02807

The Distribution of Gains from Economic Development

Felix PAUKERT¹

Twelve years ago Jacob Viner was able to write: "The output of literature on economic development has in recent years reached massive proportions ".² Since then the output has increased to such an extent that the "massive proportions" of 1953 seem modest compared with the present preoccupation with economic development and the amount of literature devoted to it. The range of research on economic development has increased proportionally: descriptive and historical studies of particular developing countries and regions, classifications and definitions of particular aspects of underdevelopment, studies of stages of economic development, inquiries into the effects of particular factors (such as investment, employment, and recently also education, nutrition, health and various social services) on economic growth, research into the interdependence between international trade and economic development, discussions about the role of the public sector in the process of development—these are but some of the many aspects of the broad field of economic development which are increasingly studied.

The great majority of these studies concern themselves with the problem of what factors help or hamper economic development, to what extent they do so, and, at the next stage of economic reasoning, with the best strategies for speeding up the process of development.

The present study does not belong to this category of economic literature. It is not an attempt to find out what factors play a key part in the process of economic development; nor is it concerned with the strategies, the criteria for decision making or with the theoretical and practical problems of development planning. Undertaken within the framework of an I.L.O. research programme on "Balanced Economic and Social Development" its aim is to examine the progress of the developing countries over the last six to 11 years in order to find out how

¹ International Labour Office.

² In International trade and economic development—Lectures delivered at the National University of Brazil, 1953, Chapter VI. Reprinted in A. N. AGARWALA and S. P. SINGH (editors): The economics of underdevelopment (Oxford University Press, 1958).

this progress has been translated into economic and social well-being, how the gains from economic development have been distributed among particular uses.

There are of course a number of ways in which we can express the distribution of gains from economic growth, but there are equally many limitations-mainly arising from lack of data-on the method to be used. This study will be confined to the exploration of one particular type of distribution-but perhaps the most significant-namely that between private consumption, social consumption (i.e., government services) and investment. We shall, however, modify this classical threefold distribution by introducing a fourth element: population growth. We shall calculate the distribution of gains from economic growthapproximately defined as the difference of gross domestic product at the end and at the beginning of the surveyed period—between these four end uses. We shall note the peculiar features of this distribution in the particular regions of the developing world and compare them with the distribution patterns of some industrialised countries. Finally we shall examine some factors which may influence the distribution of gains from economic growth in the developing countries.

The method of the study

The standard measure of the money value of goods and services becoming available to a country from economic activity is the national income. National income can be regarded in three ways: as a sum of *incomes* derived from economic activity; as a sum of the *products* of the various industries; or as a sum of *expenditures*, where the main division is between expenditure on current consumption and expenditure adding to wealth (investment). In an attempt to find out how countries distribute the gains from economic growth we shall use the third (expenditure) way of looking at the national income.

The United Nations Yearbook of National Accounts Statistics¹ presents data on the expenditure concept of national income in the following way:

- 1. Private consumption expenditure, plus
- 2. General government consumption expenditure, plus
- 3. Gross domestic fixed capital formation, plus
- 4. Increase in stocks, plus
- 5. Exports of goods and services, less
- 6. Imports of goods and services, equals

Expenditure on gross domestic product, plus

7. Net factor income from abroad, equals

Expenditure on gross national product.

¹ Unless otherwise stated, all the data in this study are derived from the figures shown in the *Yearbooks* for 1957, 1958, 1959, 1960; 1961, 1962 and 1963. Population figures are midyear estimates published in the *Monthly Bulletin of Statistics* (New York, United Nations). In our calculations we shall be mainly concerned with the first four items.

Item 1—private consumption expenditure—referred to herein as "consumption", represents the value of final expenditure by households (and by private non-profit institutions) on current goods and services, excluding the purchases of land and buildings (i.e. investment). Imputed value of home-grown food and of rent (in case of owner-occupied dwellings) is included.

Item 2—general government consumption expenditure—referred to simply as "government" or "government services", represents the value of current government services (measured by the sum of compensation of employees and net government purchases) excluding transfer payments.¹ This item does not include government capital expenditure, with the exception of capital expenditure for national defence, which is considered as government consumption expenditure.

Items 3 and 4—gross domestic fixed capital formation, and increase in stocks—will be taken together and referred to as "investment". This will represent the total investment by the individuals (households), by enterprises and by government.

These three types of expenditure—consumption, government services, and investment—amount together, more or less, to the value of gross domestic product at market prices. The sum of items 5 and 6 may be positive or negative, depending on whether the country has an excess of exports over imports or vice versa. We shall ignore this sum, and consequently we shall not deal with the gross domestic product (G.D.P.) proper, but with a close approximation, the "locally used gross domestic product (L.U.G.D.P.)".²

² The reason for substituting the concept of the locally used gross domestic product for the usual concept of gross domestic product is that we wish to avoid having an element of national income that may be negative and is highly volatile. In many countries the omission of the "exports less imports" item does not greatly change the size of national income (see table V for the magnitudes of the two concepts) or the rate of growth (see table I for the rates of growth in G.D.P. and L.U.G.D.P.), but in some countries the increases are at a different rate, or the magnitudes of different size in particular years.

Theoretically, the omission is justified in view of our preoccupation with the question of uses of available resources (rather than with the question of the factors determining the amount of resources available) on condition that we recognise that a country may enlarge its L.U.G.D.P. more rapidly than its G.D.P. by having a growing import surplus (if other countries are willing to make loans or grants to it) or a declining export surplus; or that it may choose or be obliged to accept a lower rate of increase in L.U.G.D.P. than in G.D.P. if it cuts down its import surplus or has a growing export surplus. In the former case the country's total capital formation, domestic and foreign, will fall short of gross domestic fixed capital formation plus increases in stocks (items 3 and 4 on p. 368) by the increase it will be *repaying* foreign debt or *accumulating* foreign assets, items 3 and 4 together will

¹ The exclusion of transfer payments follows, of course, from the basic philosophy of national accounting where only payments made for the supply of goods and services (including the services of factors of production) enter into national income and expenditure. Transfer payments (taxes, grants, benefits, gifts, etc.) only represent a redistribution of national income (within or between sectors) without adding to its total.

By the gains from economic growth we shall understand the increment in the locally used gross domestic product over a certain time, i.e. the difference between the L.U.G.D.P. in the final and in the base period. If we confined our analysis to the three elements mentioned above consumption, government services and investment—the calculation would be simple: the increments in the three elements sum by definition to the increment in the L.U.G.D.P., and might be simply expressed as percentages of it.

This type of analysis would, however, neglect one important aspect of the present situation in the developing countries: the rapid growth of population. If the G.D.P. (or L.U.G.D.P.) of a country grows at 2 per cent. per annum, and population also increases at 2 per cent. per annum, national income per head remains the same, and unless there is some shift between the three elements (e.g. increased consumption with a corresponding decline in investment), per caput consumption, per caput government services and per caput investment remain the same. In other words, population growth swallows the whole increase in national income—all the gains from economic growth—and nothing is left to increase the amount spent per head on consumption, government services or investment.

