costa Rica Somalia Philippines Panama	Afghanistan Sudan Venezuela Iran	Colombia Haiti Nepal Norway Republic of Korea	Algeria	Laos Mozambique Uganda

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(For footnotes, see end of table)

Table A.4 *(continued)*

Decline in crude birth rate between 1955-1960 and 1965-1970[a] *(percentage)*	*Countries*[b] *in each fertility group in which the percentage change in the proportion of urban population between 1960 and 1970*[c] *was*					
	Less than 5	*5-14*	*15-24*	*25-34*	*35-44*	*45 and over*
5.0-9.9		Jordan Iceland Paraguay India Guatemala Peru Nicaragua	Mexico Libyan Arab Republic Burma Ecuador Thailand Khmer Republic Honduras Guyana	Republic of Viet-Nam Democratic Republic of Viet-Nam Ghana		
10.0-14.9	Australia Argentina	Netherlands New Zealand Guadeloupe France Greece Chile	Turkey Brazil Romania	Malaysia Cyprus Albania Martinique	Sri Lanka	
15.0-24.9	Hong Kong	United States Cuba Barbados Czechoslovakia Réunion Canada	Japan	Fiji Trinidad and Tobago		
25.0 and over	Mauritius Israel	Poland Hungary	USSR Finland Singapore	Malta	Yugoslavia Bulgaria	

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on estimates of the Population Division of the United Nations Secretariat and United Nations, *Monthly Bulletin of Statistics*

[a] Difference between the two quinquennial averages expressed as a percentage of the higher rate

[b] Within each group, countries are listed in ascending order of degree of urbanization.

[c] Difference between the percentage of population living in urban areas in 1960 and in 1970, expressed as a percentage of the former

Table A.5 Distribution of countries according to changes on birth rate and *per capita* income, 1950-1970

Decline in crude birth rate between 1950-1955 and 1965-1970 (percentage)	*Countries[a] in each fertility group in which* per capita *gross domestic product in 1970 was (dollars)*						
	Less than 100	*100-199*	*200-399*	*400-699*	*700-999*	*1000-2499*	*2500 and over*
Less than 0		Gambia Nigeria Togo Sierra Leone	Swaziland Democratic Republic of Korea Liberia	Mongolia	Jamaica	Austria	Belgium United Kingdom Luxembourg Germany, Federal Republic of Switzerland Denmark Sweden
0-0.9	Mali Upper Volta Ethiopia Malawi Burundi Niger United Republic of Tanzania	Zaire Madagascar Botswana Central African Republic	Bolivia Congo Equatorial Guinea Tunisia Angola Southern Rhodesia Ivory Coast Iraq Dominican Republic	Zambia Namibia Gabon	Mauritania Surinam Spain	Italy	
1.0-1.9	Yemen Rwanda Chad Indonesia Guinea Dahomey	Democratic Yemen Kenya United Republic of Cameroun Senegal	Egypt Morocco Syrian Arab Republic	Portugal Saudi Arabia		Ireland	
2.0-4.9	Bangladesh Lesotho Nepal Afghanistan Somalia Haiti	Sudan Laos Uganda Pakistan Philippines	Mozambique Republic of Korea El Salvador Algeria Colombia Iran	Costa Rica South Africa	Panama Uruguay Venezuela		German Democratic Republic of Norway Kuwait
5.0-9.9	Burma India	Khmer Republic Democratic Republic of Viet-Nam Thailand	Paraguay Jordan Ghana Honduras Ecuador Republic of Viet-Nam Guyana Guatemala	Nicaragua Peru Mexico		Libyan Arab Republic Iceland	

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(For footnotes see end of table)

Table A.5 *(continued)*

Decline in crude birth rate between 1950-1955 and 1965-1970 (percentage)	*Countries[a] in each fertility group in which* per capita *gross domestic product in 1970 was (dollars)*						
	Less than 100	*100-199*	*200-399*	*400-699*	*700-999*	*1000-2499*	*2500 and over*
10.0-14.9		Sri Lanka	Malaysia Turkey	Albania Brazil	Chile Martinique Cyprus Romania	Greece Argentina New Zealand Netherlands	Australia France
15.0-24.9				Fiji Cuba Barbados	Hong Kong Réunion Trinidad and Tobago	Japan Czechoslo-vakia	Canada United States
25.0 and over			Mauritius	Yugoslavia	Malta Bulgaria Singapore	Hungary USSR Poland Israel Finland	

Source. Centre for Development Planning Projections and Policies of the United Nations Secretariat, based on estimates of the Population Division of the United Nations Secretariat, United Nations, *Yearbook of National Accounts Statistics*, and International Bank for Reconstruction and Development, *World Bank Atlas* (Washington, D.C.).

[a] Within each group, countries are listed in ascending order of *per capita* gross domestic product

Table A.6 Distribution of countries to changes in birth rate and economic growth, 1955-1970

Decline in crude birth rate between 1950-1955 and 1965-1970 (percentage)	*Countries[a] in each fertility group in which the average annual percentage rate of growth in gross domestic product between 1955 and 1970 was*						
	Less than 2.0	*2.0-2.9*	*3.0-3.9*	*4.0-4.9*	*5.0-5.9*	*6.0-6.9*	*7.0 and over*
Less than 0		Luxembourg United Kingdom Portuguese Timor Mongolia	Sweden	Belgium Switzerland Gambia Guinea-Bissau Denmark	Austria Germany, Federal Republic of Nigeria Sierra Leone Togo	Jamaica	Swaziland Democratic Republic of Korea Liberia
0-0.9	Burundi	Mali	Equatorial Guinea Madagascar Bolivia Zaire	Niger Malawi Angola Central African Republic Tunisia Ethiopia Namibia Upper Volta Italy	United Republic of Tanzania Southern Rhodesia Dominican Republic Botswana	Spain Zambia Congo Mauritania	Ivory Coast Iraq Surinam Gabon
1.0-1.9	Democratic Yemen Chad Senegal	Guinea	Indonesia Ireland Morocco	Yemen Dahomey Egypt	Kenya Rwanda Syrian Arab Republic Portugal United Republic of Cameroon		Saudi Arabia
2.0-4.9	Haiti Uruguay	Nepal Somalia Afghanistan Laos	Sudan	Uganda Norway German Democratic Republic Mozambique Algeria	South Africa Colombia El Salvador Bangladesh Pakistan Lesotho Philippines Venezuela	Panama Costa Rica	Kuwait Iran Republic of Korea
5.0-9.9	Iceland	Khmer Republic	Republic of Viet-Nam Guyana Ghana Paraguay	India Honduras Peru Guatemala	Burma Ecuador Thailand	Democratic Republic of Viet-Nam Nicaragua Jordan Mexico	Libyan Arab Republic

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(For footnotes, see end of table)

Table A.6 *(continued)*

Decline in crude birth rate between 1950-1955 and 1965-1970 (percentage)	*Countries[a] in each fertility group in which the average annual percentage rate of growth in gross domestic product between 1955 and 1970 was*						
	Less than 2.0	*2.0-2.9*	*3.0-3.9*	*4.0-4.9*	*5.0-5.9*	*6.0-6.9*	*7.0 and over*
10.0-14.9			New Zealand Chile Argentina	Sri Lanka Australia	Netherlands Malaysia France Cyprus	Turkey Brazil	Greece Romania Guadeloupe Martinique
15.0-24.9			United States Barbados	Czechoslo-vakia Canada	Cuba Fiji Trinidad and Tobago		Hong Kong Réunion Japan
25.0 and over		Mauritius			Malta Hungary Finland	Poland Yugoslavia	USSR Bulgaria Israel Singapore

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on estimates of the Population Division of the United Nations Secretariat and United Nations, *Yearbook of National Accounts Statistics*

[a] Within each group countries are listed in ascending order of rate of growth in gross domestic product. For some countries the period over which growth rate was measured was 1960-1970

Table A.7 Distribution of countries according to educational attainment and birth rate

Proportion of population of 15 and over with 7-12 years of schooling (percentage)	*Countries[a] in each education group in which the crude birth rate[b] was*				
	Less than 20 0	*20 0-29 9*	*30 0-39 9*	*40 0-44.9*	*45 0 and over*
Less than 5.0		Portugal[60]		Brazil[50] Venezuela[50] Fiji[46] Haiti[50] Turkey[50]	Honduras[61] Malawi[66] Nicaragua[50]
5.0-9.9	Greece[61] France[62] Finland[60]		Jamaica[60]	Thailand[60] Paraguay[62]	Iran[66] El Salvador[61] Indonesia[65] Iraq[65] Zambia[69]
10.0-14.9	Hungary[63] Bulgaria[65] Czechoslovakia[61] Norway[60]	Netherlands[60]	Trinidad and Tobago[60]	Guyana[60] Peru[61] Mexico[70] Colmobia[64] Ecuador[62]	Philippines[60] Ghana[60]
15.0-19.9	Italy[61]	Uruguay[63] Barbados[60]	Republic of Korea[60]	Panama[60]	Kenya[69]
20.0-29.9	Switzerland[60]	Poland[60] Ireland[66] Romania[66] Hong Kong[66]	Chile[60]		
30.0 and over	Japan[70] Australia[66]	Canada[61] United States[60]	Sri Lanka[63]		

Source Centre for Development Planning. Projections and Policies of the United Nations Secretariat, based on national census reports and estimates of the Population Division of the United Nations Secretariat

[a] Countries are listed in ascending order of crude birth rate Superscripts refer to year of census reporting educational status.

[b] Average annual number of births per 1,000 of the population in the five years immediately following the census, except in the case of countries for which data on educational status refer to 1969 or 1970 for which 1965-1970 birth rates are used

Table A.8 Distribution of countries according to population growth and income, 1970

Annuel average increase in population (percentage)	*Countries[a] in each population growth group in which* per capita *gross domestic product was (dollars)*						
	Less than 100	*100-199*	*200-399*	*400-699*	*700-999*	*1000-2499*	*2500 and over*
Less than 1				Portugal Gabon	Malta Bulgaria	Greece Ireland Hungary Italy Austria United Kingdom Finland Czechoslovakia	Belgium Norway Germany, Federal Republic of Denmark Sweden
1.0-1.49			Equatorial Guinea	Yugoslavia Barbados	Jamaica Uruguay Cyprus Romania Spain	Poland USSR Japan Netherlands	German Democratic Republic France Luxembourg Switzerland United States
1.5-1.9	Lesotho	Gambia	Liberia	Cuba		Argentina New Zealand Iceland	Canada
2.0-2.49	Mali Burundi Upper Volta Chad Ethiopia Malawi Burma Guinea Nepal Somalia Afghanistan Haiti	Democratic Republic of Viet-Nam Zaire Botswana Central African Republic Mauritania Sierra Leone United Republic of Cameroon Senegal	Bolivia Mozambique Morocco Congo Ghana Republic of Korea Angola Republic of Viet-Nam Ivory Coast	Namibia	Chile Hong Kong Martinique Trinidad and Tobago		Australia
2.5-2.99	Yemen Rwanda Bangladesh India Indonesia Dahomey Niger	Khmer Republic Laos Democratic Republic of Yemer Madagascar Uganda	Egypt Mauritius Democratic Republic of Korea Malaysia Turkey Guyana	Zambia Nicaragua Brazil Alabnia Saudi Arabia	Surinam Singapore	Israel	

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(For footnotes, see end of table)

Table A.8 *(continued)*

Annual average increase in population (percentage)	*Countries[a] in each population growth group in which* per capita *gross domestic product was (dollars)*						
	Less than 100	*100-199*	*200-399*	*400-699*	*700-999*	*1 000-2 499*	*2500 and over*
2.5-2.99 *(cont.)*	United Republic of Tanzania	Nigeria Togo Pakistan Sri Lanka	Dominican Republic Guatemala Iran				
3 0 and over		Sudan Kenya Thailand Philippines	Swaziland Paraguay Jordan Honduras Tunisia Ecuador Syrian Arab Republic El Salvador Southern Rhodesia Algeria Colombia Iraq	Fiji Peru Mongolia Costa Rica Lebanon South Africa Mexico	Panama Réunion Venezuela	Libyan Arab Republic	Kuwait

Source Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, United Nations, *Yearbook of National Accounts Statistics*, and International Bank for Reconstruction and Development, *World Bank Atlas* (Washington, D C)

[a] Within each group, countries are listed in ascending order of *per capita* gross domestic product

Table A.9 Distribution of countries according to rates of growth of population and income, 1961-1970

Annual average rate of increase in population, 1965-1970 (percentage)	*Countries[a] in each population growth group in which the annual average rate of increase in gross domestic product from 1961 to 1970 was*							
	Less than 2.5	*2.5-3.9*	*4.0-4.4*	*4.5-4.9*	*5.0-5.6*	*5.7-6.4*	*6.5-7.9*	*8.0 and over*
Less than 1.0		United Kingdom	Ireland Sweden	Czechoslovakia Norway Austria Denmark Belgium Germany, Federal Republic of	Malta Hungary Italy	Portugal	Finland Bulgaria Greece	Gabon
1.0-1.49	Uruguay	Equatorial Guinea Luxembourg United States	Barbados Switzerland	German Democratic Republic Guinea-Bissau	Netherlands	Cyprus Jamaica France Poland Yugoslavia	Spain USSR	Romania Japan
1.50-1.99	Iceland Cuba	Portuguese Timor New Zealand	Argentina	Gambia	Canada Lesotho		Liberia	
2.0-2.49	Burundi Chad Senegal Haiti Guinea Nepal Somalia Afghanistan	Mali Ghana Republic of Viet-Nam	Chile Morocco Malawi Mozambique Angola Central African Republic	Burma Trinidad and Tobago Namibia Upper Volta Zaire	Ethiopia Australia United Republic of Cameroon	Bolivia Botswana Congo Democratic Republic of Viet-Nam Sierra Leone	Mauritania Ivory Coast	Hong Kong Republic of Korea Guadeloupe Martinique
2.5-2.99	Democratic Yemen Khmer Republic	Laos Mauritius Indonesia	India Niger Guyana Madagascar	Dahomey Yemen Sri Lanka United Republic of Tanzania	Nigeria Rwanda Uganda Bangladesh Dominican Republic Egypt Guatemala Zambia Pakistan	Malaysia Brazil Turkey	Nicaragua Togo Surinam Democratic Republic of Korea	Israel Iran Saudi Arabia Singapore

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(For footnotes, see end of table)

Table A.9 *(continued)*

Annual averate rate of increase in population, 1965-1970 (percentage)	*Countries[a] in each population growth group in which the annual average rate of increase in gross domestic product from 1961 to 1970 was*							
	Less than 2.5	*2.5-3.9*	*4.0-4.4*	*4.5-4.9*	*5.0-5.6*	*5.7-6.4*	*6.5-7.9*	*8.0 and over*
3.0 and over		Sudan Mongolia Algeria	Lebanon	Peru Southern Rhodesia Paraguay	Honduras Tunisia Philippines Venezuela Colombia Jordan Ecuador El Salvador Kenya	Fiji South Africa Syrian Arab Republic Iraq Kuwait	Switzerland Thailand Panama Costa Rica Mexico	Réunion Libyan Arab Republic

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, United Nations. *Yearbook of National Accounts Statistics* and International Bank for Reconstruction and Development. *World Bank Atlas, 1972* (Washington, D C.)

[a] Within each group, countries are listed in ascending order of average annual increase in gross domestic product, 1961-1970.

