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ECONOMIC GROWTH AND INCOME INEQUALITY*

By SIMON KUZNETS

The central theme of this paper is the character and causes of long-term changes in the personal distribution of income. Does inequality in the distribution of income increase or decrease in the course of a country's economic growth? What factors determine the secular level and trends of income inequalities?

These are broad questions in a field of study that has been plagued by looseness in definitions, unusual scarcity of data, and pressures of strongly held opinions. While we cannot completely avoid the resulting difficulties, it may help to specify the characteristics of the size-of-income distributions that we want to examine and the movements of which we want to explain.

Five specifications may be listed. First, the units for which incomes are recorded and grouped should be family-expenditure units, properly adjusted for the number of persons in each—rather than income recipients for whom the relations between receipt and use of income can be widely diverse. Second, the distribution should be complete, *i.e.*, should cover all units in a country rather than a segment either at the upper or lower tail. Third, if possible we should segregate the units whose main income earners are either still in the learning or already in the retired stages of their life cycle—to avoid complicating the picture by including incomes *not* associated with full-time, full-fledged participation in economic activity. Fourth, income should be defined as it is now for national income in this country, *i.e.*, received by individuals, including income in kind, before and after direct taxes, excluding capital gains. Fifth, the units should be grouped by *secular* levels of income, free of cyclical and other transient disturbances.

For such a distribution of mature expenditure units by secular levels

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Number 56 of a series of photographs of past presidents of the Association.

of income per capita, we should measure shares of some fixed ordinal groups—percentiles, deciles, quintiles, etc. In the underlying array the units should be classified by average income levels for a sufficiently long span so that they form income-status groups—say a generation or about 25 years. Within such a period, even when classified by secular income levels, units may shift from one ordinal group to another. It would, therefore, be necessary and useful to study separately the relative share of units that, throughout the generation period of reference, were continuously within a specific ordinal group, and the share of the units that moved into that specific group; and this should be done for the shares of "residents" and "migrants" within all ordinal groups. Without such a long period of reference and the resulting separation between "resident" and "migrant" units at different relative income levels, the very distinction between "low" and "high" income classes loses its meaning, particularly in a study of long-term changes in shares and in inequalities in the distribution. To say, for example, that the "lower" income classes gained or lost during the last twenty years in that their share of total income increased or decreased has meaning only if the units have been classified as members of the "lower" classes throughout those 20 years—and for those who have moved into or out of those classes recently such a statement has no significance.

Furthermore, if one may add a final touch to what is beginning to look like a statistical economist's pipe dream, we should be able to trace secular income levels not only through a single generation but at least through two—connecting the incomes of a given generation with those of its immediate descendants. We could then distinguish units that, throughout a given generation, remain within one ordinal group and whose children—through *their* generation—are also within that group, from units that remain within a group through their generation but whose children move up or down on the relative economic scale in their time. The number of possible combinations and permutations becomes large; but it should not obscure the main design of the income structure called for—the classification by long-term income status of a given generation and of its immediate descendants. If living members of society—as producers, consumers, savers, decision-makers on secular problems—react to long-term changes in income levels and shares, data on such an income structure are essential. An economic society can then be judged by the secular level of the income share that it provides for a given generation and for its children. The important corollary is that the study of long-term changes in the income distribution must distinguish between changes in the shares of resident groups—resident within either one or two generations—and changes in the income shares of

groups that, judged by their secular levels, migrate upward or downward on the income scale.

Even if we had data to approximate the income structure just outlined, the broad question posed at the start—how income inequality changes in the process of a country's economic growth—could be answered only for growth under defined economic and social conditions. And, in fact, we shall deal with this question in terms of the experience of the now developed countries which grew under the aegis of the business enterprise. But even with this limitation, there are no statistics that can be used directly for the purpose of measuring the *secular* income structure. Indeed, I have difficulty in visualizing how such information could practicably be collected—a difficulty that may be due to lack of familiarity with the studies of our colleagues in demography and sociology who have concerned themselves with problems of generation or intergeneration mobility and status. But although we now lack data directly relevant to the secular income structure, the setting up of reasonably clear and yet difficult specifications is not merely an exercise in perfectionism. For if these specifications do approximate, and I trust that they do, the real core of our interest when we talk about shares of economic classes or long-term changes in these shares, then proper disclosure of our meaning and intentions is vitally useful. It forces us to examine and evaluate critically the data that are available; it prevents us from jumping to conclusions based on these inadequate data; it reduces the loss and waste of time involved in mechanical manipulations of the type represented by Pareto-curve-fitting to groups of data whose meaning, in terms of income concept, unit of observation, and proportion of the total universe covered, remains distressingly vague; and most important of all, it propels us toward a deliberate construction of testable bridges between the available data and the income structure that is the real focus of our interest.