For this reason we include "population" as a fourth use on which gains from economic development may be spent. And we shall use the term "population component" to designate that part of the increase in national income which it is necessary to spend in order to provide the same national income *per head* for the population in the final period as the (usually) smaller population had in the base period.¹

Incorporation of the "population component" will also affect the definition of the other three elements—consumption, government services, and investment. Instead of asking what amount (or share) of the increment in national income is devoted to increasing consumption, we shall ask what amount (or share) is devoted to increasing consumption

understate its total capital formation. Thus an alternative treatment would have been to use G.D.P. instead of L.U.G.D.P., but to take a different definition of investment, in which an export surplus would be added to (or an import surplus subtracted from) the sum of items 3 and 4 above. But to the extent that an import surplus is financed by means of grants as distinct from loans—or by means of reparations, as in the case of Israel—this seems inappropriate.

¹ Again, in a study concerned with the distribution of gains from economic growth rather than with the explanation of the growth itself, we ignore the possible effect of population growth on national income growth. This effect, though conceivable and to some extent real, should not be overestimated, since population increases (if due to high birth rates or to a decline in infant mortality rates) are not for some time translated into a larger population of working age. Further, even an increase in the population of working age does not mean a proportional increase in the size of economically active population, if the economy is not able to absorb the increase in population of working age to the same extent as before. Finally, an increase in the size of the economically active population does not result in a similar increase in national income, since with a given endowment of other production factors the additional (marginal) working force will work at a lower level of labour productivity.

370

per head, and similarly with investment and government services. We shall refer to this amount as the "consumption component" (and to its share in the total increase in L.U.G.D.P. as the "share of the consumption component"), corresponding terms being used as regards investment and government services. By definition, therefore, the four "components" population, consumption, government services and investment—have to account precisely for the full amount of the increase in L.U.G.D.P., and their respective shares must sum to 100 per cent.¹

However, while the four components must add up to the total increase in locally used gross domestic product, a particular component need not be positive. It will be negative (and its share in the total increment will be negative) if there was an actual decline in the absolute amount or even if there was an increase, provided that the increase was relatively smaller than the increase in population. (In the case of the population component, the amount and the share will be negative only if there was an actual decline in the total population.) The negative shares of particular components are a tangible demonstration of structural changes, which shift resources from one use to another to such an extent that economic growth, even in per caput terms, may not be sufficient to keep the per caput level of a particular national income element from declining.

The distribution pattern was not studied on a year-to-year basis ², but over a period of six to 11 years, according to availability of data. In order to reduce the element of change inherent in taking one year rather than another as terminus, growth and its distribution between particular components was measured not from the first to the last year covered, but rather from the average of the first two years to the average of the last two years. Thus in the case of a country for which data were available for eight consecutive years, it was possible to calculate the increment in national income, and its distribution, over a period of six years.

¹ This is shown by the formula used in our calculations:

$$\mathbf{Y_1} - \mathbf{Y_0} = \mathbf{Y_0} \left(\frac{\mathbf{P_1}}{\mathbf{P_0}} - \mathbf{1} \right) + \mathbf{C_1} - \mathbf{C_0} \left(\frac{\mathbf{P_1}}{\mathbf{P_0}} \right) + \mathbf{G_1} - \mathbf{G_0} \left(\frac{\mathbf{P_1}}{\mathbf{P_0}} \right) + \mathbf{I_1} - \mathbf{I_0} \left(\frac{\mathbf{P_1}}{\mathbf{P_0}} \right),$$

where Y stands for the locally used gross domestic product (L.U.G.D.P.), P for population, C for consumption expenditure, G for government expenditure and I for investment expenditure, the subscripts 1 and 0 denoting the final and the base periods respectively. The expression on the left side shows the increase in national income, and the four components (i.e. amounts spent on the four uses) are shown on the right side. The *share* of the population component is

then
$$\frac{Y_0\left(\frac{P_1}{P_0}-1\right)}{Y_1-Y_0}$$
, of the consumption component $\frac{C_1-C_0\left(\frac{P_1}{P_0}\right)}{Y_1-Y_0}$, etc.

² Apart from the fact that analysis of distribution over a period gives more interesting insights than analysis of distribution changes from year to year, the introduction of the population component causes great year-to-year variability, which obscures the significant tendency over a longer period. For a good explanation of the reason why the rate of growth of per caput product will vary more than that of total product see Simon KUZNETS: *Post-war economic growth* (Cambridge (Massachussets), 1964), pp. 105-107.

The study covers all countries of Asia, Africa and Latin America for which data were available ¹, on a comparative basis, for at least six consecutive years, yielding results covering a four-year period. The less developed countries of Western Europe were not covered; nor were the centrally planned economies, which use a different national accounting system, and whose performance can therefore not be compared with that of countries following the United Nations system.

The pattern of distribution of gains from economic growth in the developing countries

The study yielded results on the distributional pattern of national income increments for 21 developing countries, of which seven are Asian, 12 Latin American and two African. In the case of seven countries, the data relate to growth over eight or nine years, in the case of another seven countries to growth over six or seven years, and in the case of six to growth over five years. For one country data are shown for the distribution of growth over a period of four years only.

Table I shows the basic information about the 21 developing countries: the period covered, the increase in population, in gross domestic product proper and in locally used gross domestic product (both measured at constant prices), over the whole period and at the annual rates of growth, and the distribution of the increases in locally used gross domestic product between the four components.

The table 2 reveals great variety among the developing countries. Thus the average annual rate of growth of population ranged from 0.89 per cent. (Jamaica) to the enormous 3.82 per cent. (Israel). Similarly, the average annual rate of growth of the locally used gross domestic product ranged from 0.64 per cent. (Paraguay) to 11.52 per cent. (Venezuela).

The pattern of distribution shown in the last four columns deserves detailed comment, since it really reflects the manner in which economic growth over the last decade or so has been used in the 21 developing countries.

First, there is the strikingly large share of the population component. In three countries (Paraguay, Congo (Leopoldville) and Chile) the population share exceeds 100 per cent.; in other words population growth more than swallows the increase in national income, and income per head falls. In the extreme example of Paraguay the rate of growth of locally used gross domestic product would have to be 3.7 times higher merely to keep income per head constant.

¹ We therefore include Japan and certain other countries which cannot be truly called "underdeveloped".

² All calculations were made on the basis of three decimal points, but the figures in the tables are rounded up to one decimal point only.