Table A.10 Distribution of countries according to rates of growth in population and *per capita* gross domestic product, 1961-1970

Annual average rate of increase in population (percentage)	*Countries[a] in each population growth group in which the annual average percentage rate of increase in* per capita *gross domestic product between 1961 and 1970 was*							
	Negative	*0-0.9*	*1.0-1.9*	*2.0-2.9*	*3.0-3.9*	*4.0-4.9*	*5.0-6.9*	*7 and over*
Less than 1				United Kingdom	Sweden Ireland Norway	Denmark Germany, Federal Republic of Czechoslovakia Belgium Austria Italy	Hungary Portugal Malta Finland	Bulgaria Greece Gabon
1.0-1.49		Uruguay		Equatorial Guinea Luxembourg United States	Switzerland Barbados German Democratic Republic Guinea-Bissau	Netherlands Jamaica Cyprus France	Poland Yugoslavia USSR Spain Romania	Japan
1.5-1.99	Iceland Cuba		Portuguese Timor New Zealand	Gambia Argentina	Canada Lesotho		Liberia	
2.0-2.49	Burundi Chad Senegal Haiti Guinea Nepal	Somalia Afghanistan Mali	Republic of Viet-Nam Morocco Malawi	Ghana Chile Mozambique Burma Central African Republic Angola Trinidad and Tobago Namibia Zaire	Ethiopia United Republic of Cameroon Australia Bolivia Congo Botswana Democratic Republic of Viet-Nam	Sierra Leone Mauritania Ivory Coast	Upper Volta Hong Kong Republic of Korea	Guadeloupe Martinique
2.5-2.99	Democratic Yemen Khmer Republic	Laos	Mauritius Niger Indonesia India Madagascar	Rwanda United Republic of Tanzania	Malaysia Brazil Turkey Nicaragua	Togo	Democratic Republic of Korea Surinam Iran	Saudi Arabia Singapore

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(For footnotes, see end of table)

Table A.10 *(continued)*

Annual average rate of increase in population (percentage)	*Countries[a] in each population growth group in which the annual average percentage rate of increase in* per capita *gross domestic product between 1961 and 1970 was*							
	Negative	*0-0.9*	*1.0-1.9*	*2.0-2.9*	*3.0-3.9*	*4.0-4.9*	*5.0-6.9*	*7 and over*
2.5-2.99 *(cont.)*			Yemen Guyana Dahomey	Sri Lanka Uganda Nigeria Zambia Dominican Republic Guatemala Egypt			Israel	
3.0 and over	Kuwait Sudan Mongolia	Algeria	Paraguay Southern Rhodesia Honduras Peru Venezuela Philippines	Tunisia Colombia Jordan Ecuador El Salvador Kenya Fiji South Africa Syrian Arab Republic Costa Rica	Iraq Mexico	Swaziland Thailand Panama		Réunion Libyan Arab Republic

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat and United Nations *Yearbook of National Accounts Statistics*

[a] Within each group, countries are listed in ascending order of rate of increase in *per capita* gross domestic product

Table A.11 Distribution of countries according to rates of population growth and savings ratio, 1968-1970

Average annual rate of increase in population (percentage)	*Countries[a] in each population growth in which the average percentage ratio of national savings to gross domestic product, 1968-1970, was*					
	Less than 10	*10.0-14.99*	*15.0-19.99*	*20.0-24.99*	*25.0-29.99*	*30 and over*
Less than 1		Portugal	Malta Ireland Greece Denmark	United Kingdom Sweden Italy Belgium	Hungary Czechoslovakia Austria Bulgaria Norway Germany, Federal Republic of Finland	Gabon
1.0-1.49	Guinea-Bissau Barbados Uruguay		United States Jamaica Cyprus	Spain German Democratic Republic	Poland France Netherlands USSR	Switzerland Luxembourg Equatorial Guinea Yugoslavia Japan
1.5-1.99	Lesotho	Gambia	Liberia Argentina	Canada Iceland	New Zealand	
2.0-2.49	Botswana Afghanistan Republic of Korea Republic of Viet-Nam Chad Guinea Malawi Senegal Burundi Somalia Mozambique Haiti	Ghana Burma Ethiopia Bolivia Mali Upper Volta Central African Republic Trinidad and Tobago	United Republic of Cameroon Sierra Leone Chile Morocco Angola Hong Kong Mauritania	Namibia Ivory Coast Zaire	Australia Congo	
2.5-2.99	Laos Niger Rwanda Israel Indonesia Egypt Bangladesh Dominican Republic Nigeria Madagascar	Dahomey Togo Khmer Republic Guatemala Nicaragua Pakistan Mauritius India	Sri Lanka United Republic of Tanzania Uganda Brazil Guyana Turkey Iran	Malaysia	Singapore	Zambia Surinam Saudi Arabia

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(For footnotes, see end of table)

Table A.11 *(continued)*

Average annual rate of increase in population (percentage)	*Countries[a] in each population growth group in which the average percentage ratio of national savings to gross domestic product, 1968-1970, was*					
	Less than 10	*10.0-14.99*	*15.0-19.99*	*20.0-24.99*	*25.0-29.99*	*30 and over*
3.0 and over	Réunion Jordan Ecuador	El Salvador Paraguay Syrian Arab Republic Sudan Honduras Peru Tunisia	Fiji Lebanon Philippines Costa Rica Colombia Kenya Mexico Southern Rhodesia	Panama Iraq Thailand Algeria South Africa	Venezuela Swaziland	Libyan Arab Republic Kuwait

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, United Nations, *Yearbook of National Accounts Statistics*, and International Bank for Reconstruction and Development, *World Bank Atlas* (Washington, D C)

[a] Within each group, countries are listed in ascending order of savings ratio

Table A.12 Distribution of countries according to rate of population growth and degree of urbanization, 1970

Annual average rate of increase in population (percentage)	*Countries[a] in each population growth group in which the percentage of population resident in urban areas in 1970 was*						
	Less than 10	*10.0-19.9*	*20.0-29.9*	*30.0-39.9*	*40.0-49.9*	*50.0-69.9*	*70 and over*
Less than 1.0		Gabon		Portugal	Norway Hungary Bulgaria Ireland Greece Czechoslo-vakia	Italy Austria Finland Belgium	Sweden Denmark United Kingdom Germany, Federal Republic of Malta
1.0-1.49		Guinea-Bissau		Equatorial Guinea Yugoslavia Jamaica Romania	Barbados Cyprus Poland	Japan USSR Switzerland Spain Luxembourg France	United States Uruguay German Democratic Republic Netherlands
1.5-1.99	Lesotho	Gambia Liberia Portuguese Timor				Cuba	Iceland Canada New Zealand Argentina
2.0-2.49	Burundi Upper Volta Botswana Nepal Mozambique Malawi Chad Afghanistan Mauritania Ethiopia	Guinea Mali Sierra Leone Angola Zaire Haiti Burma	Somalia United Republic of Cameroon Ivory Coast Republic of Viet-Nam Central African Republic Senegal Congo	Ghana Namibia Morocco Bolivia Republic of Korea Democratic Republic of Viet-Nam	Guadeloupe	Martinique Trinidad and Tobago	Chile Australia Hong Kong
2.5-2.99	Rwanda Yemen United Republic of Tanzania Niger Uganda	Khmer Republic Dahomey Togo Madagascar Laos Indonesia India Sri Lanka	Nigeria Zambia Saudi Arabia Democratic Yemen	Guatemala Guyana Turkey Albania Surinam Democratic Republic of Korea Dominican Republic	Iran Malaysia Mauritius Nicaragua Egypt	Brazil	Israel Singapore

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(For footnotes, see end of table)

Table A.12 *(continued)*

Annual average rate of increase in population (percentage	*Countries[a] in each population growth group in which the percentage of population resident in urban areas in 1970 was*						
	Less than 10	*10.0-19.9*	*20.0-29.9*	*30.0-39.9*	*40.0-49.9*	*50.0-69.9*	*70 and over*
3.0 and over	Swaziland	Sudan Kenya Thailand Southern Rhodesia	Fiji Honduras Libyan Arab Republic Réunion	Philippines Costa Rica Mongolia Paraguay Ecuador	El Salvador Algeria Tunisia Syrian Arab Republic Jordan Panama Iraq	South Africa Peru Kuwait Mexico Colombia Venezuela	

Source. Centre for Development Planning Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations. *Monthly Bulletin of Statistics*

[a] Within each group, countries are listed in ascending order of degree of urbanization

Table A.13 Distribution of countries according to population growth and school enrolment, late 1960s

Average annual rate of increase in population, 1965-1970 (percentage)	*Countries[a] in each population growth group in which the percentage ratio of primary and secondary enrolment to the 5-19 age group[b] in the late 1960s was*						
	Less than 15.0	*15.0-29.9*	*30.0-44.9*	*45.0-59.0*	*60.0-69.9*	*70.0-79.9*	*80.0 and over*
Less than 1.0				Portugal	Italy Czechoslo-vakia Denmark Greece Hungary	Bulgaria Finland Malta Ireland Norway Austria Gabon United Kingdom Sweden Germany, Federal Republic of	Belgium
1.00-1.49	Guinea-Bissau		Ghana	Jamaica	Yugoslavia Spain Uruguay Poland Switzerland Luxembourg	Romania France Barbados Japan Netherlands	USSR United States
1.50-2.19	Upper Volta Ethiopia	Gambia Angola Mozambique	Central African Republic Liberia Botswana	United Republic of Cameroon Lesotho	Iceland Argentina Cuba Trinidad and Tobago Chile	Martinique	New Zealand Australia Canada
2.20-2.49	Somalia Mauritania Afghanistan Mali Chad Nepal	Burundi Guinea Haiti Sierra Leone Malawi Senegal Morocco	Ivory Coast Ghana Burma Bolivia	Zaire Republic of Viet-Nam	Republic of Korea Guadeloupe Hong Kong	Congo	
2.50-2.99	Niger Nigeria	Dahomey Saudi Arabia United Republic of Tanzania Laos Uganda Guatemala India	Rwanda Indonesia Iran Togo Nicaragua Madagascar Egypt Khmer Republic	Zambia Brazil Turkey Dominican Republic Mauritius Sri Lanka	Guyana Albania Israel Singapore		

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(For footnotes, see end of table)

Table A.13 *(continued)*

Average annual rate of increase in population, 1965-1970 (percentage)	*Countries[a] in each population growth group in which the percentage ratio of primary and secondary enrolment to the 5-19 age group[b] in the late 1960s was*						
	Less than 15.0	*15.0-29.9*	*30.0-44.9*	*45.0-59.0*	*60.0-69.9*	*70.0-79.9*	*80.0 and over*
3.00 and over	Sudan		Algeria Iraq Kenya Colombia Jordan Thailand Honduras Southern Rhodesia	El Salvador Mongolia Swaziland Syrian Arab Republic Ecuador Mexico Paraguay Venezuela Libyan Arab Republic Philippines Kuwait Tunisia Costa Rica Peru Panama	Fiji	Réunion	

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations Educational, Scientific and Cultural Organization, *Statistical Yearbook* (Paris)

[a] Within each group, countries are listed in ascending order of enrolment ratio

[b] The ratio of school enrolment around the academic year 1968 to estimated population in the 5-19 age bracket

Table A.14 Distribution of countries according to population growth and female school enrolment ratio, 1970

Average annual rate of increase of population (percentage)	*Countries[a] in each population growth group in which the percentage ratio of females to males in primary and secondary school enrolment in 1970 was*				
	Less than 50	*50-69*	*70-84*	*85-94*	*95 and over*
Less than 1		Belgium	Greece	Gabon Hungary Italy Portugal Malta Austria Germany, Federal Republic of Norway	United Kingdom Denmark Finland Sweden Ireland Czechoslovakia
1.0-1.49		Equatorial Guinea		Switzerland Spain Cyprus Netherlands Romania Luxembourg Jamaica	Japan German Democratic Republic Guinea-Bissau Barbados Poland France Uruguay Yugoslavia
1.5-1.99	Portuguese Timor Gambia Liberia			Argentina Canada New Zealand	Cuba Lesotho
2.0-2.49	Afghanistan Nepal Chad Somalia Mauritania Mali Guinea Ethiopia Central African Republic Burundi Morocco	Mozambique Ivory Coast Upper Volta Senegal Angola Zaire Sierra Leone Malawi	United Republic of Cameroon Bolivia Congo Ghana Haiti Republic of Viet-Nam Republic of Korea	Hong Kong Australia Trinidad and Tobago	Chile Martinique Guadeloupe Botswana
2.5-2.99	Yemen Democratic Yemen Saudi Arabia Togo Dahomey India Niger	Iran Egypt Laos Nigeria Khmer Republic United Republic of Tanzania Uganda Turkey	Rwanda Zambia Malaysia Guatemala Madagascar	Mauritius Albania Singapore	Surinam Guyana Israel Dominican Republic Brazil Nicaragua

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(For footnotes, see end of table)

Table A.14 *(continued)*

Average annual rate of increase of population (percentage)	*Countries[a] in each population growth group in which the percentage ratio of females to males in primary and secondary school enrolment in 1970 was*				
	Less than 50	*50-69*	*70-84*	*85-94*	*95 and over*
3.0 and over	Iraq Sudan Libyan Arab Republic	Algeria Tunisia Kenya Jordan	Kuwait Peru	Syrian Arab Republic Thailand Mexico El Salvador Fiji Paraguay Ecuador Swaziland Philippines	Costa Rica Panama Honduras Venezuela Colombia Réunion

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations Educational, Scientific and Cultural Organization, *Statistical Yearbook* (Paris).

[a] Within each group, countries are listed in ascending order of the ratio of female to male enrolment.

Table A.15 Distribution of countries according to rate of population growth and *per capita* calorie consumption, 1965-1970

Average annual increase in population, 1965-1970 (percentage)	*Countries*[a] *in each population growth group in which average daily availability of food calories* per capita *between 1965 and 1970 was*					
	Less than 2000	*2000-2299*	*2300-2599*	*2600-2899*	*2900-3199*	*3200 and over*
Less than 1		Gabon		Malta Sweden	Greece Portugal Finland Norway Italy Czechoslovakia Bulgaria United Kingdom Germany, Federal Republic of Hungary	Belgium Austria Denmark Ireland
1.0-1.49		Jamaica	Barbados Cyprus Japan	Uruguay Spain	Romania German Democratic Republic Yugoslavia Poland USSR Switzerland	Netherlands Luxembourg France United States
1.5-1.99		Liberia	Gambia Cuba		Iceland Argentina	Canada New Zealand
2.0-2.49	Bolivia Somalia Angola Haiti Ethiopia Mauritania	Democratic Republic of Viet-Nam Burma Nepal Zaire Afghanistan Guinea Upper Volta Ghana Mozambique Mali Morocco Sierra Leone Congo Central African Republic Republic of Viet-Nam	Senegal Burundi Trinidad and Tobago Hong Kong Malawi Ivory Coast Republic of Korea Chile		Australia	

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(For footnotes, see end of table)

Table A.15 *(continued)*

Average annual increase in population, 1965-1970 (percentage)	*Countries[a] in each population growth group in which average daily availability of food calories* per capita *between 1965 and 1970 was*					
	Less than 2000	*2000-2299*	*2300-2599*	*2600-2899*	*2900-3199*	*3200 and over*
2.0-2.49 *(cont.)*		United Republic of Cameroon Chad				
2.5-2.99	United Republic of Tanzania Rwanda Yemen Indonesia India	Guatemala Democratic Yemen Iran Laos Dominican Republic Saudi Arabia Guyana Dahomey Niger Togo Khmer Republic Madagascar Uganda Zambia Democratic Republic of Korea Nigeria	Surinam Nicaragua Sri Lanka Malaysia Albania Mauritius Singapore	Turkey Egypt Brazil	Israel	
3.0 and over	El Salvador Algeria Ecuador	Philippines Iraq Sudan Colombia Kenya Honduras Tunisia Thailand Peru	Costa Rica Panama Jordan Venezuela Syrian Arab Republic Paraguay Mongolia Southern Rhodesia	Mexico Libyan Arab Republic South Africa		

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations, *Statistical Yearbook*

[a] Within each group, countries are listed in ascending order of calorie consumption

Table A.16 Distribution of countries according to rate of population growth and *per capita* protein consumption, 1965-1970

Average annual increase in population, 1965-1970 (percentage)	*Countries[a] in each population growth group in which average daily availability of protein (grammes) between 1965 and 1970 was*					
	Less than 50	*50-59*	*60-69*	*70-79*	*80-89*	*90 and over*
Less than 1		Gabon			Sweden Norway Portugal Czechoslovakia Germany, Federal Republic of Malta Austria United Kingdom Italy Denmark	Finland Bulgaria Belgium Ireland Hungary Greece
1.0-1.49		Jamaica		Barbados German Democratic Republic Japan Cyprus	Spain Netherlands Switzerland Romania	Uruguay Luxembourg Yugoslavia USSR Poland United States France
1.5-1.99	Liberia		Gambia Cuba			Canada Iceland Argentina New Zealand
2.0-2.49	Zaire Congo Angola Mozambique Ghana Burma Guinea Democratic Republic of Viet-Nam Bolivia Haiti Central African Republic Sierra Leone Republic of Viet-Nam	Nepal Somalia Morocco Ivory Coast United Republic of Cameroon	Burundi Malawi Senegal Trinidad and Tobago Hong Kong Afghanistan Chile Ethiopia Mali	Upper Volta Republic of Korea Mauritania Chad		Australia

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(For footnotes, see end of table)

Table A.16 *(continued)*

Average annual increase in population 1965-1970 (percentage)	*Countries*[a] *in each population growth group in which average daily availability of protein (grammes) between 1965 and 1970 was*					
	Less than 50	*50-59*	*60-69*	*70-79*	*80-89*	*90 and over*
2.5-2.99	Indonesia United Republic of Tanzania Laos Guyana India Sri Lanka	Mauritius Guatemala Dominican Republic Togo Madagascar Dahomey Malaysia Iran Saudi Arabia Yemen Uganda Rwanda Surinam Khmer Republic	Nigeria Nicaragua Singapore Brazil Democratic Yemen Zambia	Albania Democratic Republic of Korea Niger Turkey	Egypt	Israel
3.0 and over	El Salvador Ecuador	Colombia Thailand Philippines Honduras Peru Algeria Iraq Panama Sudan	Venezuela Costa Rica Tunisia Jordan Paraguay Mexico Libyan Arab Republic Kenya Syrian Arab Republic	Southern Rhodesia South Africa		Mongolia

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat and United Nations, *Statistical Yearbook*

[a] Within each group countries are listed in ascending order of protein consumption

Table A.17 **Distribution of countries according to rate of population growth and *per capita* food imports, 1970**

Average annual rate of increase in population, 1965-1970 (percentage)	*Countries[a] in each group in which the annual average value of* per capita *imports[b] of food[c] between 1967 and 1971[d] was (dollars)*				
	Less than 5.00	*5.00-14.99*	*15.00-39.99*	*40.00-79.99*	*80 and over*
Less than 1.00		Gabon	Hungary Portugal Greece Finland Austria Denmark	Italy Norway Ireland Sweden Germany, Federal Republic of United Kingdom	Belgium-Luxembourg[e]
1.00-1.99	Argentina	Yugoslavia Spain	New Zealand United States Japan France Canada	Iceland	Netherlands Switzerland Barbados Netherlands Antilles
2.00-2.49	Mali Upper Volta Malawi Chad Central African Republic Zaire United Republic of Cameroon	Ghana Republic of Viet-Nam Australia Congo Republic of Korea Ivory Coast Mauritania Senegal	Chile Trinidad and Tobago	Guadeloupe	Martinique Hong Kong
2.50-2.99	India Indonesia Turkey Niger Dahomey Madagascar Brazil Togo Egypt	Guatemala Laos Iran Nicaragua Zambia Sri Lanka	Western Samoa	Israel	Singapore
3.00 and over	Thailand Pakistan[f] Colombia Mexico Philippines	El Salvador Honduras Tunisia	Costa Rica Panama Jordan Lebanon	Fiji Libyan Arab Republic	Brunei Réunion

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations *Commodity Trade Statistics*, Series D, various issues.

a Within each group, countries are listed in ascending order of *per capita* food imports.

b Imports are valued c.i.f. except for the United States, for which the figure represents the f.o.b. value plus 10 per cent.

c Food consists of the following SITC divisions: 00 (live animals), 01 (meat), 02 (dairy products and eggs), 03 (fish), 04 (cereals), 05 (fruits and vegetables), 06 (sugar and honey), 09 (miscellaneous food preparations), 41 (animal oils and fats) and 42 (fixed vegetable oils and fats).

d 1968-1970 in some cases and for less than three years in a few.

e Belgium and Luxembourg combined to conform to the trade data.

f Pakistan here refers to the pre-1971 region, including the present areas of Pakistan and Bangladesh.

Table A.18 **Distribution of countries according to working age ratio and *per capita* income, 1970**

Proportion of population in 15-64 age group (percentage)	*Countries[a] in each size structure group in which GDP* per capita *in 1970 was*						
	Less than 100	*100-199*	*200-399*	*400-699*	*700-999*	*1000-2499*	*2500 and over*
Less than 50		Uganda Kenya	Morocco Ghana Algeria Dominican Republic	Nicaragua Costa Rica	Jamaica Surinam		
50.0-52.9	Rwanda Bangladesh Malawi Somalia Dahomey Niger United Republic of Tanzania	Khmer Republic Sudan Madagascar Nigeria Togo Pakistan Thailand Philippines	Swaziland Paraguay Jordan Honduras Tunisia Ecuador Syrian Arab Republic El Salvador Southern Rhodesia Democratic Republic of Korea Colombia Guyana Iraq Guatemala Iran	Zambia Peru Lebanon Barbados Mexico	Panama Réunion Venezuela	Libyan Arab Republic	
53.0-55.9	Yemen Mali Burundi Upper Volta Chad Ethiopia Guinea Indonesia Nepal Afghanistan Haiti India	Democratic Republic of Viet-Nam Laos Democratic Yemen Zaire Gambia Botswana Central African Republic Mauritania Sierra Leone Sri Lanka United Republic of Cameroon Senegal	Egypt Bolivia Mauritius Congo Republic of Korea Angola Republic of Viet-Nam Ivory Coast Malaysia Turkey	Fiji Brazil Mongolia Albania South Africa Saudi Arabia	Chile Martinique Trinidad and Tobago		Kuwait

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(For footnotes, see end of table)

Table A.18 *(continued)*

Proportion of of population in 15-64 age group (percentage)	*Countries[a] in each size structure group in which GDP* per capita *was*						
	Less than 100	*100-199*	*200-399*	*400-699*	*700-999*	*1000-2499*	*2500 and over*
56.0-59.9	Lesotho Burma		Mozambique Liberia	Namibia	Hong Kong Singapore	Ireland New Zealand Iceland USSR	
60.0-62.9			Equatorial Guinea	Cuba Portugal Gabon	Cyprus Spain	Israel Austria United Kingdom Netherlands	Norway German Democratic Republic Australia France Canada United States
63.0 and over				Yugoslavia	Malta Bulgaria Uruguay Romania	Greece Argentina Poland Hungary Italy Japan Finland Czechoslo-vakia	Belgium Luxembourg Germany, Federal Republic of Switzerland Denmark Sweden

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, United Nations, *Yearbook of National Accounts Statistics* and *Monthly Bulletin of Statistics*, and International Bank for Reconstruction and Development, *World Bank Atlas* (Washington, D.C.)

[a] Within each group, countries are listed in ascending order of *per capita* income

Table A.19 Distribution of countries according to youthfulness and *per capita* income, 1970

Proportion of population in 0-14 age bracket (percentage)	*Countries[a] in each age structure group in which* per capita *gross domestic product in 1970 was (dollars)*						
	Less than 100	*100-199*	*200-399*	*400-699*	*700-999*	*1 000-2499*	*2500 and over*
Less than 25					Bulgaria	Greece Hungary Italy Japan Austria United Kingdom Finland Czechoslovakia	German Democratic Republic Belgium France Norway Luxembourg Germany, Federal Republic of Switzerland Denmark Sweden
25-34.9			Equatorial Guinea	Cuba Portugal Yugoslavia Gabon	Malta Uruguay Cyprus Romania Spain	Argentina Ireland Poland USSR Israel New Zealand Iceland Netherlands	Australia Canada United States
35-41.9	Ethiopia Lesotho Burma India	Democratic Republic of Viet-Nam Gambia Botswana Sri Lanka United Republic of Cameroon	Mauritius Congo Mozambique Republic of Korea Republic of Viet-Nam Liberia Turkey	Namibia South Africa	Mauritania Chile Hong Kong Martinique Trinidad and Tobago Singapore		
42-43.9	Mali Upper Volta Burundi Guinea Nepal Afghanistan Haiti	Laos Zaire Central African Republic Sierra Leone Senegal	Egypt Bolivia Angola Ivory Coast	Brazil Mongolia Lebanon Albania Barbados	Panama		Kuwait

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(For footnotes, see end of table)

Table A.19 *(continued)*

Proportion of population in age bracket 0-14 (percentage)	*Countries*[a] *in each age structure group in which* per capita *gross domestic product in 1970 was (dollars)*						
	Less than 100	*100-199*	*200-399*	*400-699*	*700-999*	*1000-2499*	*2500 and over*
44-45.9	Yemen Chad Malawi Indonesia Dahomey United Republic of Tanzania	Khmer Republic Sudan Democratic Yemen Madagascar Nigeria Togo Thailand	Tunisia Democratic Republic of Korea Malaysia Guyana Guatemala Iran	Fiji Peru Saudi Arabia	Réunion Venezuela	Libyan Arab Republic	
46 and over	Rwanda Bangladesh Somalia Niger	Uganda Kenya Pakistan Philippines	Morocco Swaziland Paraguay Jordan Ghana Honduras Ecuador Syrian Arab Republic El Salvador Southern Rhodesia Algeria Colombia Iraq Dominican Republic	Zambia Nicaragua Costa Rica Mexico	Jamaica Surinam		

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates by the Population Division of the United Nations Secretariat, United Nations, *Yearbook of National Accounts Statistics*, and International Bank for Reconstruction and Development, *World Bank Atlas* (Washington, D.C.).

[a] Within each group, countries are listed in ascending order of *per capita* gross domestic product.

Table A.20 Distribution of countries according to working age ratio and savings ratio, 1970

Proportion of population in 15-64 age group (percentage)	*Countries[a] in each age structure group in which the average percentage ratio of national savings to gross national product in 1968-1970 was*					
	Less than 10	*10.0-14.9*	*15.0-19.9*	*20.0-24.9*	*25.0-29.9*	*30.0 and over*
Less than 50	Dominican Republic	Ghana Nicaragua	Morocco Uganda Costa Rica Kenya Jamaica	Algeria		Surinam
50.0-52.9	Réunion Jordan Niger Rwanda Malawi Barbados Somalia Bangladesh Nigeria Equador Madagascar	Dahomey El Salvador Paraguay Togo Khmer Republic Guatemala Syrian Arab Republic Sudan Pakistan Honduras Peru Tunisia	United Republic of Tanzania Lebanon Guyana Philippines Colombia Iran Mexico Southern Rhodesia	Panama Iraq Thailand	Venezuela Swaziland	Zambia Libyan Arab Republic
53.0-55.9	Botswana Laos Afghanistan Republic of Viet-Nam Republic of Korea Chad Guinea Senegal Indonesia Burundi Egypt Haiti	Ethiopia Bolivia Mali Upper Volta Central African Republic Gambia Mauritius Trinidad and Tobago India	Fiji United Republic of Cameroon Sierra Leone Sri Lanka Chile Brazil Angola Turkey Mauritania	Malaysia South Africa Ivory Coast Zaire	Congo	Kuwait Saudi Arabia
56.0-59.9	Lesotho Guinea-Bissau Mozambique	Burma	Hong Kong Liberia Ireland	Namibia Iceland	New Zealand Singapore USSR	
60.0-62.9	Israel	Portugal	United States Cyprus	United Kingdom Spain German Democratic Republic Canada	Australia France Netherlands Austria Norway	Equatorial Guinea Gabon

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(For footnotes, see end of table)

Table A.20 *(continued)*

Proportion of population in 15-64 age group (percentage)	*Countries[a] in each age structure group in which the average percentage ratio of national savings to gross national product in 1968-1970 was*					
	Less than 10	*10.0-14.9*	*15.0-19.9*	*20.0-24.9*	*25.0-29.9*	*30.0 and over*
63.0 and over	Uruguay		Malta Greece Argentina Denmark	Sweden Italy Belgium	Hungary Poland Czechoslo- vakia Bulgaria Germany, Federal Republic of Finland	Switzerland Luxembourg Yugoslavia Japan

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations, *Yearbook of National Accounts Statistics*

[a] Within each group, countries are listed in ascending order of savings ratio

Table A.21 Distribution of countries according to working age ratio and rate of growth of production, 1970

Proportion of population in 15-64 age group (percentage)	*Countries[a] in each age structure group in which the average annual rate of increase in GDP between 1961 and 1970 was*							
	Less than 2.5	*2.5-3.9*	*4.0-4.4*	*4.5-4.9*	*5.0-5.5*	*5.6-6.2*	*6.3-7.9*	*8.0 and over*
Less than 50.0		Ghana Algeria	Morocco		Uganda Dominican Republic	Kenya Jamaica	Costa Rica Nicaragua Surinam	
50-50.9			Guyana	Paraguay Southern Rhodesia	Honduras Colombia Jordan Ecuador	El Salvador Pakistan Syrian Arab Republic	Iraq Mexico Swaziland	Iran
51.0-52.4	Somalia	Sudan	Niger Barbados Lebanon Madagascar	Peru	Rwanda Tunisia Philippines Venezuela Bangladesh Guatemala Zambia		Thailand	Réunion Lybian Arab Republic
52.5-53.4	Chad Khmer Republic Democratic Yemen	Mali Mongolia Indonesia	Malawi	Dahomey Yemen United Republic of Tanzania	Nigeria	Fiji Malaysia	Togo Democratic Republic of Korea Panama	Saudi Arabia Martinique
53.5-54.9	Senegal Haiti Burundi Guinea Nepal Afghanistan	Laos Republic of Viet-Nam Mauritius	India Central African Republic	Sri Lanka Upper Volta	Egypt	Bolivia Democratic Republic of Viet-Nam Kuwait	Brazil Turkey Sierra Leone Mauritania Ivory Coast	Guadeloupe
55.0-59.9	Iceland	Portuguese Timor New Zealand	Chile Ireland Mozambique Angola	Burma Gambia Trinidad and Tobago Namibia Guinea-Bissau Zaire	Ethiopia United Republic of Cameroon	Lesotho South Africa Botswana Congo	Liberia USSR	Hong Kong Republic of Korea Singapore

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(For footnotes, see end of table)

Table A.21 *(continued)*

Proportion of population in 15-64 age group (percentage)	*Countries[a] in each age structure group in which the average annual rate of increase in GDP between 1961 and 1970 was*							
	Less than 2.5	*2.5-3.9*	*4.0-4.4*	*4.5-4.9*	*5.0-5.5*	*5.6-6.2*	*6.3-7.9*	*8.0 and over*
60.0-64.9	Uruguay Cuba	United Kingdom Equatorial Guinea Luxembourg United States	Argentina	German Democratic Republic Norway Austria Denmark Belgium Germany, Federal Republic of	Canada Australia Malta Netherlands	Cyprus France Portugal Yugoslavia	Spain Greece	Israel Gabon
65.0 and over			Sweden Switzerland	Czechoslo-vakia	Hungary	Italy Poland	Finland Bulgaria	Romania Japan

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations, *Yearbook of National Accounts Statistics*

[a] Within each group, countries are listed in ascending order of 1961-1970 gross domestic product growth rate

Table A.22 Distribution of countries according to school age ratio and educational expenditure, late 1960s

Proportion of population in 5-19 age bracket (percentage)	*Countries[a] in each school age structure group in which the ratio of public expenditure on education to gross domestic product in the late 1960s was*					
	Less than 2	*2.0-2.9*	*3.0-3.9*	*4.0-4.9*	*5.0-5.9*	*6 and over*
Less than 25		Greece	Germany, Federal Republic of	Japan Switzerland Italy Hungary Bulgaria Austria German Democratic Republic	Luxembourg Belgium United Kingdom	Norway Sweden
25-29	Portugal	Uruguay Spain Argentina		Australia France Czechoslovakia Ireland	Yugoslavia Poland United States	Denmark Finland Netherlands
30-34	Republic of Viet-Nam Ethiopia	Liberia Cyprus	Burma United Republic of Cameroon Kuwait Gabon	New Zealand Iceland	Malta	Israel Cuba Canada
35-37	Nepal Angola Haiti Burundi Niger Guadeloupe	Nigeria India Lebanon Sierra Leone	Brazil Hong Kong Bolivia Jordan Libyan Arab Republic Uganda Sri Lanka Zaire United Republic of Tanzania Senegal	Malawi Dahomey Saudi Arabia Chile Panama Mali Egypt Sudan	Ivory Coast	Zambia Congo Guinea Madagascar
38-39	Guatemala Colombia Togo	Paraguay Pakistan[b] El Salvador Iran	Philippines Mauritius Honduras Turkey Thailand Trinidad and Tobago Republic of Korea	Singapore Ecuador Swaziland Peru Jamaica Syrian Arab Republic Venezuela Khmer Republic Kenya	Iraq Tunisia	Barbados Algeria Martinique

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(For footnotes, see end of table)

Table A.22 *(continued)*

Proportion of population in 5-19 age bracket (percentage)	*Countries[a] in each school age structure group in which the ratio of public expenditure on education to gross domestic product in the late 1960s was*					
	Less than 2	*2.0-2.9*	*3.0-3.9*	*4.0-4.9*	*5.0-5.9*	*6 and over*
40 and over		Somalia Mexico Nicaragua Dominican Republic	Ghana Southern Rhodesia	Morocco Guyana	Malaysia[c]	Costa Rica

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations Educational, Scientific and Cultural Organization, *Statistical Yearbook* (Paris).

[a] Within each group, countries are listed in ascending order of ratio of public expenditure on education to gross domestic product.
[b] Refers to Pakistan as it existed before 1971.
[c] West Malaysia only.

Table A.23 **Distribution of countries according to population size and growth rate, 1970**

Population size (millions)	*Countries[a] in which the average annual percentage rate of increase in population in 1970 was*					
	Less than 1	*1.0-1.49*	*1.5-1.99*	*2.0-2.49*	*2.5-2.99*	*3.0 and over*
Less than 1	Malta Gabon	Cyprus Guinea-Bissau Luxembourg Equatorial Guinea	Iceland Gambia	Namibia Martinique Botswana Congo Guadeloupe	Mauritius Guyana Surinam	Lebanon Swaziland Réunion Fiji Kuwait
1.0-4.9	Finland Ireland Denmark Norway	Jamaica Uruguay	New Zealand Liberia Lesotho	Trinidad and Tobago Central African Republic Mauritania Somalia Guinea Sierra Leone Burundi Chad Hong Kong Ivory Coast Malawi Senegal Bolivia	Togo Israel Laos Dahomey Singapore Albania Democratic Yemen Niger Rwanda Zambia Dominican Republic Nicaragua	Libyan Arab Republic Panama Mongolia Jordan Honduras El Salvador Paraguay Costa Rica
5.0-9.9	Austria Greece Belgium Bulgaria Portugal Sweden	Switzerland	Cuba	Chile Angola United Republic of Cameroon Upper Volta Mozambique Haiti Mali Ghana	Madagascar Uganda Guatemala Saudi Arabia Yemen Khmer Republic	Tunisia Syrian Arab Republic Southern Rhodesia Ecuador Iraq
10.0-24.9	Hungary Czechoslovakia	Yugoslavia German Democratic Republic Netherlands Romania	Argentina Canada	Australia Nepal Zaire Democratic Republic of Viet-Nam Republic of Viet-Nam Morocco Afghanistan	Sri Lanka United Republic of Tanzania Malaysia Democratic Republic of Korea	South Africa Sudan Peru Algeria Kenya Colombia Venezuela

(Table continued on following page)

(For footnotes, see end of table)

Table A.23 *(continued)*

Population size (millions)	*Countries[a] in which the average annual percentage rate of increase in population in 1970 was*					
	Less than 1	*1.0-1.49*	*1.5-1.99*	*2.0-2.49*	*2.5-2.99*	*3.0 and over*
25.0-49.9		Poland Spain		Ethiopia Burma Republic of Korea	Turkey Egypt Iran	Philippines Thailand Mexico
50 and over	United Kingdom Italy Germany, Federal Republic of	France Japan United States USSR			Nigeria India Bangladesh Indonesia Brazil Pakistan	

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports and estimates of the Population Division of the United Nations Secretariat

[a] Within each group, countries are listed in ascending order of population growth rate

Table A.24 **Distribution of countries according to population size and *per capita* gross domestic product, 1970**