OME OF DEVELOPING COUNTR	
C IN	
NATIONAI	ercentages)
Z	(Pe
INCREASES	
OF	
DISTRIBUTION	
ABLE I.	-

ES

Investment -48.9 Shares in the increase of L.U.G.D.P. of--15.00.9 32.8 **5.8** -8.8 16.5 28.0 17.5 2.8 -124.213.7 -12.2 19.2 -15.2 29.3 18.0 5.2 12.5 56.1 20.1 Govern-ment 13.0 -3.0 19.4 34.2 3.9 5.9 4.2 3.8 7.8 78.9 19.2 6.2 5.0 9.4 6.9 -0.8 5.3 -13.1 11.1 12.1 25.1 Con-sumption -0.3 34.5 42.4 40.2 58.8 31.9 35.8 30.3 31.2 303.3 52.3 69.69 -0.0 23.9 23.0 19.1 25.5 45.4 39.7 33.1 1 G.D.P. | LUGDP | Population | Population 57.8 74.3 136.2 35.0 61.9 82.6 39.3 12.2 6.1 54.7 78.1 41.8 373.3 62.8 55.7 31.8 22.3 33.0 57.3 14.4 35.1 Annual rates of growth in-2.5 2.6 3.6 2.4 3.4 1.8 3.0 1.4 3.0 3.0 3.0 3.8 0.9 2.4 2.4 3.1 3.1 3.4 8.4 3.7 3.8 5.0 4.6 3.5 1.7 8.6 6.5 |1.4 4.3 4.3 0.6 3.7 5.1 7.2 8.8 1.5 4.1 1.8 2.3 7.2 4.3 2.9 4.5 4.8 3.9 9.1 7.7 10.5 4.4 3.7 3.0 -1.0 2.2 5.3 0.0 12.0 6.7 LUGDP Population Increase over the period in---13.4 17.0 16.7 26.6 25.2 4.5 5.6 l6.2 13.2 27.2 30.9 20.9 7.6 12.5 12.5 37.1 31.7 16.7 [4.] 9.1 28.8 64.2 28.9 18.0 12.5 40.0 47.5 49.9 32.2 91.4 38.2 18.3 3.4 19.9 56.8 62.8 52.4 72.4 106.1 10.4 37.1 G.D.P. 11.2 87.5 34.2 12.0 25.2 29.8 52.2 35.4 68.8 45.3 82.5 40.9 24.3 12.5 -5.3 11.5 58.8 57.0 61.1 42.1 76.1 years <u>م</u>.2 ŝ 9 6 5 . 1952/53-1957/58 1953/54-1959/60 (Taiwan) . 1952/53-1961/62 1952/53-1958/59 1952/53-1961/62 1952/53-1961/62 1953/54-1961/62 1955/56-1961/62 1955/56-1961/62 1953/54-1961/62 1955/56-1961/62 1952/53-1956/57 Peru....|1952/53-1957/58| Philippines . 1952/53-1961/62 Puerto Rico 1954/55-1961/62 . 1952/53-1957/58 1954/55-1959/60 . 1953/54-1960/61 1952/53-1960/61 Paraguay . . 1955/56-1960/61 Trinidad . . |1955/56-1960-61 Period Congo (Leo poldville) Guatemala Jamaica . Chile . . Ceylon . Colombia Cyprus. Honduras Nicaragua Venezuela Country Ecuador . Israel . Japan . Korea. Nigeria China

Gains from Economic Development

The population takes a great part of the gains from economic growth in other countries too. Altogether, in 12 out of the 21 countries more than 50 per cent. of the increment in national income went into providing for the additional population, and in two further countries the population component, although accounting for less than 50 per cent., was the largest. The average share of the population component was 69.8 per cent., a figure affected by the extreme values of a few countries. A typical (median) share of the population component was 55.7 per cent.

Increases in consumption per head form the second most important use of gains from economic growth. Although in four countries per caput consumption actually declined, the share of the consumption component was typically between 20 and 40 per cent., with the median at 31.9 per cent.

The distributional pattern was most variable in the share of the investment component. In six countries investment per head actually declined over the period, and the average share of the investment component was only 2.6 per cent. On the other hand, the median country spent 12.5 per cent.—and one country (Japan) as much as 56.1 per cent.—of the increase in L.U.G.D.P. on investment.

The share of the government services component generally was more uniform than that of investment. The typical (median) country spent 6.9 per cent., and half the countries spent between 4 and 12.5 per cent., on government services.

The pattern of distribution differs from one developing continent another. Leaving aside Africa (for which only two countries to are represented), population plays a much smaller part in the seven Asian countries covered in this study than in the 12 Latin American countries. Comparison of the arithmetic mean of the shares for Latin America and Asia shows that in the former the share of the population component was greater, that of the government services component was about equal, and those of the consumption and investment components were much smaller. Using the median, which is not affected by extreme values of a few countries, we find that the share of the population component in Latin America was 59.5 per cent, while in Asia it was only 39.3 per cent. The equal importance of the government services component in the two continents is confirmed also by the median: 6.1 per cent. in Latin America and 6.2 per cent. in Asia. The median shares of consumption are also equal (31.9 per cent. in Asia and 31.7 per cent. in Latin America), showing that the lower average of consumption shares in Latin America was due to a few extreme values. On the other hand, there can be no doubt about the higher share of the investment component in Asia, where the median share is 16.5 per cent. compared with only 4.3 per cent. in Latin America.

Gains from Economic Development

In order to compare the distribution of the increases in locally used gross domestic product in developing countries with that of the industrialised countries, a similar calculation was made for 11 developed countries of Western Europe and for the United States. This is shown in table II.

TABLE II. DISTRIBUTION OF INCREASES IN NATIONAL INCOME OF THE INDUSTRIALISED COUNTRIES (Percentages)

		LIS	In the	crease c period	over of—	Ar of g	nual r rowth	ates of—	Sha of	ares in t L.U.G.	he incre D.P. of	ease
Country	Period	No. of yea	G.D.P.	L.U.G.D.P.	Population	G.D.P.	L.U.G.D.P.	Population	Population	Consumption	Government	Investment
Austria	1952/53-											
	1961/62	9	81.4	84.5	2.2	6.8	7.0	0.2	2.6	60.2	5.1	32.0
Belgium	1956/57-											
	1961/62	5	13.1	14.1	2.7	2.5	2.7	0.5	19.4	53.9	12.2	14.5
Denmark	1954/55-											
	1961/62	7	37.1	41.6	4.8	4.6	5.1	0.7	11.6	45.4	7.3	35.7
France	1953/54-										ł	1
	1960/61	7	36.8	36.5	6.9	4.6	4.5	1.0	18.9	49.7	5.5	25.8
Germany	1952/53-											1
(Fed. Rep.)	1958/59	6	52.3	54.0	7.0	7.3	7.5	1.1	13.1	56.0	4.6	26.3
Italy	1952/53-											
	1960/61	8	63.6	58.8	4.3	6.3	6.0	0.5	7.3	43.8	14.3	34.6
Netherlands	1954/55-											
	1961/62	7	31.0	32.5	9.7	3.9	4.1	1.3	29.8	41.7	1.7	26.7
Norway	1954/55-				· "							
a 1	1961/62	7	28.9	28.0	6.3	3.7	3.6	0.9	22.4	40.0	12.4	25.1
Sweden	1952/53-											
~ ·/ 1 1	1961/62	9	44.2	46.3	5.5	4.2	4.3	0.6	11.9	46.0	12.4	29.7
Switzerland.	1954/55-				[
· ·	1958/59	4	17.4	18.4	5.5	4.1	4.3	1.4	30.2	42.8	8.1	18.8
Kingdom	1955/56-											
TT . 1	1961/62	6	15.5	17.4	3.7	2.4	2.7	0.6	21.1	50.0	1.3	27.6
United	1954/55-											0-
states	1961/62	7	22.0	21.6	12.6	2.9	2.8	1.7	58.4	36.5	5.6	-0.5