Size of population (millions)	*Countries[a] in each size group with* per capita *gross domestic product in 1970 of (dollars)*							
	Less than 100	*100-199*	*200-299*	*300-499*	*500-699*	*700-999*	*1 000-2499*	*2500 and over*
Less than 1.0	Bhutan Maldives	Gambia Botswana	Mauritius Swaziland Congo Equatorial Guinea	Oman Guyana Fiji	Bahrain Namibia Barbados Gabon	Malta Martinique Réunion Surinam Cyprus	Iceland Bahamas	Qatar Luxembourg Kuwait
1.0-4.9	Rwanda Chad Malawi Lesotho Burundi Guinea Somalia Dahomey Niger	Laos Democratic Yemen Central African Republic Togo Sierra Leone Senegal	Bolivia Paraguay Jordan Honduras El Salvador	Ivory Coast Liberia Dominican Republic Zambia Nicaragua Mongolia	Costa Rica Lebanon Albania	Panama Jamaica Hong Kong Mauritania Uruguay Trinidad and Tobago Singapore	Ireland Israel Libyan Arab Republic New Zealand Finland	Norway Denmark
5.0-9.9	Yemen Mali Upper Volta Haiti	Khmer Republic Madagascar Uganda United Republic of Cameroon	Mozambique Ghana Ecuador Syrian Arab Republic Tunisia Angola Southern Rhodesia	Iraq Guatemala	Cuba Portugal Saudi Arabia	Chile Bulgaria	Greece Austria	Belgium Switzerland Sweden
10.0-24.9	Nepal Afghanistan United Republic of Tanzania	Democratic Republic of Viet-Nam Sudan Zaire Kenya Sri Lanka	Morocco	Algeria Republic of Viet-Nam Democratic Republic of Korea Malaysia Colombia Peru	South Africa Yugoslavia	Hungary Romania Venezuela	Argentina Czechoslovakia Netherlands	German Democratic Republic Australia Canada
25.0-49.9	Ethiopia Burma	Thailand Philippines	Egypt Republic of Korea	Turkey Iran	Mexico	Spain	Poland	

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(For footnotes, see end of table)

Table A.24 *(continued)*

Size of population (millions)	*Countries*[a] *in each size group with* per capita *gross domestic product in 1970 of (dollars)*							
	Less than 100	*100-199*	*200-299*	*300-499*	*500-699*	*700-999*	*1000-2499*	*2500 and over*
50.0 and over	Bangladesh Indonesia India	Nigeria Pakistan		Brazil			Italy USSR Japan	United Kingdom France Germany, Federal Republic of United States

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations *Yearbook of National Accounts Statistics* and *Demographic Yearbook*

[a] Within each group, countries are listed in ascending order of *per capita* gross domestic product

Table A.25 Distribution of countries according to size of population and rate of growth of production, 1970

Population size (millions)	*Countries[a] in each size group with an annual average 1961-1970 rate of increase in GDP of*							
	Less than 2.5	*2.5-3.9*	*4.0-4.4*	*4.5-4.9*	*5.0-5.5*	*5.6-6.4*	*6.5-7.9*	*8.0 and over*
Less than 1.0	Iceland Bhutan Maldives	Portuguese Timor Equatorial Guinea Mauritius Luxem-bourg	Barbados Guyana	Gambia Namibia Guinea-Bissau	Malta	Cyprus Fiji Botswana Congo Kuwait	Surinam Swaziland Bahamas	Qatar Bahrain Gabon Guade-loupe Réunion Martinique Oman
1.0-4.9	Democratic Yemen Chad Senegal Uruguay Burundi Guinea Somalia	Laos Mongolia New Zealand	Niger Ireland Malawi Central African Republic Lebanon	Dahomey Trinidad and Tobago Norway Paraguay Denmark	Honduras Rwanda Jordan Dominican Republic Zambia	El Salvador Lesotho Jamaica Bolivia Sierra Leone	Liberia Costa Rica Finland Mauritania Nicaragua Togo Ivory Coast Panama	Hong Kong Israel Singapore Libyan Arab Republic
5.0-9.9	Haiti Cuba Khmer Republic	Mali Ghana	Chile Mozambique Angola Madagascar Sweden Switzerland	Yemen Austria Southern Rhodesia Upper Volta Belgium	Tunisia Uganda United Republic of Cameroon Ecuador Guatemala	Portugal Syrian Arab Republic Iraq	Bulgaria Greece	Saudi Arabia
10.0-24.9	Nepal Afghanistan	Sudan Algeria Republic of Viet-Nam	Morocco Argentina	German Demo-cratic Republic Czecho-slovakia Peru Sri Lanka United Republic of Tanzania Zaire	Canada Australia Venezuela Colombia Hungary Nether-lands	Kenya Malaysia South Africa Democratic Republic of Viet-Nam Yugoslavia	Democratic Republic of Korea	Romania
25.0-49.9				Burma	Ethiopia Philippines Egypt	Poland Turkey	Mexico Spain Thailand	Iran Republic of Korea

(Table continued on following page)

(For footnotes, see end of table)

Table A.25 *(continued)*

Population size (millions)	*Countries[a] in each size group with an annual average 1961-1970 rate of increase in GDP of*							
	Less than 2.5	*2.5-3.9*	*4.0-4.4*	*4.5-4.9*	*5.0-5.5*	*5.6-6.4*	*6.5-7.9*	*8.0 and over*
50.0 and over		United Kingdom Indonesia United States	India	Germany, Federal Republic of	Nigeria Pakistan	Italy France Brazil	USSR	Japan

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, United Nations, *Yearbook of National Accounts Statistics* and International Bank for Reconstruction and Development, *World Bank Atlas* (Washington, D C.)

[a] Within each group, countries are listed in ascending order of rate of growth of production

Table A.26 Distribution of countries according to size of population and rate of increase in *per capita* production, 1961-1970

Population size, 1970 (millions)	*Countries[a] in each size group in which the annual average percentage rate of increase in* per capita *GDP between 1961 and 1970 was*							
	Negative	*0-0.9*	*1.0-1.9*	*2.0-2.9*	*3.0-3.9*	*4.0-4.9*	*5.0-6.9*	*7.0 and over*
Less than 1	Kuwait Mauritius		Guyana Luxem-bourg Portuguese Timor	Iceland Equatorial Guinea Fiji Namibia Gambia Barbados	Guinea-Bissau Botswana Congo	Swaziland Surinam Cyprus	Malta	Guadeloupe Gabon Réunion Martinique
1.0-4.9	Democratic Yemen Burundi Chad Senegal Mongolia Guinea	Somalia Paraguay Uruguay Laos	Honduras Bolivia Niger New Zealand El Salvador Malawi Dahomey	Rwanda Central African Republic Dominican Republic Ireland	Costa Rica Zambia Togo Sierra Leone Jordan Panama Norway Lesotho Nicaragua Denmark Trinidad and Tobago	Mauritania Ivory Coast	Jamaica Finland Israel Hong Kong Liberia	Singapore Libyan Arab Republic
5.0-9.9	Haiti Khmer Republic	Mali Madagascar	Tunisia Chile Uganda Yemen Ecuador	Syrian Arab Republic Southern Rhodesia Guatemala Angola Mozambique Ghana Upper Volta Switzerland	Sweden United Republic of Cameroon Belgium Cuba	Iraq Austria Portugal	Greece	Saudi Arabia Bulgaria
10.0-24.9	Nepal	Sudan Afghanistan	Republic of Viet-Nam Morocco Argentina Algeria	South Africa United Republic of Tanzania Venezuela Malaysia	Canada German Demo-cratic Republic Democratic Republic of Viet-Nam	Netherlands Czechoslo-vakia	Democratic Republic of Korea Hungary Yugoslavia Romania	

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(For footnotes, see end of table)

Table A.26 *(continued)*

Population size, 1970 (millions)	*Countries[a] in each size group in which the annual average percentage rate of increase in* per capita *GDP between 1961 and 1970 was*							
	Negative	*0-09*	*1.0-1.9*	*2.0-2.9*	*3.0-3.9*	*4.0-4.9*	*5.0-6.9*	*7.0 and over*
10.0-24.9 *(cont.)*			Zaire Kenya Colombia Peru Sri Lanka	Australia				
25.0-49.9				Egypt Philippines Ethiopia Thailand Burma	Mexico Turkey	Iran Spain	Poland Republic of Korea	
50.0 and over			Indonesia India	United Kingdom United States Bangladesh Pakistan	Nigeria Brazil	Germany, Federal Republic of Italy France	USSR	Japan

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Secretariat, and United Nations, *Yearbook of National Accounts Statistics*

[a] Within each group, countries are listed in ascending order of rate of increase in *per capita* gross domestic product.

Table A.27 Distribution of countries according to population and savings ratio, 1968-1970

Population size (millions)	*Countries[a] in each size group in which the ratio of national savings to gross national product was*					
	Less than 10	*10.0-14.99*	*15.0-19.99*	*20.0-24.99*	*25.0-29.99*	*30.0 and over*
Less than 1	Botswana Guinea-Bissau Réunion Barbados	Mauritius Gambia	Fiji Malta Guyana Cyprus	Namibia Iceland	Congo Swaziland	Luxembourg Equatorial Guinea Gabon Kuwait Surinam
1.0-4.9	Lesotho Laos Jordan Chad Niger Rwanda Guinea Malawi Israel Senegal Burundi Somalia Uruguay Dominican Republic	Dahomey El Salvador Paraguay Togo Nicaragua Bolivia Honduras Central African Republic Trinidad and Tobago	Sierra Leone Lebanon Hong Kong Costa Rica Liberia Jamaica Ireland Mauritania Denmark	Panama Ivory Coast	New Zealand Singapore Norway Finland	Zambia Libyan Arab Republic
5.0-9.9	Mozambique Haiti Ecuador Madagascar	Ghana Khmer Republic Guatemala Syrian Arab Republic Mali Upper Volta Portugal Tunisia	United Republic of Cameroon Chile Uganda Angola Greece Southern Rhodesia	Iraq Sweden Belgium	Austria Bulgaria	Switzerland Saudi Arabia
10.0-24.9	Afghanistan Republic of Viet-Nam	Sudan Peru	Sri Lanka Morocco United Republic of Tanzania Colombia Kenya Argentina	Malaysia German Democratic Republic Canada Algeria South Africa Zaire	Hungary Venezuela Australia Czechoslovakia Netherlands	Yugoslavia

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(For footnotes, see end of table)

Table A.27 *(continued)*

Population size (millions)	*Countries[a] in each size group in which the ratio of national savings to gross national product was*					
	Less than 10	*10.0-14.99*	*15.0-19.99*	*20.0-24.99*	*25.0-29.99*	*30.0 and over*
25.0-49.9	Egypt	Burma Ethiopia	Turkey Philippines Republic of Korea Iran Mexico	Spain Thailand	Poland	
50.0 and over	Indonesia Bangladesh Nigeria	Pakistan India	Brazil United States	United Kingdom Italy	France USSR Germany, Federal Republic of	Japan

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations *Yearbook of National Accounts Statistics*

[a] Within each group, countries are listed in ascending order of savings ratio.

Table A.28 Distribution of countries according to population size and density, 1970

Population size (millions)	*Countries[a] in which the number of persons per square kilometre of surface area[b] in 1970 was*						
	Less than 10	*10-24*	*25-49*	*50-99*	*100-199*	*200-399*	*400 and over*
Less than 1	Botswana Namibia Gabon Surinam Iceland United Arab Emirates Congo Oman Guyana Qatar	Equatorial Guinea Bahamas Guinea-Bissau Bhutan Swaziland	Fiji Gambia Kuwait	Cyprus	Luxembourg Réunion	Guadeloupe Martinique Bahrain Maldives	Mauritius Barbados Malta
1.0-4.9	Mauritania Mongolia Libyan Arab Republic Central African Republic Chad Niger Somalia Bolivia Democratic Yemen Zambia Paraguay	Liberia New Zealand Norway Ivory Coast Laos Finland Nicaragua Uruguay Guinea Panama Senegal Honduras Dahomey Jordan	Togo Lesotho Costa Rica Sierra Leone Malawi Ireland	Albania Dominican Republic	Denmark Burundi Rwanda Israel Jamaica El Salvador	Trinidad Tobago Lebanon	Singapore Hong Kong
5.0-9.9	Mali Saudi Arabia Angola	Mozambique Madagascar United Republic of Cameroon Chili Southern Rhodesia Sweden Upper Volta Ecuador Iraq	Yemen Tunisia Syrian Arab Republic Ghana Khmer Republic Uganda Guatemala	Greece Cuba Bulgaria Austria	Portugal Switzerland Haiti	Belgium	

(Table continued on following page)

(For footnotes, see end of table)

Table A.28 *(continued)*

Population size (millions)	*Countries in which the number of persons per square kilometre of surface area in 1970 was*						
	Less than 10	*10-24*	*25-49*	*50-99*	*100-199*	*200-399*	*400 and over*
10.0-24.9	Canada Australia Algeria Sudan Zaire Argentina	Peru Venezuela United Republic of Tanzania South Africa Kenya Colombia	Afghanistan Malaysia Morocco	Yugoslavia Romania	Nepal Republic of Viet-Nam Hungary Czechoslo-vakia Democratic Republic of Korea Democratic Republic of Viet-Nam German Democratic Republic Sri Lanka	Netherlands	
25.0-49.9		Iran Ethiopia Mexico	Egypt Burma Turkey	Spain Thailand	Poland Philippines	Republic of Korea	
50.0 and over		Brazil USSR United States		Nigeria Pakistan Indonesia France	India Italy	United Kingdom Germany, Federal Republic of Japan	Bangladesh

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat and *Demographic Yearbook, 1970* (United Nations publication, Sales No. E/F 71 XIII 1).

[a] Within each group, countries are listed in ascending order of population density.

[b] Without regard to resources or capacity to sustain life.

Table A.29 Distribution of countries according to population size and ratio to agricultural land, 1970

Population size (millions)	*Countries[a] in which the number of persons per square kilometre of agricultural land[b] in 1970 was*							
	Less than 100	*100-174*	*175-224*	*225-299*	*300-399*	*400-699*	*700-1199*	*1200 and over*
Less than 1	Guyana Namibia	Equatorial Guinea Cyprus Botswana Congo Swaziland	Gambia Guinea-Bissau	Fiji	Gabon	Luxembourg Guadeloupe	Réunion Mauritius Barbados Surinam	Martinique Malta Iceland Kuwait
1.0 and 4.9	Central African Republic Liberia Niger Ivory Coast Chad Senegal Sierra Leone Libyan Arab Republic Zambia Togo	Uruguay Malawi Bolivia Mongolia Dahomey	Jordan Finland Costa Rica Denmark	Nicaragua Panama Paraguay Ireland Somalia Lesotho	Burundi Laos Honduras New Zealand Dominican Republic Albania	Mauritania Norway Democratic Yemen Rwanda El Salvador Israel	Jamaica Trinidad and Tobago Lebanon	Singapore Hong Kong
5.0-9.9	Mali United Republic of Cameroon Iraq	Upper Volta Syrian Arab Republic Tunisia Ecuador	Bulgaria Chile Uganda Portugal	Cuba Khmer Republic Greece Madagascar Sweden Southern Rhodesia Mozambique	Ghana Guatemala	Austria Angola	Saudi Arabia Belgium	Haiti Switzerland
10.0-24.9	Australia Canada Argentina	United Republic of Tanzania	South Africa Hungary Morocco Romania Algeria Venezuela Afghanistan Sudan	Zaire Yugoslavia Czechoslovakia	Malaysia German Democratic Republic	Colombia Peru Nepal Republic of Viet-Nam Sri Lanka Kenya	Democratic Republic of Korea Democratic Republic of Viet-Nam	Netherlands
25.0-49.9		Turkey Burma Spain Iran	Ethiopia Mexico Poland		Thailand	Philippines	Egypt	Republic of Korea

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(For footnotes, see end of table)

Table A.29 *(continued)*

Population size (millions)	*Countries[a] in which the number of persons per square kilometre of agricultural land[b] in 1970 was*							
	Less than 100	*100-174*	*175-224*	*225-299*	*300-399*	*400-699*	*700-1199*	*1200 and over*
50.0 and over		USSR United States		Nigeria France	Brazil India Italy	Pakistan Indonesia	Germany, Federal Republic of United Kingdom Bangladesh	Japan

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and Food and Agriculture Organization of the United Nations, *Production Yearbook, 1971* (Rome)

[a] Within each group, countries are listed in ascending order of density of occupation of agricultural land

[b] Total population divided by land area; agricultural land includes arable land and land under permanent crops

Table A.30 Distribution of countries according to size of population and degree of urbanization, 1970

Size of population (millions)	*Countries[a] in each size group in which the percentage of population living in an urban area in 1970 was*						
	Less than 10.0	*10.0-16.9*	*17.0-29.9*	*30.0-39.9*	*40.0-49.9*	*50.0-69.9*	*70.0 and over*
Less than 1.0	Botswana Swaziland	Gambia Maldives	Guinea-Bissau Gabon Fiji Réunion Congo	Equatorial Guinea Namibia Guyana Surinam	Mauritius Barbados Cyprus Guadeloupe	Martinique Kuwait Bahrain Luxembourg Qatar	Bahamas Iceland Malta
1.0-4.9	Rwanda Lesotho Burundi Malawi Chad Niger Mauritania	Liberia Guinea Dahomey Togo Sierra Leone Laos	Somalia Ivory Coast Zambia Central African Republic Senegal Honduras Libyan Arab Republic Democratic Yemen	Bolivia Costa Rica Mongolia Albania Jamaica Dominican Republic Paraguay	Lebanon El Salvador Nicaragua Norway Jordan Ireland Panama	Trinidad and Tobago Finland	Uruguay New Zealand Israel Denmark Singapore Hong Kong
5.0-9.9	Upper Volta Mozambique Yemen Uganda	Mali Khmer Republic Madagascar Angola	Haiti Southern Rhodesia United Republic of Cameroon Saudi Arabia	Guatemala Ghana Portugal Ecuador	Tunisia Syrian Arab Republic Bulgaria Iraq Greece	Austria Cuba Switzerland Belgium	Chile Sweden
10.0-24.9	Nepal United Republic of Tanzania Afghanistan	Sudan Kenya Zaire	Democratic Republic of Viet-Nam Sri Lanka Republic of Viet-Nam	Morocco Yugoslavia Romania Democratic Republic of Korea	Malaysia Algeria Hungary Czechoslovakia	South Africa Peru Colombia Venezuela	Canada German Democratic Republic Argentina Netherlands Australia
25.0-49.9	Ethiopia	Thailand	Burma	Philippines Turkey Republic of Korea	Iran Egypt Poland	Mexico Spain	
50.0 and over	Bangladesh		Indonesia India Pakistan Nigeria			Italy Japan Brazil USSR France	United States United Kingdom Germany, Federal Republic of

Source Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on United Nations, *Monthly Bulletin of Statistics*, November 1971

[a] Within each group countries are listed in ascending order of degree of urbanization

Table A.31 Distribution of countries according to population size and rural density, 1970

Population size (millions)	*Countries[a] in which the number of rural persons[b] per square kilometre of agricultural land[c] in 1970 was*						
	Less than 50	*50-99*	*100-149*	*150-249*	*250-399*	*400-599*	*600 and over*
Less than 1		Guyana Namibia Cyprus Equatorial Guinea	Congo Botswana	Swaziland Gambia Guinea-Bissau Fiji Luxembourg	Malta Gabon Guadeloupe	Mauritius Barbados Réunion Surinam	Martinique Iceland Kuwait
1.0-4.9	Central African Republic Liberia Niger Uruguay Denmark Ivory Coast Chad	Senegal Libyan Arab Republic Sierra Leone Zambia Finland Togo New Zealand Jordan Bolivia	Mongolia Costa Rica Nicaragua Ireland Panama Malawi Israel	Dahomey Paraguay Somalia Honduras Albania Dominican Republic	Laos Norway Lesotho Burundi El Salvador Democratic Yemen Trinidad and Tobago	Mauritania Rwanda Jamaica Lebanon	Hong Kong Singapore
5.0-9.9	Mali	Iraq Sweden Chile Syrian Arab Republic United Republic of Cameroon Tunisia Bulgaria Upper Volta Ecuador	Cuba Greece Portugal	Uganda Austria Khmer Republic Madagascar Ghana Southern Rhodesia Guatemala	Mozambique Belgium	Angola	Switzerland Saudi Arabia Haiti
10.0-24.9	Australia Canada Argentina	Venezuela German Democratic Republic South Africa Hungary	United Republic of Tanzania Romania Algeria Czechoslovakia Morocco	Yugoslavia Colombia Malaysia Afghanistan Sudan Zaire Peru	Netherlands	Democratic Republic of Viet-Nam Sri Lanka Nepal Kenya	Democratic Republic of Viet-Nam
25.0-49.9		Spain Turkey Mexico	Iran Poland Burma	Ethiopia	Thailand Philippines		Egypt Republic of Korea

(Table continued on following page)

(For footnotes, see end of table)

Table A.31 *(continued)*

Population size (millions)	*Countries*[a] *in which the number of rural persons*[b] *per square kilometre of agricultural land*[c] *was*						
	Less than 50	*50-99*	*100-149*	*150-249*	*250-399*	*400-599*	*600 and over*
50.0 and over	United States USSR	France	Germany, Federal Republic of Brazil United Kingdom	Italy Nigeria	Pakistan India	Indonesia	Bangladesh Japan

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat. United Nations, *Monthly Bulletin of Statistics*, November 1971, and Food and Agriculture Organization of the United Nations. *Production Yearbook*. (Rome)

[a] Within each group, countries are listed in ascending order of rural density
[b] Rural population is total population minus urban population.
[c] Agricultural land includes arable land and land under permanent crops

Table A.32 Distribution of countries according to size of population and the proportion of economically active population engaged in agriculture, 1970

Population size (millions)	*Countries[a] in which the percentage of the economically active population engaged in agriculture in 1970 was*							
	Less than 10	*10-24*	*25-39*	*40-49*	*50-59*	*60-69*	*70-79*	*80 and over*
Less than 1	Kuwait Malta Luxembourg	Iceland Barbados	Surinam Guyana Cyprus	Congo	Namibia		Gabon	Gambia
1-4.9	Hong Kong Singapore	Israel Denmark New Zealand Norway Trinidad and Tobago Uruguay	Finland Ireland Jamaica Jordan	Libyan Arab Republic Panama Costa Rica Lebanon	Dahomey Paraguay Nicaragua El Salvador Bolivia Mongolia	Dominican Republic Albania Democratic Yemen Honduras Zambia	Sierra Leone Liberia Togo Senegal Laos	Ivory Coast Somalia Guinea Mauritania Burundi Central African Republic Malawi Chad Niger Rwanda
5.0-9.9	Belgium Switzerland Sweden	Austria	Chile Cuba Portugal	Bulgaria Greece Tunisia Iraq Syrian Arab Republic	Ecuador Ghana	Saudi Arabia Angola Guatemala Southern Rhodesia	Mozambique Yemen Khmer Republic Haiti	United Republic of Cameroon Madagascar Uganda Upper Volta Mali
10.0-24.9	Netherlands Canada Australia	German Democratic Republic Argentina Czechoslovakia	Hungary Venezuela South Africa	Colombia Peru	Romania Sri Lanka Democratic Republic of Korea Yugoslavia Algeria Malaysia	Morocco	Republic of Viet-Nam Democratic Republic of Viet-Nam Zaire	Kenya Sudan Afghanistan United Republic of Tanzania Nepal
25.0-49.9			Spain Poland	Iran Mexico	Egypt Republic of Korea	Burma Turkey	Philippines Thailand	Ethiopia
50.0 and over	United Kingdom United States	Germany, Federal Republic of France Japan Italy	USSR	Brazil	Pakistan	Nigeria India	Indonesia	Bangladesh

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates by the Population Division of the United Nations Secretariat, and Food and Agriculture Organization of the United Nations, *Production Yearbook, 1972* (Rome).

[a] Within each group, countries are listed in ascending order of proportion of active population in agriculture.

Table A.33 Distribution of countries according to population and self-sufficiency in cereals, 1970

Size of population, 1970 (millions)	*Countries[a] in each size group with a 1970 cereals production/consumption percentage ratio[b] of*							
	Less than 20.0	*20.0-59.9*	*60.0-79.9*	*80.0-89.9*	*90.0-94.9*	*95.0-99.9*	*100.0-109.9*	*110 and over*
Less than 1.0	Bahamas Bahrain Grenada Iceland Kuwait Mauritius Guadeloupe Malta Barbados Réunion Gabon Botswana	Netherlands Antilles Congo Brunei Cyprus	British Honduras Guinea-Bissau Gambia	Surinam	Portuguese Timor			Guyana
1.0-4.9	Singapore Jamaica Hong Kong Trinidad and Tobago Lebanon Israel Libyan Arab Republic	Jordan Democratic Yemen Norway Costa Rica	Somalia Liberia Ivory Coast Mongolia Senegal Bolivia Mauritania Dominican Republic Ireland Sierra Leone	Panama Lesotho Zambia Honduras Paraguay Albania Malawi	Central African Republic Laos Togo El Salvador Dahomey Rwanda	Guinea Burundi Nicaragua Chad Denmark	Finland Niger Uruguay New Zealand	
5.0-9.9		Cuba Saudi Arabia Switzerland Belgium Tunisia	Syrian Arab Republic Portugal Chile	Ghana Mozambique United Republic of Cameroon Guatemala Ecuador	Yemen Haiti Austria	Iraq Uganda Upper Volta Greece Mali Southern Rhodesia	Madagascar Bulgaria Khmer Republic Sweden	Angola
10.0-24.9		Netherlands Venezuela Sri Lanka	German Democratic Republic Peru Zaire	Algeria Czechoslovakia Republic of Viet-Nam Colombia Democratic Republic of Viet-Nam	Sudan Morocco	Democratic Republic of Korea United Republic of Tanzania Afghanistan	Yugoslavia Romania Kenya Nepal Hungary	South Africa Canada Argentina Australia

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(For footnotes, see end of table)

Table A.33 *(continued)*

Size of population, 1970 (millions)	*Countries[a] in each size group with a 1970 cereals production/consumption percentage ratio[b] of*							
	Less than 20.0	*20.0-59.9*	*60.0-79.9*	*80.0-89.9*	*90.0-94.9*	*95.0-99.9*	*100.0-109.9*	*110 and over*
25.0-49.9			Republic of Korea	Spain Poland	Egypt Turkey Philippines	Mexico Ethiopia Iran	Burma	Thailand
50.0 and over		Japan United Kingdom	Germany, Federal Republic of Italy		Bangladesh Indonesia	India Nigeria Brazil	USSR Pakistan	United States France

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and Food and Agriculture Organization of the United Nations, *Production Yearbook, 1972* (Rome) and *Trade Yearbook, 1972* (Rome)

[a] Within each group, countries are listed in ascending order of the production/consumption ratio, 1970.

[b] Production divided by production plus imports minus exports, expressed as a percentage

Table A.34 Distribution of countries according to size of population and food import bill, 1970

Size of population, 1970 (millions)	*Countries[a] in each group in which the percentage ratio of food[b] imports to total imports, 1969-1971[c], was*				
	Less than 5.0	*5.0-9.9*	*10.0-14.9*	*15.0-19.9*	*20.0 and over*
Less than 1.0	Netherlands Antilles	Iceland Gabon	Congo Brunei	Fiji Barbados	Martinique Guadeloupe Réunion Western Samoa
1.0-4.9	New Zealand Denmark Finland Norway	Panama Trinidad and Tobago Nicaragua Ireland Costa Rica Israel Zambia Niger	Honduras Malawi Singapore Dahomey Togo El Salvador Central African Republic Ivory Coast Chad	Libyan Arab Republic Hong Kong Lebanon Laos	Mauritania Jordan Senegal
5.0-9.9		Austria Sweden Switzerland Belgium-Luxembourg[d] Guatemala United Republic of Cameroon Greece Madagascar	Portugal	Chile Upper Volta Ghana Mali	Tunisia
10.0-24.9	Australia Argentina Colombia	Hungary Yugoslavia Canada Netherlands	Zaire		Republic of Viet-Nam Sri Lanka
25.0-49.9	Thailand Mexico Turkey	Spain Iran	Philippines	Republic of Korea Egypt	
50.0 and over		United States France	Brazil Japan Germany, Federal Republic of Indonesia	Italy United Kingdom Pakistan[e]	India

Source Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports estimates of the Population Division of the United Nations Secretariat and United Nations, *Commodity Trade Statistics*, Series D various issues

[a] Within each group countries are listed in ascending order of *per capita* food imports.

[b] Food consists of the following SITC divisions: 00 (live animals), 01 (meat) 02 (dairy products and eggs), 03 (fish), 04 (cereals), 05 (fruits and vegetables), 06 (sugar and honey), 09 (miscellaneous food preparations), 41 (animal oils and fats) and 42 (fixed vegetable oils and fats).

[c] 1968-1970 in some cases and for less than three years in a few.

[d] Belgium and Luxembourg combined to conform to the trade data.

[e] Pakistan here refers to the pre-1971 region including the present areas of Pakistan and Bangladesh

Table A.35 Distribution of countries according to population size and ratio of exports to imports, 1969-1971[a]

Population size (millions)	*Countries[b] with a percentage ratio of exports to imports[c], 1969-1971, of*						
	Less than 25	*25.0-49.9*	*50.0-74.9*	*75.0-99.9*	*100.0-149.9*	*150.0-199.9*	*200.0 and over*
Less than 1	Guinea-Bissau Martinique	Malta Réunion Guadeloupe Barbados Fiji Bahamas Cyprus	Congo Gambia	Iceland Mauritius Luxembourg	Guyana Surinam	Gabon	Kuwait
1.0-4.9	Laos Jordan	Panama Lebanon	Israel Dahomey Chad Niger Somalia Jamaica Senegal Singapore Ireland Norway Democratic Yemen Malawi Rwanda Burundi Costa Rica	Togo Denmark Dominican Republic Hong Kong Nicaragua Trinidad and Tobago Honduras Paraguay Finland Sierra Leone Central African Republic El Salvador Uruguay	New Zealand Zambia Ivory Coast Bolivia	Liberia Mauritania	Libyan Arab Republic
5.0-9.9	Yemen	Greece Upper Volta	Mozambique Khmer Republic Syrian Arab Republic Mali Tunisia Cuba Madagascar	Ecuador Austria Haiti Switzerland Ghana United Republic of Cameroon Belgium Sweden	Guatemala Angola Southern Rhodesia Bulgaria Chile	Uganda	Iraq Saudi Arabia
10.0-24.9	Republic of Viet-Nam		Kenya Yugoslavia South Africa Afghanistan	Morocco Algeria Colombia Sri Lanka United Republic of Tanzania Netherlands	German Democratic Republic Czechoslovakia Australia Canada Malaysia	Zaire Venezuela	

(Table continued on following page)

(For footnotes, see end of table)

Table A.35 *(continued)*

Population size (millions)	*Countries[b] with a percentage ratio of exports to imports[c], 1969-1971, of*						
	Less than 25	*25.0-49.9*	*50.0-74.9*	*75.0-99.9*	*100.0-149.9*	*150.0-199.9*	*200.0 and over*
10.0-24.9 *(cont.)*				Hungary Sudan Romania Argentina	Peru		
25.0-49.9		Republic of Korea	Spain Thailand Mexico Turkey Ethiopia	Burma Philippines Poland Egypt	Iran		
50.0 and over			Pakistan	India Brazil United Kingdom Italy France	Nigeria United States Indonesia Japan USSR Germany, Federal Republic of		

Source. Centre for Development Planning, Projection and Policies of the United Nations Secretariat, based on United Nations, *Monthly Bulletin of Statistics*, January 1974, and *Yearbook of International Trade Statistics, 1970-1971* (United Nations publication, Sales No. E.73.XVII.12).

[a] Except in the case of British Honduras and Zaire (1968-1970) and Yemen (1969-1970).

[b] Within each group, countries are listed in ascending order of export/import ratio.

[c] Ratio of exports (valued f.o.b.) to imports (valued c.i.f.) expressed as a percentage.

Table A.36 **Distribution of countries according to population size and degree of economic openness[a] 1970**

Population size (millions)	*Countries[b] with a percentage ratio of foreign trade to gross domestic product in 1970 of*						
	Less than 10	*10.0-14.9*	*15.0-19.9*	*20.0-24.9*	*25.0-34.9*	*35.0-49.9*	*50.0 and over*
Less than 1.0				Bhutan Congo	Réunion Maldives Botswana Martinique Iceland Cyprus	Gabon Mauritius Gambia Kuwait Surinam Malta Luxembourg	Guyana Barbados Swaziland Fiji Bahamas
1.0-4.9	Uruguay Central African Republic	Burundi Paraguay Niger Rwanda Laos	Dominican Republic Somalia Chad Jordan New Zealand	Dahomey Israel Nicaragua El Salvador Togo Senegal Panama Finland Malawi Denmark Sierra Leone Lesotho	Lebanon Norway Honduras Costa Rica Ivory Coast Jamaica Ireland	Mauritania Libyan Arab Republic Liberia Zambia	Trinidad and Tobago Hong Kong Singapore Democratic Yemen
5.0-9.9	Khmer Republic Haiti	Upper Volta Greece Mozambique Uganda Mali Ecuador Guatemala	Chile Ghana Syrian Arab Republic Tunisia Yemen Madagascar	Sweden United Republic of Cameroon Portugal Austria Southern Rhodesia Angola Cuba	Iraq Switzerland Bulgaria	Saudi Arabia Belgium	
10.0-24.9	Republic of Viet-Nam Nepal Argentina Afghanistan Colombia German Democratic Republic	Romania Czechoslovakia Australia Peru Hungary	Sudan Sri Lanka Yugoslavia Morocco Canada Kenya United Republic of Tanzania	South Africa Venezuela Algeria Zaire		Netherlands Malaysia	

(Table continued on following page)

(For footnotes, see end of table)

Table A.36 *(continued)*

Population size (millions)	*Countries with[b] a percentage ratio of foreign trade to gross domestic product in 1970 of*						
	Less than 10	*10.0-14.9*	*15.0-19.9*	*20.0-24.9*	*25.0-34.9*	*35.0-49.9*	*50.0 and over*
25.0-49.9	Mexico Turkey Burma Poland Ethiopia	Egypt Spain	Thailand Philippines Republic of Korea Iran				
50.0 and over	USSR India United States Pakistan Brazil Japan	Indonesia Bangladesh France Nigeria	Italy Germany, Federal Republic of United Kingdom				

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, United Nations. *Yearbook of National Accounts Statistics*. *Monthly Bulletin of Statistics* and *Yearbook of International Trade Statistics*, and International Bank for Reconstruction and Development. *World Bank Atlas*, *1972* (Washington, D C.)

[a] Economic openness refers to the ratio of foreign trade (exports f o b plus imports c i f. divided by 2) to gross domestic product.