The distribution of increments in L.U.G.D.P. in the industrialised countries is very uniform compared with that in the developing countries. Different from this general pattern, to some extent, is the United States,

which had by far the fastest population growth among the industrialised countries and, at the same time, was (together with the United Kingdom and Belgium) the slowest growing country economically. The combination of these two factors gave rise in the United States to a population component share which was typical of less developed countries. The United States is also the only developed country to have a negative share, albeit a very small one: its investment component accounts for -0.54 per cent., which means that investment over the 1954/55-1961/62 period was just unable to keep pace with population growth. Other striking features are the small share of the population component in Austria (where population grew at less than a quarter of 1 per cent. per annum), and the small shares of the government services components in the United Kingdom and the Netherlands.

Comparison of the developing with the industrialised countries offers a striking contrast. In the developing countries by far the most important use of the gains from economic development was catering for growing population, with consumption well behind, and government and investment (roughly equal) still further behind. In the industrialised countries, on the other hand, the most important use of economic gains were increases in per caput consumption, followed by investment, the population use being only third in importance. The following picture of the importance of particular components (with median values given in brackets) thus emerges 1:

Developing countries	Industrialised countries
1. Population (55.7 per cent.)	1. Consumption (45.7 per cent.)
2. Consumption (31.9 " ")	2. Investment (26.5 " ")
3-4. Investment (12.5 " ")	3. Population (19.1 " ")
3-4. Government (6.9 " ")	4. Government (6.5 " ")

The typical distributional pattern of the industrialised countries has two basic characteristics: first, the consumption component is the most important of all, and second, the investment component is always more important than the government services component. The distribution patterns in all industrialised countries (other than the United States) have these characteristics. Of the developing countries, five (Israel, Jamaica, Puerto Rico, Trinidad and Venezuela) have a pattern of distri-

¹ Unlike the sum of averages, the sum of medians of the shares does not add to 100 per cent., although it is usually quite near it. For the measure of importance of particular uses we not only use medians, which are shown here, but the upper and lower quartiles and averages (which are shown below, table IV). For this reason we link together the investment and government components as of equal importance in the developing countries because, while the median and the upper quartile show the investment component to be of greater importance, the lower quartile, the average and the full range of values show the government component to be more important.

bution of the gains from economic growth which is fully consistent with that of the industrialised countries.

Fourteen developing countries have a distribution pattern where the largest component is population. In 12 cases this is followed by consumption and then by government or investment. This may be termed the typical distribution pattern of developing countries, although a few of them (e.g. China (Taiwan) and Nigeria) are not far away from the industrialised countries' pattern. Four of the 14 countries (Paraguay, Ceylon, Chile and Congo (Leopoldville)) have a distributional pattern in which the distributional characteristics of underdevelopment (extremely high shares of population and government components 1) are extremely pronounced. This is true also, though to a smaller degree, of the twentieth country, Cyprus, where the government component is the largest. The remaining country, Japan, offers an entirely different picture. It has the distribution characteristic of the industrialised countries (large consumption and investment components, small population and government components) but in such an extreme form that it does not fit readily into the typical distributional pattern of the industrialised countries. Judging by this pattern alone, Japan is more developed than the developed countries of Western Europe.

Some factors influencing the distribution of gains from economic development

The fact that the pattern of distribution between different uses in the developing countries differs considerably from that prevailing in the industrialised countries suggests that there are some forces which affect these patterns. Among such forces one can mention general government economic and social policy, cultural and social traditions, economic structure, productivity of different sectors of the economy, and a number of others. These factors can be analysed by making case studies of each of the countries in an attempt to isolate the influence of each particular force on the distributional pattern.

In this global study based on international comparisons we shall confine our attention to a few factors only—to factors which are in a way already inherent in the formula we used to calculate the distribution of increases in national income. We shall attempt to estimate the link between the distribution of national income in a given period and the

¹ The finding that a high share of the government component is one of the characteristics of underdevelopment is only partly established so far (by the fact that in the industrialised countries the government component takes by far the smallest share of gains, while in the developing countries it is of roughly equal importance with the investment component). It will become more obvious later when the share of the government component is examined relatively to the degree of development and also in connection with the influence of the high rate of population growth.

distribution of increases in national income in a consecutive period. Having compared the industrialised with the developing countries, we shall inquire to what extent the distributional pattern varies among the developing countries themselves in relation to their particular degree of development. Finally we shall take the rate of growth of the locally used gross domestic product and try to find out how it is linked with the distribution of gains emanating from it. First, however, having seen the importance of the population component in the developing countries, we shall inquire into the influence of rapid growth of population on the distributional pattern.

THE INFLUENCE OF POPULATION GROWTH

The great share of the gains from economic growth which the population component absorbs in the developing countries as compared with the industrialised countries follows, of course, from the much faster rate of population growth in the less developed parts of the world. In order to see what type of distributional pattern would exist in the absence of this rapid growth of population, calculations were made for each developing country on the basis of their national income, consumption, government services and investment data, but their own population growth data were replaced by those prevailing in the countries of Western Europe.¹ These calculations are shown in table III.

Comparison of tables I and III gives some indication of the extent to which the distributional pattern of each country is due to the excess of its population growth over that normal in the countries of Western Europe. On the one hand there are countries (Japan, Jamaica) which themselves have a *low* rate of population growth, and where practically no change in the distributional pattern is caused by the application of the population growth figures of the developed countries. On the other hand, in the case of most other developing countries application of moderate population growth rates significantly changes their distributional pattern. As noted above, five developing countries (Israel, Jamaica, Puerto Rico, Trinidad and Venezuela) have a pattern of distribution in line with that of the industrialised countries. If the Western European population growth rates are applied, six other developing countries

¹ This procedure should not be taken to imply that the rate of growth of L.U.G.D.P. would have necessarily been the same if population growth had been less (cf. p. 370, footnote).

The West European average rate of population growth was calculated on the basis of a weighted average of population growth between 1952/53 and 1961/62 of the following countries: Austria, Belgium, Denmark, Finland, France, the Federal Republic of Germany (together with West Berlin), Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom. The population growth over nine years was 7.54 per cent., which amounts to an annual rate of population growth of 0.81 per cent.

Gains from Economic Development

Т	ABLE	III.	DISTE	RIBU	TION	OF	INC	CRE	EASES	IN	NATION	JAL	INCOM	1E
OF	THE	DEV	'ELOPI	NG	COUN	NTRI	ES	IF	WEST	` EU	ROPEAN	1 PC	PULAT	TION
	j			GRO	WTH	FIG	URE	S .	ARE A	APPI	.IED			

	Country	Share	es in the increase	the increase of L.U.G.D.P. of-			
	Country	Population	Consumption	Government	Investment		
Ceylon		22.9	39.4	31.3	6.4		
Chile.		39.8	68.1	-3.5	-4.5		
China ()	[aiwan]	7.1	53.0	17.3	22.6		
Colombi	a	20.2	68.9	-0.3	11.2		
Congo (Leopoldville)	47.6	119.7	28.2	95.4		
Cyprus		18.8	11.0	35.4	34.8		
Ecuador		14.1	56.0	<u>10.9</u>	19.0		
Guatema	1a	15.1	60.4	15.1	9.3		
Hondur	ıs	20.7	67.3	11.0	0.9		
Israel		7.7	58.5	9.7	24.0		
Jamaica		11.1	59.5	11.2	18.2		
Japan		5.4	32.3	6.0	56.3		
Korea		17.5	64.0	8.1	10.4		
Nicarag	1a	17.2	76.2	8.3	-1.6		
Nigeria		18.0	51.9	8.7	21.5		
Paraguay		121.6	-93.4	97.8	-26.0		
Peru .		20.7	61.6	22.7	-5.0		
Philippin	es	13.3	61.8	9.6	15.3		
Puerto R	Lico	9.3	49.1	12.7	28.9		
Trinidad		7.9	55.6	1.7	34.8		
Venezuel	a	5.7	62.7	7.2	24.4		

(Percentages)

(China (Taiwan), Colombia, Ecuador, South Korea, Nigeria and the Philippines) acquire a distributional pattern more or less corresponding to that of the industrialised countries. In their case, therefore, it is the excessively high rates of population growth that are primarily responsible for a pattern of distribution different from that usual in the industrialised countries. In the remaining developing countries fast population growth also partly explains the different distributional pattern: with the exception of Paraguay and Cyprus on the one hand, and Japan on the other hand, in all countries increases in consumption per head become the most important use when the Western European population figures are applied. Nevertheless, these developing countries have peculiarities, such as a low investment component or a high government component which cannot be explained by their population growth.

379

Table IV indicates some characteristics of the distributional patterns which were shown country by country in tables I to III. By taking the median, and the two quartiles (which show values for half of the countries covered) we see how the elimination of the influence of the population factor brings into relief the low share of the investment component in the distribution of gains from economic growth. On the other hand, the consumption component is now (after the elimination of the population factor) larger in the developing than in the industrialised countries, and the government services component is now almost twice as large in the former as in the latter.

Comparing as a group the countries in Asia with those in Latin America, we find that fast population growth explains more fully the difference in distributional pattern between the Asian and the industrialised countries than it explains the difference between the Latin American and the industrialised countries. If the seven Asian countries had Western European population increase rates, their distribution pattern¹ would not differ too much from that of the industrialised countries, apart from a rather higher government component. Latin American countries on the other hand, even if account is taken of their fast population growth, differ much more from industrialised countries in the distribution of economic gains, mainly by their very low investment component and high government services component.

A simple measure of dispersion (shown in table IV as quartile deviation as a percentage of median) indicates another feature in which the advanced and the less developed countries differ. This is the relative uniformity of the pattern in the industrialised countries, where only the share of the government component shows fairly substantial variability from country to country. The share of investment is particularly uniform when compared with that in developing countries. This remains true even when the influence of the population factor is eliminated.

LONG-TERM TENDENCIES IN THE DISTRIBUTIONAL PATTERN

Apart from the growth of population there are other factors influencing the distribution of gains from economic growth. As stated above some long-term factors, such as the structure of the economy, political, social and cultural organisation and traditions, etc., cannot be analysed within the framework of this study. But an idea of the total effect of these factors could possibly be formed by studying the distributional

¹ With the application of Western European population growth figures, the median values of the four components for the Asian countries are population 13.3 per cent., consumption 53.0 per cent., government 9.7 per cent. and investment 22.6 per cent. For the Latin American countries the median values are 16.2, 61.0, 11.0 and 10.3 per cent. respectively. These median values may be compared with those for the industrialised countries shown in table IV.

Меаѕите	Developing countries: share of				Industrialised countries: share of-				Developing countries (with Western European population growth rates): share of—			
	Popula- tion	Consump- tion	Govern- ment	Invest- ment	Popula- tion	Con- sumption	Govern- ment	Invest- ment	Popula- tion	Con- sumption	Govern- ment	Invest- ment
Average	69.8	15.5	12.1	2.6	20.6	47.2	7.6	24.7	22.0	51.6	16.6	9.8
Lowest share	6.1	-303.3	-13.1	-124.2	2.6	36.6	1.3	-0.5	5.4	-93.4	-3.5	-95.5
First quartile	32.0	21.1	4.1	-10.5	11.8	42.3	4.9	24.0	10.2	52.5	8.1	3.7
Median	55.7	31.9	6.9	12.5	19.1	45.7	6.5	26.5	17.2	59.5	10.9	15.4
Third quartile	68.6	40.0	12.6	18.1	26.1	52.0	12.3	30.8	20.7	65.7	20.0	24.2
Highest share	373.3	69.6	78.9	56.1	58.4	60.3	14.3	35.7	121.6	119.8	97.8	56.3
Quartile deviation	18.3	9.45	4.25	14.3	7.15	4.85	3.7	3.4	5.25	6.6	5.95	10.25
% of median	32.9	29.6	61.6	114.4	37.4	10.6	56.9	12.8	30.5	11.1	54.6	66.6

TABLE IV. THE CHARACTERISTICS OF DISTRIBUTIONAL PATTERNS (Percentages)

381

pattern over a number of successive periods, in order to find out if there is some repetitive element in the distribution patterns which exists even where the country is at a different level of development and its economy grows at a different rate.