[b] Within each group, countries are listed in ascending order of ratio of foreign trade to gross domestic product

Table A.37 Average annual *per capita* consumption of major commodities in developed market economies and developing countries, 1970

Commodity	Unit price (United States cents per kilogramme)	Average annual per capita consumption			
		Quantity (kilogrammes)		Value (dollars)	
		Developed market economies	Developing countries	Developed market economies	Developing countries
Food-stuffs[a]				71.37	28.62
Wheat	5.6	65.3	30.6	3.66	1.71
Rice	11.0	18.6	56.2	2.05	6.18
Maize-millet-sorghum	4.1	8.0	37.1	0.33	1.53
Other cereals	4.6	4.9	5.4	0.23	0.25
Starchy roots	2.2	71.0	63.9	1.56	1.41
Sugar	6.9	37.7	19.4	2.60	1.33
Pulses and nuts	7.3	5.5	15.4	0.40	1.12
Oil-seeds	19.0	2.2	2.4	0.42	0.46
Vegetables	4.7	101.1	37.9	4.75	1.78
Citrus fruit	6.0	21.8	5.7	1.31	0.34
Bananas	8.9	6.6	7.9	0.59	0.70
Other fruit	6.0	48.8	20.4	2.93	1.22
Beef and veal	30.5	26.5	5.2	8.08	1.59
Mutton and lamb	22.1	3.4	1.5	0.75	0.33
Pigmeat	33.0	20.3	1.9	6.70	0.63
Poultry	35.0	11.4	1.1	3.99	0.39
Other meat	32.2	4.9	1.7	1.58	0.55
Eggs	42.4	12.9	1.4	5.47	0.59
Fish	20.0	21.5	6.9	4.30	1.38
Milk	6.1	146.1	35.1	8.91	2.14
Cheese	94.0	5.7	1.6	5.36	1.50
Butter	73.0	3.5	0.7	2.56	0.51
Vegetable oils	20.0	11.1	4.1	2.22	0.82
Animal fats	7.5	4.5	0.4	0.34	0.03
Spices	19.0	—	0.6	—	0.11
Cocoa	18.5	1.5	0.1	0.28	0.02
Fibres				13.24	1.96
Cotton	57.0	6.1	2.0	3.48	1.14
Wool	196.0	0.4	0.1	0.86	0.20
Cellulosic / Non-cellulosic	124.0	7.2	0.5	8.90	0.62
Fossil fuels (petroleum equivalent)	1.5	4,420	246	64.97	3.62

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(For footnotes, see end of table)

Table A.37 *(continued)*

Commodity	Unit price (United States cents per kilogramme)	Average annual per capita consumption			
		Quantity (kilogrammes)		Value (dollars)	
		Developed market economies	Developing countries	Developed market economies	Developing countries
Metals[b]				87.78	7.68
Steel	14.0	480.3	44.0	67.24	6.16
Aluminium	61.4	9.5	0.7	5.83	0.43
Lead	33.0	3.3	0.3	1.09	0.10
Copper	138.0	7.0	0.5	9.66	0.69
Zinc	34.0	4.5	0.4	1.53	0.14
Tin	360.0	0.2	0.02	0.72	0.07
Nickel	285.0	0.6	0.03	1.71	0.09

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on United Nations, *Statistical Yearbook* (for steel consumption) and *Monthly Bulletin of Statistics* (for mineral prices). *World Energy Supplies, 1968-1971* (United Nations publication, Sales No. E.73.XVII.10) (for fuel consumption); Food and Agriculture Organization of the United Nations, *Agricultural Commodity Projections, 1970-1980* (Rome) (for food and fibre consumption and food prices); Commonwealth Secretariat, *Industrial Fibres* (London, 1973) (for fibre prices); and Metallgesellschaft, A.G., *Metal Statistics, 1961-1971* (Frankfurt am Main) (for non-ferrous metal consumption)

[a] Based on the food balance-sheets for 1964-1966 compiled by FAO. Prices are at producer level and reflect wheat-based price relatives.

[b] Reported industrial absorption of each metal has been adjusted to allow for the movement of metal-containing manufactures from developed market economies to developing countries estimated at the equivalent of 10 per cent of the output of the metal goods industries (which produce about a third of the total manufacturing output of the developed market economies)

Table A.38 Developed market economies: changes in age structure of the population, 1950-1970
(Percentage)

Country	Proportion of the population								
	Under 15			15-64			65 and over		
	1950	1960	1970	1950	1960	1970	1950	1960	1970
Australia	26.5	30.1	28.7	65.4	61.4	62.9	8.1	8.5	8.4
Austria	22.8	22.1	24.4	66.8	65.8	61.2	10.4	12.1	14.4
Belgium	20.9	23.5	23.9	68.1	64.5	62.7	11.1	12.0	13.4
Canada	29.7	33.5	31.3	62.7	59.0	61.0	7.7	7.5	7.7
Cyprus	34.5	36.7	32.4	59.5	57.4	60.4	6.0	5.9	7.3
Denmark	26.3	25.2	23.9	64.6	64.2	64.0	9.1	10.6	12.1
Finland	30.0	30.4	25.0	63.4	62.4	66.1	6.7	7.2	8.9
France	22.7	26.4	24.7	65.9	62.0	62.4	11.4	11.6	12.9
Germany, Federal Republic of	23.6	21.7	24.1	67.2	67.7	63.1	9.2	10.6	12.8
Greece	28.7	26.5	24.2	64.6	65.3	66.1	6.8	8.3	9.8
Ireland	28.9	31.1	30.5	60.4	57.7	58.2	10.7	11.2	11.2
Italy	26.3	24.5	25.1	65.4	66.0	63.9	8.3	9.5	11.1
Japan	35.4	30.1	24.0	59.6	64.2	69.1	5.0	5.7	7.0
Luxembourg	19.9	21.3	22.2	70.3	67.8	65.0	9.8	10.8	12.8
Malta	34.9	36.8	27.8	59.3	55.9	63.4	5.8	7.3	8.7
Netherlands	29.3	30.0	27.2	63.0	61.0	62.6	7.7	9.0	10.2
New Zealand	29.1	32.9	32.2	62.0	58.5	59.5	9.0	8.6	8.3
Norway	24.4	25.9	24.8	65.9	63.0	62.4	9.7	11.1	12.8
Portugal	29.5	29.2	29.2	63.6	62.9	62.0	7.0	8.0	8.9
South Africa	39.0	39.7	40.1	56.3	56.1	56.1	4.7	4.1	3.7
Spain	27.1	27.4	27.4	65.6	64.4	63.4	7.3	8.2	9.2
Sweden	23.4	22.0	21.3	66.3	66.0	65.0	10.3	12.0	13.7
Switzerland	23.5	23.6	23.8	66.9	66.3	64.7	9.6	10.1	11.5
Turkey	38.3	41.2	41.6	58.4	55.2	54.3	3.3	3.5	4.1
United Kingdom	22.3	23.3	24.0	66.9	65.1	63.2	10.7	11.7	12.8
United States	26.9	31.1	29.1	64.9	59.7	61.4	8.1	9.2	9.5
Yugoslavia	31.1	30.5	27.6	63.2	63.2	64.9	5.7	6.3	7.5

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and International Labour Office, *Labour Force Projections, 1965-1985* (Geneva).

Table A.39 Developing countries: changes in cereal area, output and yield, 1960s

Country[a]	Average annual rate of increase in				Percentage change between 1960-1964 and 1967-1971 in					
	Rural population[b]	Production[c] of			Harvested area			Yield per hectare		
		Wheat	Maize	Rice	Wheat	Maize	Rice	Wheat	Maize	Rice
Argentina	−1.4	−2.2	6.4	7.6	5	31	53	−19	17	9
Liberia	1.4	...	...	−2.9	...	...	−11	...	...	−4
Uruguay	−1.3	−0.8	−1.9	9.6	−21	−23	57	6	12	21
Ivory Coast	1.5	...	6.7	6.4	...	41	15	...	13	34
Mali	2.0	...	...	−3.2	...	...	−3	...	...	−18
Chad	2.0	...	...	4.3	...	...	48	...	...	−5
Iraq	2.1	5.5	...	11.4	51	...	11	−2	...	98
Senegal	1.9	...	...	2.8	...	...	16	...	...	4
Chile	−0.3	−0.1	4.3	−3.9	−14	3	−24	16	30	1
Guyana	1.9	...	...	−1.7	...	...	11	...	...	−20
Syrian Arab Republic	1.9	−0.5	...	...	−22	...	...	25	...	...
Sierra Leone	1.9	...	...	3.9	...	...	—	...	...	30
United Republic of Cameroon	1.1	...	4.8	...	...	27	...	...	9	...
Tunisia	2.3	−1.0	...	...	−29	...	...	33	...	...
Venezuela	0.5	—	5.7	10.1	—	43	76	−22	3	12
Zambia	2.3	...	9.3	...	...	75	...	...	7	...
Mexico	1.9	3.5	4.4	3.9	−10	23	16	41	10	12
Jordan	2.2	3.0	...	...	6	...	...	17	...	...
Upper Volta	1.9	...	...	3.9	...	...	2	...	...	27
Ecuador	2.5	0.7	4.5	−0.7	8	5	−21	−2	30	20
Bolivia	1.7	0.9	0.1	1.2	−17	2	23	22	6	−11
Iran	1.6	5.1	...	5.5	115	...	−26	−34	...	95
Cuba	1.2	...	−3.5	1.9	...	−4	31	...	−18	−13
United Republic of Tanzania	2.3	13.3	1.2	3.8	105	137	22	22	−55	6
Costa Rica	3.3	...	−3.1	3.7	...	−14	−17	...	−6	56
Algeria	0.7	0.9	...	...	15	...	...	−8	...	...
Burma	1.9	2.1	...	0.2	29	...	1	−5	...	1
Morocco	2.6	8.5	0.2	4.7	17	4	25	54	−2	−9
Nicaragua	2.2	...	7.9	6.5	...	65	13	...	2	39
Panama	2.2	...	0.4	4.3	...	5	13	...	−1	19
Brazil	0.7	26.1	4.1	−1.6	215	28	20	59	3	−26
Malawi	2.4	...	4.5	...	...	23	...	...	10	...
Israel	1.8	14.5	...	...	102	...	...	28	...	...
Dahomey	1.9	...	0.8	...	...	−12	...	...	20	...
Paraguay	2.8	25.8	5.3	4.1	289	55	33	24	−6	6
Uganda	2.1	...	7.1	...	...	65	...	...	−3	...
Colombia	0.7	−6.7	0.4	5.0	−53	7	−1	30	−4	42
Gambia	1.8	...	...	5.6	...	...	16	...	...	24
Guinea-Bissau	0.5	...	...	−13.8	...	...	−53	...	...	−26
Ethiopia	1.7	17.0	4.0	...	200	13	...	8	18	...

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(For footnotes, see end of table)

Table A.39 *(continued)*

Country[a]	Average annual rate of increase in				Percentage change between 1960-1964 and 1967-1971 in					
	Rural population[b]	Production[c] of			Harvested area			Yield per hectare		
		Wheat	Maize	Rice	Wheat	Maize	Rice	Wheat	Maize	Rice
Malaysia	1.4	...	...	5.2	...	...	27	...	...	12
Nigeria	1.9	–7.9	2.0	7.1	–17	11	17	7	4	42
Afghanistan	2.0	1.9	1.2	2.2	21	9	10	–5	–	5
Sudan	2.8	21.3	...	...	426	...	...	–26	...	...
Zaire	1.5	...	6.0	16.1	...	27	143	...	18	17
Khmer Republic	2.5	...	–2.8	1.8	...	–13	–3	...	–6	17
Madagascar	2.3	...	5.2	6.0	...	25	14	...	14	30
Ghana	1.8	...	8.0	7.1	...	55	56	...	11	5
Southern Rhodesia	2.8	...	3.8	...	...	11	...	...	18	...
Peru	2.0	–2.8	3.1	6.2	–7	11	52	–6	12	–
Guatemala	2.5	4.2	3.7	9.9	9	20	36	24	8	33
Honduras	2.8	–	1.9	–12.3	–	–27	–50	18	56	–27
Pakistan		6.3	4.6	6.7	21	28	17	28	7	35
Dominican Republic	2.0	...	–0.6	6.5	...	–13	11	...	10	41
Laos	2.0	...	...	1.3	...	...	26	...	...	–13
Mozambique	1.7	...	15.0	0.5	...	127	–	...	18	4
Thailand	2.9	...	12.9	2.9	...	94	1	...	21	21
India	2.3	7.7	4.6	2.1	17	26	5	42	8	11
Philippines	2.7	...	6.2	3.5	...	22	2	...	25	24
Burundi	2.1	...	6.1	...	...	72	...	...	5	...
El Salvador	2.7	...	6.1	9.3	...	11	46	...	37	36
Democratic Yemen	1.7	–1.0	...	...	14	...	...	–9	...	...
Republic of Viet-Nam	1.8	...	...	–0.1	...	...	–1	...	...	1
Sri Lanka	1.9	...	...	4.9	...	...	21	...	...	15
Nepal	1.9	6.6	...	1.7	19	...	7	32	...	5
Lebanon	1.3	4.6	...	...	7	...	...	30	...	...
Angola	1.4	...	1.9	...	...	–10	...	...	28	...
Surinam	2.6	...	...	7.1	...	...	32	...	...	25
Indonesia	2.3	...	–0.6	4.7	...	–2	16	...	–1	19
Kenya	2.6	8.4	0.2	...	41	–8	...	24	10	...
Egypt	1.9	–1.8	3.5	5.0	–5	–12	44	4	45	–3
Bangladesh		12.4	–4.0	1.6	69	–50	11	36	21	1
Saudi Arabia	1.7	1.5	...	...	9	...	...	2	...	...
Republic of Korea	1.2	3.4	17.0	1.4	23	61	5	3	96	5

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, Food and Agriculture Organization of the United Nations, *Production Yearbook* (Rome), various issues, and United States of America, Department of Agriculture, *Foreign Agricultural Circular, Grain* and *Rice* (Washington, D.C.), various issues.

[a] Countries are listed in ascending order of rural population per square kilometre of arable land.

[b] Estimated rate of growth between 1960 and 1970.

[c] Percentage change between the average annual production 1960-1964 and the average annual production 1967-1971 expressed as a compound rate of growth over seven years.

Table A.40 Distribution of developing countries according to population density and small stock units[a] per person, 1970

Number of persons per square kilometre	*Countries[b] in each density group in which* per capita *small stock units[a] in 1970 was*				
	Less than 0.5	*0.5-0.9*	*1.0-1.9*	*2.0-3.9*	*4.0 and over*
Less than 5	Congo Gabon		Saudi Arabia Guyana Central African Republic Democratic Yemen	Libyan Arab Republic Bolivia	Mali Chad Niger Somalia Botswana Mauritania Namibia
5-14	Equatorial Guinea Zaire Liberia	Ivory Coast	Mozambique Algeria Zambia Laos Angola Chile	United Republic of Cameroon Peru Southern Rhodesia Venezuela Brazil United Republic of Tanzania	Madagascar Sudan Paraguay Argentina
15-29		Jordan Fiji	Dahomey Ecuador Guinea Honduras	Mexico Afghanistan Iraq Panama Upper Volta Iran Colombia Senegal Kenya Nicaragua	Yemen Swaziland Uruguay
30-59	Malaysia Kuwait Uganda Sierra Leone Egypt	Malawi Ghana Burma	Guatemala Tunisia Togo Khmer Republic Syrian Arab Republic	Costa Rica Gambia Morocco	Lesotho
60-99		Thailand	Dominican Republic Indonesia Nigeria	Pakistan Gambia Nepal	
100-199	Republic of Viet-Nam Réunion Israel	Philippines Sri Lanka Jamaica Haiti Burundi	Rwanda El Salvador India		

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(For footnotes, see end of table)

Table A.40 *(continued)*

Number of persons per square kilometre	*Countries*[b] *in each density group in which* per capita *small stock units*[a] *in 1970 was*				
	Less than 0.5	*0.5-0.9*	*1.0-1.9*	*2.0-3.9*	*4.0 and over*
200 and over	Hong Kong Singapore Republic of Korea Trinidad and Tobago Mauritius Lebanon	Martinique Barbados Bangladesh			

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and Food and Agriculture Organization of the United Nations, *Production Yearbook* (Rome)

[a] The number of small stock units is derived by adding together sheep (with a weight of 1), goats (with a weight of 2) and cattle and buffalo (with a weight of 3).