For lack of data it is impossible to make such an analysis on the basis of comparison of several sufficiently long periods. As the nearest approximation to such an analysis we compare the distribution of additional resources created over time with the distribution of the locally used gross domestic product in the base period. As the base period we shall take the average of the first two years for which comparable data are available for the country in question. This distribution of the locally used gross domestic product at a given time (rather than the distribution of *increases* in the product over some period) is of course possible only in respect of three uses: total consumption, total level of government services and total investment (including increases in stocks). This distribution thus differs from that used throughout this study. where increases in national income were divided between those necessary to keep increased population as well off as before (the population component) and those providing increased per caput consumption. government services, and investment. The distribution of locally used gross domestic product in the base period is shown in table V.

Three types of relationship were examined. First, the relation between the share of consumption in the L.U.G.D.P. in the base period and the share of the consumption component in the increase of the L.U.G.D.P. over the period. Similar relationship was examined with respect to the level of government services and third, again in the same way, with respect to investment.

Of the three relationships, by far the most significant is the first. Strong negative correlation was found when all 21 developing countries were considered together, and also when the Asian and the Latin American countries were taken separately.¹ This means that there is a pronounced tendency for the developing countries (and particularly for those in Latin America) to spend a higher share of their gains on increases in per caput consumption if at the beginning of the period consumption took a smaller share of locally used gross domestic product, and conversely, to spend less on increases of per caput consumption if consumption figured largely in national income at the beginning of the period. In other words, there is a strong tendency to compensate as far as consumption is concerned.

There is, on the other hand, no tendency for the share of government current expenditure in the base period to influence the share of the government component in the increment of national income. There is a

¹ Rank correlation coefficients found were -0.74 for the 21 countries, -0.71 for the Asian countries, and -0.84 for the Latin American countries. See Appendix I for the list of rank correlation coefficients between different indicators.

	E PERIOD	
	BAS	
	THE	
	Z	
	PRODUCT	
•	DOMESTIC	llions of units)
	GROSS	(Mi
	ОF	
	DISTRIBUTION	
	TABLE V.	

	Base	Unit	G.D.P. (average of	Con- sumption	Govern- ment	Investment	Exports- imports	L.U.G.D.P. (4+5+6)	Perc in L.	centage sh U.G.D.P.	ares of
COULUIY	(1)	(2)	years) (3)	(4)	(5)	(9)	£	(8)	Con- sumption	Govern- ment	Invest- ment
Ceylon	1952-53	Rupees 1948	4 019 ¹	3 308	521	454	-265	4 283	77.2	12.2	10.6
Chile	1953-54	Escudos 1960	4 182 2	3 299	414	455	13	4 169	79.1	9.9	10.9
China (Taiwan)	1952-53	N.T. \$ 1952	16 593	11 735	2 723	3 182	-1 047	17 640	66.5	15.4	18.0
Colombia	1953-54	Pesos 1958	17 592	12 985	1 318	4 158	-869	18 461	70.3	7.1	22.5
Congo (Leepoldville)	1952-53	Francs 1950	43 415	24 870	4 350	14 270	-75	43 490	57.2	10.0	32.8
Cyprus	1952-53	£ 1950	47.8	43.6	4.5	7.7	-8.0	55.8	78.1	8.1	13.8
Ecuador	1952-53	Sucres 1950	8 360 2	5 969	1 091	995	304	8 056	74.1	13.5	12.4
Guatemala	1952-53	Quetzales 1950	444.5	347.3	53.2	32.8	11.1	433.4	80.8	12.3	7.6
Honduras	1953-54	Lempiras 1948	449.5	364.8	31.0	73.6	- 19.9	469.5	<i>T.T.</i>	6.6	15.7
Israel	1955-56	Is. £ 1955	2 278	1 659	524	678	-582	2 861	58.0	18.3	23.7
Jamaica	1954-55	£ 1956	148.0	115.0	13.5	35.4	-16.0	164.0	70.1	8.3	21.6
Japan ³	1955-56	Yen 1955	8 463 1	5 198	879	2 325	85	8 403	61.9	10.5	27.7
Korea	1953-54	Won 1955	87 585	72 265	9 855	13 205	-7 740	95 325	75.8	10.3	13.8
Nicaragua	1955-56	Córdobas 1958	2 127 2	1 666	162	382	- 83	2 211	75.3	7.3	17.3
Nigeria	1952-53	£ 1957	818.4	706.6	31.7	78.1	2.0	816.4	86.5	3.9	9.6
Paraguay	1955-56	Guaraníes1956	16 233	13 229	1 189	1 444	370	15 863	83.4	7.5	9.1
Peru	1952-53	Soles 1954	24 906.2	16 440	1 995	5 874	596	24 310	67.6	8.2	24.2
Philippines	1952-53	Pesos 1955	7 369 1,2	6 382	586	498	-97	7 466	85.5	7.9	6.7
Puerto Rico	1954-55	\$ 1958	1 191	1 065	154	242	-270	1 461	72.9	10.5	16.6
Trinidad	1955-56	\$WI 1951	451.1	298.3	48.4	102.3	2.1	449.0	66.4	10.8	22.8
Venezuela	1952-53	Bolívares 1957	12 881	7 881	1511	3 263	225	12 656	62.3	11.9	25.8
¹ Gross Nation of goods and servici units.	al Produc es, but als	ts. When G.N.P. (to the difference be	rather than G stween the flo	".D.P.) only is ws of factor i	available, c	olumn 8 inclu ind from the	ides not only i country. ² St	the difference atistical discr	between e	xports and Thousan	l imports d-million

Gains from Economic Development

total absence of correlation for the developing countries taken together, and for the countries of Latin America. The Asian countries show a weak tendency to compensate: a small share of government services in the base period is correlated with an increasing share of the government services component in the increment, but the correlation is too poor to allow any conclusions to be drawn.

The third relationship, concerning investment, suggests consistency rather than compensation in the distributional pattern: there is some tendency, even if rather a weak one, for countries which invested a large part of their national income in the base period to spend also more of their national income increment on increasing per caput investment. This tendency was found for the countries of Latin America and even more for the Asian countries, but only at an entirely insignificant level for all developing countries taken together. This suggests that while the consistency principle has some influence within the broad economic and social context of a continent, it is too weak to overcome the differences between continents.

Examination of the three relationships suggests¹ that there are no long-term factors influencing the share of consumption in one direction or another, but on the contrary that there seems to be an equilibrating force compensating for deviations in either direction. The share of the government component seems also to be unaffected by any long-term factors, and seems in fact to be rather unpredictable. In the investment relationship there is consistency, suggesting the existence of some longterm factors making for a stable (whether strong or weak) emphasis on investment; but this consistency is not very pronounced.

THE LEVEL OF DEVELOPMENT AND DISTRIBUTION

It was noted above that the pattern of distribution of gains from economic growth differed significantly between the developing and the industrialised countries. It is therefore worth exploring whether there are any significant differences among the developing countries themselves which could be attributed, at least in part, to the differences between their level of development. The usual, and convenient, measure of the development of a country is the gross domestic product per head of population, and the 1958 per caput G.D.P. figures, converted into United States dollars by the application of the prevailing exchange rates were used.

Rank correlations of the level of development with the shares of particular components yield some interesting insights. Correlation for

¹ Subject to the reservation that for no country is the period covered by the statistics a very long one.

all 21 countries together gave results which—although not very significant statistically—show that in general the more advanced among the developing countries spend a higher share of their gains on investment and—less significantly—on consumption. High population and government components were associated with the less advanced developing countries.

The situation changes a little when countries in one continent only are considered. For the countries in Asia, there was no correlation at all between the level of development and the consumption component, and between the level of development and the government component. In the other two respects the Asian countries repeated the general finding, the more developed countries having higher investment components and lower population components than the less developed countries. The 12 Latin American countries show the same relationships as the 21 developing countries taken together, but it is more pronounced. A higher level of development was clearly accompanied by high investment and consumption components, and low population and government components.

ECONOMIC GROWTH AND DISTRIBUTION

The distribution of the additional resources created by economic growth was correlated with the rate at which these resources are created, i.e. with the average annual rate of growth of locally used gross domestic product. In this procedure one relation is given by definition: the share of the population component in national income increments being given by the ratio of population growth rates to rates of growth of locally used gross domestic product, it is obvious that with a given population growth, the higher the rate of growth of the L.U.G.D.P., the lower the share of the population component in the additional resources. This was shown by the high (and of course negative) rank correlation coefficients between the rate of growth of L.U.G.D.P. and the share of the population component.

The shares of the other three uses (per caput consumption, government services, and investment) *taken together* are also linked by definition with the rate of growth of L.U.G.D.P. With a given population increase, the higher the rate of growth, the higher the share of the three other components taken together. There is, however, no tautological relation between the rate of growth of L.U.G.D.P. and the share of each of the three components taken separately.

Orthodox economic theory would indicate high and positive correlation between the share of the investment component and the rate of growth of L.U.G.D.P. This was indeed found to be the case, both for the 21 developing countries taken together, and for the Asian and Latin

American groups. Particularly in the case of Latin America, a very high rank correlation coefficient was found (+0.90), while in the case of Asian countries it was significantly lower (+0.61).

The correlation of the rate of growth with the shares of the remaining two components (consumption and government services) is weaker, but the direction of the correlation (whether positive or negative) is interesting. As far as the consumption component is concerned, strong positive correlation exists both for the Asian and for the Latin American countries. In other words, if a country grows fast a large part of this growth will be used for increasing consumption per head. This is true also when all developing countries are considered together, but there the relation is not quite so strong.

The share of the government component is negatively correlated with rate of growth in the countries of Asia, and similar, but weaker, correlation exists for all 21 developing countries taken together. This finding—that fast-growing countries tend to spend proportionally less of additional resources on increasing the per caput level of government services—seems to suggest that government services are social overheads which rise with economic growth but at a slower rate than consumption and, particularly, investment. However, no correlation was found for the countries of Latin America, where the share of the government services component does not seem to bear any relation to economic growth.

The share of the consumption component further considered

Our framework of distribution of gains from economic growth between the four components represents only the first step in the process of translating economic growth into more tangible factors affecting the well-being of the people of developing countries. A second step would be a further subdivision of the particular components. Thus the government services component could be subdivided into educational, health and administrative components, and so forth; similarly, the investment component could be subdivided by function, and also by sector (government investment, private investment, etc.). The United Nations national accounting framework has provisions for such subdivisions, but data for the developing countries (in constant prices) are scarce.

The consumption component is also capable of subdivision. The United Nations framework has a detailed breakdown of private consumption expenditure between particular uses; eight of the 21 developing countries covered provide information on this breakdown in constant prices. Using this information a subdivision of the share of the consumption component was worked out for the following five sub-components: (i) food; (ii) beverages and tobacco; (iii) clothing and other personal effects; (iv) household expenses (rent and water charges, fuel and light, furniture, furnishings and household equipment, household operation); and (v) other (transportation, recreation, entertainment, expenditure of residents abroad *minus* expenditure of non-residents in the country, miscellaneous services, etc.).

The shares of these sub-components were calculated in the same way as the shares of the four basic components in the increments in L.U.G.D.P. This means, for example, that the share of the "food sub-component" represents the percentage of the increase in national income which goes into providing higher consumption of food per head.

Table VI shows the share of the consumption component as a total of the five consumption sub-components for the eight countries for which the information is available. The limited number of countries does not allow much analysis, but the table is nevertheless of some interest. It is generally thought that in the less-well-nourished countries of the developing world a large part of new resources goes into increased and improved nutrition. The figures in table VI do not support such a contention. Leaving aside the case of Korea on the one hand, and of Ecuador on the other, the developing countries seem to spend only between 1.5 and 13 per cent. of the increase in national income on providing better nutrition for the population.

When the share of the food sub-component is compared with those of the other sub-components, it is found that it represents, on average, about one-quarter of resources going into increased consumption per head. Another quarter goes to household expenses, and a third quarter to "other expenses". The clothing sub-component is a little less important than the other three, although in one country (Honduras) it accounts for one-half of the share of the consumption component.

	Share of the		Shares of consumption sub-components							
Country	consumption component	Food	Beverages and tobacco	Clothing	Household expenses	Other consumption				
Ecuador	23.9	-0.6	5.8	-0.7	9.8	9.7				
Honduras .	19.1	7.4	1.2	9.7	-0.1	1.0				
Israel	40.2	12.9	1.1	3.8	12.6	9.9				
Korea	35.8	26.8	2.2	10.0	10.5	-13.6				
Nicaragua .	30.3	12.6	-4.5	5.1	3.3	13.8				
Nigeria	31.2	1.5	2.2	1.4	11.3	14.9				
Peru	33.1	3.9	-0.1	7.9	12.8	8.6				
Puerto Rico	45.2	5.5	3.3	5.8	13.3	17.4				

TABLE VI. SHARE OF THE CONSUMPTION COMPONENT AND OF ITS CONSTITUENT PARTS IN INCREMENTS OF L.U.G.D.P.

(Percentages)	ļ
---------------	---

Conclusions

Because of the present preoccupation with factors influencing economic growth, analysis of factors influencing the distribution of the gains resulting from this growth have been somewhat neglected. These two groups of factors—those influencing the creation and those influencing the distribution of additional resources—are basically the same, but they appear in different combinations and with different weights when affecting one or the other process.

Some of these factors—for example the political and institutional ones—are not readily measurable. For others, though they are measurable in theory, data are not available for the developing countries. Others still, while measurable and known, do not fit readily into the analytical framework and cannot be easily evaluated, with respect either to economic growth or to the distribution of gains created by it. Yet it is still worth inquiring into the problem with the tools and data available. In the words of Simon Kuznets—

If modern economic growth is, in essence, a controlled revolution in society, and the revolution in society, with its internal and external ramifications, is an indispensable part of the total process, economic growth is neither fully understood, nor properly measurable and analysed in a study limited to traditionally defined economic variables. Yet, in our awareness of the limits of our knowledge, we still cannot afford to neglect what we do know, and to dismiss as worthless the hard economic facts and the contribution of analysis of purely economic variables.¹

These limitations should be kept in mind when interpreting the findings of this study, as well as the fact that the availability of data made it possible to deal with only 21 developing countries. In what follows, a few additional remarks are made and a few points made earlier are stressed.