[b] Within each group, countries are listed in ascending order of livestock density

Table A.41 Developing countries: national savings and age dependency ratios, 1970

Country[a]	Ratio of 0-14 age bracket to total population	Dependency ratio[b]	Ratio of national savings to GNP (average, 1968-1970)	Average annual incremental capital/output ratio, 1961-1970
	(percentage)			
Population growth less than 2 per cent a year				
Equatorial Guinea	34	63	34.1	...
Gambia	40	79	14.3	...
Gabon	33	63	40.8	3.3
Lesotho	39	75	–24.7	...
Liberia	39	75	17.7	2.8
Jamaica	46	106	18.4	3.6
Uruguay	28	58	9.1	9.9
Cuba	34	64	...	...
Argentina	29	57	19.5	4.7
Population growth 2.0-2.49 per cent a year				
Martinique	42	88	...	...
Namibia	40	75	22.6	...
Botswana	42	81	–25.4	...
Trinidad and Tobago	41	82	14.8	4.7
Congo	42	82	27.6	5.8
Mauritania	42	82	29.6	4.2
Central African Republic	42	83	14.1	4.3
Sierra Leone	42	84	15.3	1.9
Somalia	47	94	7.4	...
Burundi	43	85	5.9	...
Chad	44	88	1.4	...
Senegal	43	84	4.5	9.9
Guinea	43	83	2.5	3.4
Hong Kong	36	68	17.0	2.4
Ivory Coast	42	83	24.4	2.4
Malawi	45	90	2.6	3.0
Haiti	43	84	8.1	9.5
Bolivia	44	84	12.1	3.1
Mali	44	87	12.1	7.0
Upper Volta	43	84	12.2	2.4
Angola	42	80	16.3	2.8
United Republic of Cameroon	41	79	15.3	2.7
Mozambique	40	78	7.7	2.3
Ghana	47	102	10.3	5.7
Chile	40	80	15.4	4.3
Nepal	43	83	...	...
Morocco	46	103	15.6	3.0
Afghanistan	43	85	–5.9	5.0
Zaire	42	82	24.9	3.3
Republic of Viet-Nam	41	82	–2.5	4.1

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(For footnotes, see end of table)

Table A.41 *(continued)*

Country[a]	*Ratio of 0-14 age bracket to total population*	*Dependency ratio*[b]	*Ratio of national savings to GNP (average, 1968-1970)*	*Average annual incremental capital/output ratio, 1961-1970*
		(percentage)		
Ethiopia	42	81	11.3	2.4
Burma	40	78	10.8	2.7
Republic of Korea	41	80	–2.5	2.5
Population growth: 2.50-2.99 per cent a year				
Surinam	47	104	50.0	4.4
Guyana	46	97	16.2	5.2
Mauritius	42	83	14.7	4.7
Democratic Yemen	44	88	...	...
Togo	45	91	11.0	1.9
Nicaragua	47	101	12.0	2.8
Singapore	39	72	26.4	1.0
Dahomey	45	90	10.1	3.8
Israel	32	65	3.3	2.9
Laos	42	83	–18.4	...
Rwanda	46	94	2.5	...
Niger	47	96	2.2	2.7
Dominican Republic	48	103	9.3	2.9
Zambia	46	94	43.4	4.2
Guatemala	46	95	11.2	2.0
Yemen	44	88	...	...
Madagascar	45	91	9.9	2.9
Saudi Arabia	44	88	51.2	1.5
Khmer Republic	45	91	11.0	8.0
Uganda	46	100	15.8	2.7
Malaysia	44	89	20.6	2.4
Sri Lanka	42	84	15.3	3.2
United Republic of Tanzania	44	89	15.6	3.0
Iran	46	97	18.7	1.9
Egypt	43	85	7.3	3.0
Nigeria	45	89	9.5	2.4
Brazil	42	84	16.0	2.8
Pakistan	46	98	13.2	3.2
Bangladesh	46	96	8.3	...
Indonesia	44	87	5.6	2.2
India	42	83	14.9	4.3
Population growth: 3 per cent a year and over				
Swaziland	47	98	28.0	...
Fiji	44	88	15.2	3.9
Réunion	45	92	–3.4	...

(Table continued on following page)

(For footnotes, see end of table)

Table A.41 *(concluded)*

Country[a]	*Ratio of 0-14 age bracket to total population*	*Dependency ratio*[b]	*Ratio of national savings to GNP (average, 1968-1970)*	*Average annual incremental capital/output ratio, 1961-1970*
		(percentage)		
Kuwait	43	86	45.5	2.4
Panama	44	90	20.8	2.6
Costa Rica	48	105	17.1	3.1
Libyan Arab Republic	44	91	45.7	1.5
Jordan	46	97	−2.8	3.4
Paraguay	47	99	10.3	3.2
Honduras	47	97	13.4	3.4
Lebanon	44	95	16.1	...
El Salvador	46	98	10.3	2.5
Tunisia	45	95	14.6	4.2
Southern Rhodesia	47	99	19.0	3.7
Ecuador	47	99	9.8	2.7
Syrian Arab Republic	46	97	11.6	2.1
Iraq	47	97	21.4	2.6
Venezuela	45	93	26.7	3.8
Kenya	48	108	17.8	2.4
Peru	45	93	14.3	4.6
Algeria	47	101	23.7	7.2
Sudan	45	92	12.7	5.9
Colombia	47	98	17.7	3.5
Thailand	46	94	21.8	3.0
Philippines	46	96	17.0	3.5
Mexico	46	100	18.9	2.7

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations, *Yearbook of National Accounts Statistics*.

[a] Countries are listed in four groups according to average annual increase in population in the 1960s. Within each group, countries are listed in ascending order of population size.

[b] Ratio of 0-14 and over-64 age brackets to 15-64 age bracket expressed as a percentage.

Table A.42 Distribution of countries according to population size and infrastructure investment ratio, 1970

Population size (millions)	*Countries[a] in each size group in which the percentage ratio of investment in infrastructure to gross capital formation[b] in 1970 was*				
	Less than 55	*55.0-64.9*	*65.0-69.9*	*70.0-74.9*	*75.0 and over*
Less than 1	Swaziland			Iceland Cyprus	Mauritius Malta Fiji
1.0-4.9	Libyan Arab Republic Jamaica	Bolivia Zambia	Costa Rica	Finland El Salvador	Norway Israel Denmark
5.0-9.9		Southern Rhodesia Syrian Arab Republic Tunisia Iraq		Belgium	Greece Sweden
10.0-24.9			Netherlands	South Africa Canada	United Republic of Tanzania Kenya
25.0-49.9	Egypt	Spain		Republic of Korea Ethiopia	
50.0 and over		Italy	Japan France	United Kingdom	United States

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations, *Yearbook of National Accounts Statistics*

[a] Within each group, countries are listed in ascending order of ratio of investment in infrastructure.

[b] Utilities, construction, trade, transport and communications and financial services.

Table A.43 Distribution of countries according to population growth and housing construction, 1965-1970

Average annual rate of increase in population, 1965-1970 (percentage)	*Countries[a] in each population growth group in which the percentage rate of expenditure on residential construction to gross domestic product in 1968-1970[b] was*						
	Less than 2.5	*2.5-3.4*	*3.5-4.9*	*5.0-6.4*	*6.5-7.9*	*8.0-11.9*	*12.0 and over*
Less than 0.50				Finland Malta	Greece		Austria
0.50-0.99		United Kingdom	Ireland	Norway Portugal Sweden Germany, Federal Republic of Belgium	Italy	Denmark	
1.00-1.49	Jamaica	United States	Spain	Netherlands Uruguay	Switzerland France Japan Cyprus		Luxembourg
1.50-2.49	Bolivia Lesotho	Morocco Chile Hong Kong Republic of Korea Republic of Viet-Nam	Sierra Leone Ghana Canada	Australia Iceland		Malawi Ethiopia India Argentina	
2.50-2.99	Nicaragua Malaysia	United Republic of Tanzania	Khmer Republic Nigeria	Egypt Israel	Brazil Sri Lanka	Guyana	Zambia
3.0-3.49	Tunisia	Swaziland Colombia Thailand	Venezuela South Africa Panama Jordan	Southern Rhodesia			Libyan Arab Republic Lebanon Fiji
3.50 and over		Kenya		El Salvador	Paraguay	Costa Rica Mexico	

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations, *Yearbook of National Accounts Statistics*

[a] Within each group, countries are listed in ascending order of ratio of expenditure on residential construction to gross domestic product.

[b] Based on the average for the three years straddling the census data except for Switzerland, Egypt, Ethiopia, Nigeria, Argentina, Brazil, Mexico, Uruguay, Venezuela which are based on a two-year average; and Portugal, Tunisia, Lesotho, Swaziland, Bolivia, Guyana, Jordan, Lebanon, the Khmer Republic, India, Malaysia and Fiji, which are based on one year's data

Table A.44 Brazil: geographical distribution of population and output, 1970

Region	Population				Index of GDP, 1968 (national average = 100)
	Total, 1970 (millions)	Urban (percentage)	Index of density (national average = 100)	Average annual rate of increase, 1960-1970 (percentage)	
North	3.60	45	9	3.4	54
Rondônia	0.11	52	4	5.0	48
Acra	0.22	28	13	3.2	
Amazonas	0.96	43	6	3.0	
Roraima	0.04	43	2	3.5	
Pará	2.16	47	16	3.5	57
Greater Belém	0.61	100		4.8	
Amapá	0.12	55	7	5.4	
North-east	28.15	42	166	2.4	48
Maranhão	3.00	25	83	2.0	33
Piauí	1.68	32	61	3.0	28
Ceará	4.37	40	270	2.9	46
Greater Fortaleza	0.86	100		5.8	
Rio Grande do Norte	1.55	47	273	3.1	52
Paraíba	2.39	42	381	1.8	40
Pernambuco	5.17	55	478	2.4	61
Greater Recife	1.63	100		4.7	
Alagoas	1.59	40	403	2.4	43
Sergipe	0.90	46	394	1.9	51
Bahia	7.51	41	122	2.4	52
Greater Salvador	1.07	100		5.0	
South-east	39.87	73	393	2.7	147
Minas Gerais	11.50	53	182	1.6	80
Greater Belo Horizonte	1.51	100		6.8	
Espírito Santo	1.60	45	312	1.4	75
Rio de Janeiro	4.75	77	983	3.5	95
Guanabara	4.25	100	30,000	2.7	252
Greater Rio	6.85	100		4.1	
São Paulo	17.78	80	652	3.3	185
Greater São Paulo	7.84	100		7.1	
South	16.51	45	260	3.5	98
Paraná	6.94	37	317	5.1	83
Greater Curitiba	0.65	100		5.4	
Santa Catarina	2.90	43	276	3.2	85
Rio Grande do Sul	6.67	54	216	2.2	120
Greater Porto Alegre	1.41	100		6.5	

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Table A.44 *(continued)*

Region	Population				Index of GDP, 1968 (national average = 100)
	Total, 1970 (millions)	Urban (percentage)	Index of density (national average = 100)	Average annual rate of increase, 1960-1970 (percentage)	
Central-west	5.08	48	25	5.5	60
Mato Grosso	1.60	43	12	6.0	56
Goiás	2.94	42	42	4.3	61
Distrito Federal	0.54	96	947	14.4	66
Total	93.22	56	100	2.9	100

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on Brazil, Fundação IBGE. *Anuário Estatístico do Brasil, 1971* (Rio de Janeiro, 1971); *Conjuntura Economica* (Rio de Janeiro), vol. 25, No. 9, 1971

Table A.45 **Developing countries: growth of urban population and labour force, 1960-1970**
(Percentage, except as indicated)

Country[a]	Average annual increase in urban population, 1960-1970		Proportion of population			Average annual increase in industrial labour force, 1960-1970	1970 incremental share of[b]	
			In urban areas, 1970	In non-agricultural activities				
	Percentage	Thousands		1960	1970		Labour force in population	Women in labour force
Western hemisphere	4.4	5,592.2	56	52	58	3.7	27	20
Jamaica	4.6	27.0	38	61	73	1.7	39	31
Uruguay	2.2	43.5	78	79	83	1.4	29	30
Argentina	2.5	419.9	80	80	85	1.8	31	24
Barbados	1.8	1.8	44	74	77	1.5	...	44
Chile	3.7	218.3	73	70	75	3.0	34	24
Cuba	2.7	107.7	56	61	67	4.0	...	15
Martinique	4.7	6.6	50	59	66	...	...	38
Bolivia	3.8	49.1	34	39	42	3.5	28	24
Haiti	4.8	34.7	18	17	23	5.1	43	44
Trinidad and Tobago	5.0	20.9	50	79	83	3.2	47	22
Guadeloupe	3.5	4.9	48	51	57	4.0	...	36
Dominican Republic	6.0	72.4	38	33	39	4.4	24	15
Mexico	4.9	1,090.4	57	45	53	4.7	25	16
Panama	4.6	25.1	47	79	83	4.7	24	23
Peru	4.3	237.8	51	48	54	4.4	28	21
Guatemala	4.1	52.8	31	33	37	4.0	31	14
Ecuador	5.1	93.5	39	43	46	4.1	26	20
Nicaragua	4.3	29.1	42	38	44	4.1	30	24
El Salvador	4.1	47.1	41	38	43	3.9	24	22
Brazil	5.0	2,040.1	57	48	56	4.4	26	18
Guyana	4.8	9.8	35	63	68	4.0	30	29
Surinam	4.0	4.8	38	70	73	3.3	29	25
Colombia	5.6	537.8	60	49	55	4.4	25	19
Venezuela	5.0	284.5	68	65	74	4.0	27	21
Paraguay	4.3	31.9	39	44	47	4.4	28	27
Honduras	5.3	28.7	26	30	33	4.9	28	14
Costa Rica	4.8	24.6	55	48	55	5.1	26	20
Africa	4.9	2,532.4	20	21	25	4.5	28	29
Guinea-Bissau	3.5	2.9	18	9	14	...	...	4
Gabon	4.4	3.2	19	15	28	1.7	...	42
Niger	6.5	14.7	8	5	9	7.6	28	14
Equatorial Guinea	4.6	3.1	30	16	21	2.9	...	4
Ivory Coast	6.0	40.4	21	11	19	4.2	40	46
Liberia	4.6	4.3	10	19	26	2.9	28	29
Lesotho	4.1	0.3	1	7	11	5.0	21	33
Mozambique	6.2	19.9	6	22	28	2.7	22	10
Gambia	3.3	1.0	10	15	16	3.8	38	33
Ghana	6.0	124.2	31	39	45	5.0	35	39

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Table A.45 *(continued)*

Country[a]	Average annual increase in urban population, 1960-1970		Proportion of population			Average annual increase in industrial labour force, 1960-1970	1970 incremental share of[b]	
	Percentage	Thousands	In urban areas, 1970	In non-agricultural activities			Labour force in population	Women in labour force
				1960	1970			
United Republic of Cameroon	6.1	53.2	21	12	18	4.3	33	36
Upper Volta	5.2	8.0	4	9	11	6.4	40	42
Ethiopia	5.1	86.1	9	12	15	4.2	35	33
Angola	5.1	32.0	14	31	37	3.5	21	11
Morocco	4.1	169.5	33	36	39	4.1	21	10
Namibia	5.1	7.8	32	38	45	3.3	...	22
Guinea	6.2	19.7	11	12	17	5.1	...	40
Central African Republic	5.6	16.2	25	6	13	4.9	45	41
Congo	5.0	10.8	30	48	55	4.1	...	37
Mauritania	5.4	3.5	9	9	15	4.5	27	4
Burundi	5.5	3.9	3	10	14	4.7	38	45
Zaire	6.0	124.7	16	16	22	3.7	29	37
Botswana	6.1	1.2	4	8	13	5.5	43	50
Sierra Leone	3.9	11.6	14	22	27	4.0	28	32
Mali	4.3	20.9	12	6	9	4.5	45	43
Senegal	4.0	32.8	26	16	24	4.0	31	33
Dahomey	6.4	16.6	13	46	48	5.0	37	41
Nigeria	5.0	486.7	23	29	33	4.8	30	39
Chad	5.1	10.1	7	6	9	6.5	34	21
Togo	6.4	11.5	13	20	25	5.2	33	33
Malawi	6.7	12.5	6	8	13	5.3	41	33
Madagascar	5.0	36.7	14	7	14	5.3	42	44
United Republic of Tanzania	5.8	39.3	7	11	14	4.9	37	36
Uganda	8.8	46.6	10	11	14	4.6	36	33
Rwanda	5.5	0.5	—	5	9	6.2	43	46
Egypt	4.1	483.6	43	42	45	4.0	22	6
Libyan Arab Republic	5.0	19.2	27	45	57	4.5	19	8
Zambia	5.2	40.3	24	21	31	4.9	32	28
Sudan	4.5	55.7	10	14	20	5.0	28	14
Swaziland	6.6	0.9	9	11	18	5.2	...	48
Tunisia	3.7	67.5	44	44	54	3.8	21	5
Somalia	3.5	16.4	20	12	18	4.6	...	30
Algeria	6.1	266.6	43	33	44	3.4	25	4
Southern Rhodesia	6.0	44.2	20	31	37	4.3	26	32
Réunion	4.3	4.3	27	55	64	4.3	25	25
Mauritius	2.0	6.3	42	61	69	3.7	21	22
Kenya	7.1	55.4	10	14	20	6.1	35	32

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(For footnotes, see end of table)

Table A.45 *(concluded)*

Country[a]	Average annual increase in urban population, 1960-1970		Proportion of population			Average annual increase in industrial labour force, 1960-1970	1970 incremental share of[b]	
			In urban areas, 1970	In non-agricultural activities				
	Percentage	Thousands		1960	1970		Labour force in population	Women in labour force
Asia	4.2	8,036.7	21	26	33	4.7	42	27
Republic of Viet-Nam	4.8	161.7	24	20	26	4.2	46	41
Indonesia	4.3	721.2	17	25	30	4.9	27	21
Portuguese Timor	2.8	1.6	11	29	34	...	...	12
Afghanistan	3.5	36.8	8	15	19	4.7	28	23
India	3.5	3,143.0	20	26	32	4.8	29	27
Nepal	4.9	19.8	5	6	8	6.2	...	40
Burma	3.9	163.7	19	32	36	4.7	30	32
Laos	6.4	20.8	15	17	22	5.2	44	46
Yemen	6.9	16.1	6	17	27	5.0	...	4
Saudi Arabia	6.2	82.9	24	29	40	3.9	20	6
Democratic Yemen	5.5	15.2	29	30	38	...	...	6
Bangladesh	3.6	120.1	5	7	11	...	...	...
Republic of Korea	5.7	517.8	38	34	42	4.9	38	25
Hong Kong	3.6	112.6	92	92	95	3.6	54	39
Pakistan	4.5	584.5	24	34	41			
Sri Lanka	5.5	103.8	20	44	48	4.1	32	25
Jordan	4.4	37.6	47	56	61	4.8	19	6
Israel	3.6	69.4	80	86	90	3.6	46	38
Lebanon	5.7	48.4	41	47	53	...	...	...
Singapore	4.8	63.4	81	91	92	2.9	...	...
Iran	5.0	444.1	41	46	54	3.9	22	12
Khmer Republic	4.5	30.7	12	18	24	4.3	36	36
Syrian Arab Republic	4.9	102.5	44	46	51	4.1	21	8
Thailand	5.0	205.5	15	16	24	5.8	44	46
Iraq	5.1	179.8	47	47	53	4.6	20	3
Philippines	4.7	479.7	34	26	31	5.6	30	28
Malaysia	5.5	184.9	41	37	44	4.8	36	27
Fiji	5.6	5.2	23	44	51	5.0	...	7
Kuwait	10.5	25.3	56	99	99	9.4	40	7

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, United Nations, *Monthly Bulletin of Statistics*, November 1971, *Implementation of the International Development Strategy, Papers for the First Over-all Review and Appraisal of Progress during the Second United Nations Development Decade, vol I* (United Nations publication, Sales No. E.73.II.A.2), and Food and Agriculture Organization of the United Nations, *Production Yearbook, 1972* (Rome)

[a] Within each region, countries are listed in ascending order of rate of increase in the 15-64 age group.