There is no great difference between the rates at which the industrialised countries grow and the rates of growth of the developing countries: between 1950 and 1961 developed countries grew at an average annual rate of 4 per cent. and developing countries at the slightly higher rate of 4.5 per cent.² While this growth had of course very different consequences in terms of the absolute amount of resources available, relative to the income of the countries the newly created resources were of the same order.

There was, however, a great difference in the way in which these newly created resources were distributed and utilised. Typically, the developing countries had to spend between 30 and 70 per cent. of the additional resources on provision for increased population, and only

¹ Simon KUZNETS; Post-war economic growth, op. cit., p. 127.

² These figures relate to weighted averages of *all* developed and developing countries other than centrally planned economies. Calculated from data in the United Nations: *Yearbook of national accounts statistics, 1963, p. 332.*

the remainder was available for increasing per caput consumption, investment and government services. In the industrialised countries typically only between 10 and 25 per cent. of additional resources were necessary to cater for increased population, and the amount of resources going into improvement of income per head was thus much greater. This phenomenon was due entirely to the fact that the population of the developing countries was growing much faster (twice, three times or even more) than that of the industrialised countries.

But there are other differences in the distribution of gains from economic growth in the two groups of countries. One is the degree of emphasis given to investment. The share of the additional resources spent on increases in per caput investment is generally twice as high in the industrialised as in the developing countries. This difference cannot be ascribed to larger population growth of the less developed areas: even if they had to cope only with the Western European population increase, the proportion of the gains from economic growth they devote to investment would still remain at only some 60 per cent. of the proportion devoted to this use in industrialised countries.

With respect to investment, the developing countries differ from the industrialised countries in one further respect. While in the advanced countries the investment component occupies a very clearly established position (half of these countries spend a very similar proportion—between 25 and 30 per cent.—of their additional resources on increases in investment per head), the emphasis given to investment varies greatly in the developing countries. Again, this great variability persists even if allowance is made for the enormous population growth. This different emphasis on investment is, however, not a matter of chance: the degree of investment emphasis is clearly associated with certain characteristics. The more developed country, the faster-growing country and the country which utilises a large part of national income on investment will continue in future to spend a larger part of additional resources on increases in investment per head.

On increases in consumption per head the developing countries spend a somewhat smaller share of the gains from economic development than the industrialised countries. This is due entirely to their excessive population growth, as demonstrated by the application of Western European population growth figures: when this was done the share of the consumption component almost doubled, well exceeding the corresponding share in the industrialised countries.

The share of additional resources devoted to increases in per caput level of government services (i.e. government current services and military investment) is the least predictable of all. Great variations occur both in the industrialised and in the developing groups. Generally, the share of the government services component is the same in the developing as in the industrialised countries: it is thus the only component into

which the fast population growth of the developing countries does not make any inroads. With one exception there is no significant degree of correlation between the share of the government component and the various indicators used. Nevertheless, the fact that correlation was consistently negative, as well as comparison with the industrialised countries, suggests that as they advance economically the developing countries devote a progressively smaller part of their additional resources to government current services and military investment. As the shares of the other three components are much less susceptible to government action—and as they seem to be more influenced by factors like the rate of growth and the level of development than is the share of the government component—it is in this field of government activities that research is most needed to determine the optimum allocation of resources, both for the government non-investment sector as a whole and for particular activities within it.

Appendix I:

	Sha	re in increase	of L.U.G.D.F	P. of	Rate
	Popula- tion com- ponent	Consump- tion component	Govern- ment component	Investment component	of growth of L.U.G.D.P.
Rate of growth of					
L.U.G.D.P.:					
Asia	-0.57	+0.64	-0.64	+0.61	
Latin America	-0.89	+0.77	-0.02	+0.90	
All 21 developing coun-					
tries	-0.72	+0.47	-0.31	+0.79	_
Per caput G.D.P. (1958):					
Asia	0.39	0.00	-0.07	+0.50	+0.32
Latin America	0.61	+0.63	-0.44	+0.71	+0.63
All 21 developing coun-					
tries	-0.47	+0.25	-0.43	+0.48	+0.51
Share in the base period					
of—					
Consumption :					
Asia	·	0.71			
Latin America	·	-0.84			
All 21 developing					1
countries	—	0.74	—		
Government :				•	
Asia	—		-0.32		
Latin America			-0.04		—
All 21 developing					
countries	—		-0.03		
Investment :					
Asia		_		+0.43	
Latin America		—		+0.33	
All 21 developing					
countries		—		+0.15	

Table of Rank Correlations

Appendix II:

The Share of the Population Component in Some Other Developing Countries

Some of the largest developing countries could not be included in the study for lack of data. It is, however, possible to calculate at least the share of the population component in the increments of their national income, and this is shown in the table below. Although the figures are not strictly comparable with those in table I, or even among themselves, since different concepts of national income were used, they give an approximate indication of the shares of the population component. These will be found to correspond closely to the shares calculated for the 21 developing countries covered in the study, as five out of the seven large countries have shares fitting into the interquartile range of shares.

Period	Concept	Share (per- centage) of population component
1950/51-62/63	G.D.P. at market prices of 1960	79.0
1950-61	,, ,, ,, ,, ,, 1949	46.1
1950/51-61/62	", " factor costs " 1948	47.6
1953/54-58/59	""""""""", 1955	68.8
1950/51-61/62	", ", market prices " 1950	47.1
1950/51-60/61	", " factor costs " 1949-52	2 71.8
1952/53-57/58	"""""", 1954	48.3
	Period 1950/51-62/63 1950-61 1950/51-61/62 1953/54-58/59 1950/51-61/62 1950/51-60/61 1952/53-57/58	Period Concept 1950/51-62/63 G.D.P. at market prices of 1960 1950-61 ,, ,, 1949 1950/51-61/62 ,, , factor costs ,, 1948 1953/54-58/59 ,, ,, 1955 1950/51-61/62 ,, ,, factor costs ,, 1948 1950/51-61/62 ,, ,, factor costs ,, 1948 1950/51-60/61 ,, ,, factor costs ,, 1949-52 1952/53-57/58 ,, ,, ,, ,, ,, 1954

Sources: United Nations: Yearbook of national accounts statistics, various years; Statistical Bulletin for Latin America (E.C.L.A.), Mar. and Aug. 1964; and United Nations: Monthly Bulletin of Statistics.