[b] Estimate based on ILO projections for 1970-1975

Table A.46 Distribution of countries according to population growth and female participation rate, 1970

Average annual increase in population (percentage)	*Countries[a] in each growth rate group in which the percentage ratio of female to total economically active population in 1970 was*							
	Less than 10	*10.0-19.9*	*20.0-24.9*	*25.0-29.9*	*30.0-34.9*	*35.0-39.9*	*40.0-44.9*	*45 and over*
Less than 1		Portugal	Malta Norway	Italy Ireland Belgium	Greece Sweden Denmark United Kingdom	Hungary Germany, Federal Republic of Finland	Czecho-slovakia Austria Gabon Bulgaria	
1.0-1.49	Equatorial Guinea Guinea-Bissau	Spain	Netherlands Uruguay	Luxem-bourg	Switzerland Cyprus France United States Yugoslavia	Jamaica Japan	German Demo-cratic Republic Barbados Poland Romania	USSR
1.5-1.99		Portuguese Timor Cuba	Argentina	New Zealand Iceland	Canada Liberia		Gambia	Lesotho
2.0-2.49	Mauritania Morocco Angola Mozambique	Afghanis-tan Bolivia	Réunion Namibia Chile Chad	Republic of Korea Australia Trinidad and Tobago Somalia	Hong Kong	Sierra Leone Ethiopia Guade-loupe Congo Malawi Ghana Senegal Burma	Nepal Guinea United Republic of Cameroon Zaire Ivory Coast Burundi	Haiti Republic of Viet-Nam Upper Volta Botswana Democratic Republic of Viet-Nam Central African Republic
2.5-2.99	Saudi Arabia Yemen Democratic Yemen Egypt Niger	Dominican Republic Iran Guatemala Pakistan Mauritius Brazil Nicaragua	Singapore Sri Lanka Guyana Surinam	Indonesia Malaysia Israel	India Zambia Uganda	United Republic of Tanzania Turkey Togo Nigeria	Albania Khmer Republic Dahomey	Madagascar Democratic Republic of Korea Laos Rwanda

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Table A.46 *(continued)*

Average annual increase in population (percentage)	*Countries[a] in each growth rate group in which the percentage ratio of female to total economically active population in 1970 was*							
	Less than 10	*10.0-19.9*	*20.0-24.9*	*25.0-29.9*	*30.0-34.9*	*35.0-39.9*	*40.0-44.9*	*45 and over*
3.0 and over	Lebanon Iraq Algeria Libyan Arab Republic Kuwait Jordan Tunisia Fiji Syrian Arab Republic	Sudan Honduras Mexico Costa Rica Ecuador El Salvador Venezuela Colombia	Peru Panama Paraguay South Africa	Southern Rhodesia	Philippines Mongolia Kenya	Martinique		Swaziland Thailand

Source: Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and International Labour Office, *Labour Force Projections, 1965-1985* (Geneva)

[a] Within each group, countries are listed in ascending order of female participation

Table A.47 Developing countries: population structure and growth and education enrolment and expenditure, 1970

Country[a]	Ratio of 5-19 age group to total population	Ratio of primary and secondary enrolment to 5-19 age group	Ratio of female to male enrolment		Ratio of public expenditure on education to GDP (average, 1968-1970)[b]	Average annual rate of increase in enrolment, 1960-1969[c]	
			Primary and secondary	Secondary		Primary	Secondary
	(percentage)						
Western hemisphere							
Barbados	39	73	99	101	6.4	2.3	7.1
Uruguay	27	65	100	111	2.0	1.8	6.6
Argentina	28	63	91	111	2.6	1.8	4.1
Cuba	32	64	97	98	7.5	3.9	5.8
Martinique	38	75	104	128	12.4	1.5	7.3
Trinidad and Tobago	38	64	94	76	3.8	2.6	9.0
Haiti	36	17	74	46	1.3	2.4	7.8
Bolivia	36	44	72	78	3.1	6.7	12.2
Guadeloupe	37	63	105	135	1.9	2.6	11.5
Jamaica	39	50	101	122	4.4	4.6	8.6
Surinam	39	...	95	102	4.7	...	...
Chile	37	65	102	106	4.6	6.0	1.1
Brazil	36	47	99	101	3.0	5.7	13.4
Paraguay	39	52	90	100	2.0	3.5	6.3
El Salvador	39	46	89	87	2.7	5.4	12.0
Guyana	40	62	96	96	4.7	0.1	11.0
Panama	37	57	97	110	4.6	4.4	6.3
Peru	38	56	81	70	4.2	6.5	14.5
Honduras	39	41	94	63	3.2	7.5	12.8
Guatemala	39	28	79	77	1.3	5.7	7.1
Venezuela	38	52	98	95	4.5	3.6	11.9
Nicaragua	40	39	107	125	2.6	5.7	21.0
Colombia	39	40	100	98	1.7	6.2	14.3
Dominican Republic	42	50	97	91	2.9	4.1	15.0
Ecuador	38	50	90	81	4.0	5.6	12.9
Mexico	40	52	87	66	2.5	6.4	12.7
Costa Rica	40	56	96	102	6.4	6.2	9.6
Africa							
Gabon	30	76	85	34	3.7	5.2	13.5
Guinea-Bissau	31	11	97	71	...	4.5	17.4
Equatorial Guinea	30	66	68	58	...	5.8	33.1
Angola	35	19	54	74	0.9	15.5	14.9
Liberia	33	36	46	30	2.0	7.0	19.7
Lesotho	33	53	154	117	4.6	2.9	10.7
Gambia	34	18	41	31	2.7	9.3	14.2
United Republic of Cameroon	34	49	71	36	3.4	7.4	18.3

(Table continued on following page)

(For footnotes, see end of table)

Table A.47 *(continued)*

Country[a]	Ratio of 5-19 age group to total population	Ratio of primary and secondary enrolment to 5-19 age group	Ratio of female to male enrolment		Ratio of public expenditure on education to GDP (average 1968-1970)[b]	Average annual rate of increase in enrolment, 1960-1969[c]	
			Primary and secondary	Secondary		Primary	Secondary
	(percentage)						
Upper Volta	35	6	53	37	–	6.4	27.8
Ethiopia	35	8	43	36	1.5	9.2	20.3
Mozambique	34	20	52	62	...	2.2	3.2
Central African Republic	35	34	45	23	3.4	10.8	18.7
Botswana	35	40	101	80	4.9	8.6	21.4
Congo	35	78	72	41	6.7	7.8	23.3
Guinea	35	15	41	22	6.7	5.3	22.0
Burundi	35	15	46	34	1.9	8.1	11.7
Mauritania	35	7	35	10	4.8	12.4	22.9
Zaire	35	50	54	30	3.6	8.2	25.5
Mali	36	12	40	19	4.7	14.4	–0.7
Sierra Leone	36	20	55	38	3.0	6.7	16.2
Ivory Coast	35	35	53	26	5.5	7.2	23.0
Senegal	35	22	54	36	3.9	7.5	21.8
Chad	37	13	30	8	2.6	9.4	22.2
Dahomey	36	17	44	42	4.2	6.7	19.1
Togo	37	36	43	30	1.9	9.2	14.6
Nigeria	37	13	58	45	2.3	1.3	3.5
United Republic of Tanzania	37	18	61	37	3.8	7.8	10.4
Madagascar	37	39	84	59	6.8	7.1	17.9
Malawi	37	21	56	38	0.1	2.6	25.6
Mauritius	39	58	86	64	3.2	3.3	7.1
Rwanda	37	32	72	43	4.2	4.7	20.8
Egypt	36	41	57	47	4.7	3.2	11.5
Niger	37	6	50	28	1.9	14.9	22.2
Swaziland	38	48	91	77	4.1	7.2	18.2
Sudan	37	14	46	35	4.9	8.5	11.1
Somalia	40	5	30	25	2.2	4.7	23.0
Southern Rhodesia	41	41	...	...	3.9	5.1	23.6
Tunisia	38	56	59	35	5.6	8.3	9.2
Libyan Arab Republic	36	53	47	22	3.6	10.1	16.1
Algeria	38	33	58	41	6.6	11.3	5.8
Réunion	38	72	104	130	3.6	4.3	13.7
Morocco	40	25	47	36	4.0	4.0	19.1
Zambia	37	45	78	50	6.2	9.2	35.1
Uganda	36	25	56	34	3.6	3.2	1.5
Kenya	39	38	68	42	4.8	6.2	20.6
Ghana	46	42	73	37	3.8	7.7	15.8

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(For footnotes, see end of table)

Table A.47 *(concluded)*

Country[a]	Ratio of 5-19 age group to total population	Ratio of primary and secondary enrolment to 5-19 age group	Ratio of female to male enrolment		Ratio of public expenditure on education to GDP (average, 1968-1970[b]	Average annual rate of increase in enrolment, 1960-1969[c]	
			Primary and secondary	Secondary		Primary	Secondary
	(percentage)						
Asia and Pacific							
Israel	32	64	97	108	6.8	1.4	5.4
Malaysia	40	53	83	69	5.3	3.0	12.7
Afghanistan	35	11	16	14	1.1	11.9	23.0
Portuguese Timor	36	...	32	44	...	17.5	18.5
Sri Lanka	36	58	...	...	3.6	1.5	4.8
Nepal	36	14	17	19	0.6	15.3	5.1
Pakistan[d,e]	39	23	16	28	1.8	6.6	9.2
Democratic Yemen	36	33	25	26	3.0	17.0	6.6
Yemen	36	37	88	20	...	2.8	19.2
Saudi Arabia	36	17	39	20	4.3	14.8	24.4
India	36	29	48	45	2.5	8.0	11.7
Khmer Republic	38	41	59	26	4.6	6.5	11.0
Laos	36	21	57	35	2.4	10.1	15.4
Fiji	40	65	90	70	1.6	4.8	11.5
Lebanon[e]	37	58	71	65	2.5	5.1	14.0
Burma	34	42	...	...	3.1	8.5	11.4
Republic of Korea	39	61	83	60	3.8	4.7	8.5
Jordan	37	41	69	48	3.3	2.2	4.6
Iran	39	35	56	49	2.7	8.2	13.7
Iraq	38	37	41	40	5.5	3.6	9.3
Philippines	39	54	94	97	3.1	5.9	12.3
Indonesia	38	33	47	34	0.7	4.1	10.4
Syrian Arab Republic	38	49	48	33	4.5	6.4	14.0
Thailand	38	41	87	70	3.4	4.6	6.4
Singapore	39	64	87	86	4.0	2.5	9.8
Republic of Viet-Nam	33	51	78	67	1.2	7.1	13.5
Hong Kong	37	67	86	74	3.0	5.8	12.5
Kuwait	33	54	75	72	3.5	3.8	18.7

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, *Implementation of the International Development Strategy, Papers for the First Over-all Review and Appraisal . . . vol. I* (United Nations publication, Sales No. E 73.II A.2), and United Nations Educational, Scientific and Cultural Organization, *Statistical Yearbook* (Paris).

[a] Within each region, countries are listed in ascending order of rate of increase on the 5-19 age group.

[b] Except in the case of Rwanda (1968), Central African Republic, Chad, Democratic Yemen and Lesotho (1969).

[c] Except in the case of secondary enrolment in Martinique (1965-1969) and primary and secondary enrolment in Portuguese Timor (1960-1965).

[d] Undivided Pakistan (including Bangladesh).

[e] Rate of increase in the 5-19 age group estimated.

Table A.48 Distribution of countries according to population growth and ratio of female to male enrolment in secondary school, late 1960s

Average annual increase in population (percentage)	*Countries[a] in each growth rate group in which the percentage ratio of female to male enrolment in secondary school in the late 1960s was*						
	Less than 30	*30-39*	*40-59*	*60-74*	*75-90*	*90-99*	*100 and over*
Less than 1		Gabon		Hungary Greece	Malta Italy Portugal Austria Germany, Federal Republic of Belgium	Norway United Kingdom Denmark	Finland Sweden Ireland Czechoslovakia
1.0-1.49			Equatorial Guinea	Jamaica Spain Guinea-Bissau Switzerland Romania	Luxembourg Yugoslavia Cyprus Netherlands German Democratic Republic	Japan	Barbados France Uruguay Poland
1.5-1.99		Liberia Gambia	Portuguese Timor			New Zealand Canada Cuba	Argentina Lesotho
2.0-2.49	Chad Mauritania Afghanistan Nepal Mali Guinea Central African Republic Somalia Ivory Coast	Zaire Burundi Morocco United Republic of Cameroon Senegal Ethiopia Ghana Upper Volta Malawi Sierra Leone	Congo Haiti	Republic of Korea Mozambique Republic of Viet-Nam Hong Kong Angola	Trinidad and Tobago Bolivia Australia Botswana		Chile Réunion Guadeloupe
2.5-2.99	Yemen Saudi Arabia Khmer Republic Democratic Yemen Niger	Togo Uganda Laos United Republic of Tanzania	Turkey Dahomey Rwanda Nigeria India Egypt Iran Zambia Madagascar	Albania Mauritius Malaysia	Guatemala Singapore	Dominican Republic Guyana	Brazil Surinam Israel Nicaragua

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(For footnotes, see end of table)

Table A.48 *(continued)*

Annual average increase in population (percentage)	*Countries[a] in each growth rate group in which the percentage ratio of female to male enrolment in secondary school in the late 1960s was*						
	Less than 30	*30-39*	*40-59*	*60-74*	*75-90*	*90-99*	*100 and over*
3.0 and over	Libyan Arab Republic	Syrian Arab Republic Tunisia Sudan	Iraq Algeria Kenya Jordan	Honduras Mexico Thailand Peru Fiji Kuwait	Swaziland Ecuador El Salvador	Venezuela Philippines Colombia Paraguay	Panama Costa Rica Martinique

Source. Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations Educational, Scientific and Cultural Organization, *Statistical Yearbook* (Paris).

[a] Within each group, countries are listed in ascending order of female/male enrolment ratio

Table A.49 Distribution of countries according to growth of 5-19 age group and of the numbers not in school, 1960-1970

Annual average increase in 5-19 age group	*Countries[a] in each growth rate group in which, between 1960 and 1970, the number of children 5-19 not in school increased by (percentage)*					
	Less than 0	*0-9.9*	*10-19.9*	*20-29.9*	*30-39.9*	*40 and over*
Less than 2.0	Barbados United Republic of Cameroon Liberia	Angola Argentina Lesotho Malaysia Gambia Uruguay Guinea-Bissau	Afghanistan			Gabon Israel
2.0-2.4	Zaire Botswana Central African Republic	Ivory Coast	Mozambique Senegal Sierra Leone Mali Guinea Ethiopia Burundi Martinique Chad Mauritania Upper Volta	Nepal Haiti		Sri Lanka Trinidad and Tobago Congo
2.5-2.9		Swaziland Madagascar Bolivia Togo Fiji Chile	Egypt Saudi Arabia Khmer Republic Laos	Dahomey Rwanda United Republic of Tanzania India Niger	Malawi Pakistan Nigeria	Mauritius Jamaica Guadeloupe
3.0-3.4		Burma Brazil Peru	Iran Republic of Korea Honduras	Panama	Sudan Paraguay Iraq Guatemala Somalia Jordan	Guyana
3.5-3.9	Singapore Libyan Arab Republic	Tunisia Syrian Arab Republic	Philippines Mexico Indonesia	Algeria Ecuador Colombia Southern Rhodesia	Dominican Republic Nicaragua	Venezuela Thailand
4.0 and over	Zambia	Réunion	Republic of Viet-Nam Kenya Ghana	El Salvador Uganda Hong Kong	Costa Rica Morocco	Kuwait

Source Centre for Development Planning, Projections and Policies of the United Nations Secretariat, based on national census reports, estimates of the Population Division of the United Nations Secretariat, and United Nations Educational, Scientific and Cultural Organization, *Statistical Yearbook* (Paris) various issues

[a] Within each group, countries are listed in ascending order of increase in the number of 5-19 year olds not in school