I. *Trends in Income Inequality*

Forewarned of the difficulties, we turn now to the available data. These data, even when relating to complete populations, invariably classify units by income for a given year. From our standpoint, this is their major limitation. Because the data often do not permit many size-groupings, and because the difference between annual income incidence and longer-term income status has less effect if the number of classes is small and the limits of each class are wide, we use a few wide classes. This does not resolve the difficulty; and there are others due to the scantiness of data for long periods, inadequacy of the unit used—which is, at best, a family and very often a reporting unit—errors in the

data, and so on through a long list. Consequently, the trends in the income structure can be discerned but dimly, and the results considered as preliminary informed guesses.

The data are for the United States, England, and Germany—a scant sample, but at least a starting point for some inferences concerning long-term changes in the presently developed countries. The general conclusion suggested is that the relative distribution of income, as measured by annual income incidence in rather broad classes, has been moving toward equality—with these trends particularly noticeable since the 1920's but beginning perhaps in the period before the first world war.

Let me cite some figures, all for income before direct taxes, in support of this impression. In the United States, in the distribution of income among families (excluding single individuals), the shares of the two lowest quintiles rise from 13½ per cent in 1929 to 18 per cent in the years after the second world war (average of 1944, 1946, 1947, and 1950); whereas the share of the top quintile declines from 55 to 44 per cent, and that of the top 5 per cent from 31 to 20 per cent. In the United Kingdom, the share of the top 5 per cent of units declines from 46 per cent in 1880 to 43 per cent in 1910 or 1913, to 33 per cent in 1929, to 31 per cent in 1938, and to 24 per cent in 1947; the share of the lower 85 per cent remains fairly constant between 1880 and 1913, between 41 and 43 per cent, but then rises to 46 per cent in 1929 and 55 per cent in 1947. In Prussia income inequality increases slightly between 1875 and 1913—the shares of the top quintile rising from 48 to 50 per cent, of the top 5 per cent from 26 to 30 per cent; the share of the lower 60 per cent, however, remains about the same. In Saxony, the change between 1880 and 1913 is minor: the share of the two lowest quintiles declines from 15 to 14½ per cent; that of the third quintile rises from 12 to 13 per cent, of the fourth quintile from 16½ to about 18 per cent; that of the top quintile declines from 56½ to 54½ per cent, and of the top 5 per cent from 34 to 33 per cent. In Germany as a whole, relative income inequality drops fairly sharply from 1913 to the 1920's, apparently due to decimation of large fortunes and property incomes during the war and inflation; but then begins to return to prewar levels during the depression of the 1930's.[1]

[1] The following sources were used in calculating the figures cited:

United States. For recent years we used *Income Distribution by Size, 1944-1950* (Washington, 1953) and Selma Goldsmith and others, "Size Distribution of Income Since the Mid-Thirties," *Rev. Econ. Stat.*, Feb. 1954, XXXVI, 1-32; for 1929, the Brookings Institution data as adjusted in Simon Kuznets, *Shares of Upper Groups in Income and Savings* (New York, 1953), p. 220.

United Kingdom. For 1938 and 1947, Dudley Seers, The *Levelling of Income Since 1938*

Even for what they are assumed to represent, let alone as approximations to shares in distributions by secular income levels, the data are such that differences of two or three percentage points cannot be assigned significance. One must judge by the general weight and consensus of the evidence—which unfortunately is limited to a few countries. It justifies a tentative impression of constancy in the relative distribution of income before taxes, followed by some narrowing of relative income inequality after the first world war—or earlier.

Three aspects of this finding should be stressed. First, the data are for income before direct taxes and exclude contributions by government (*e.g.*, relief and free assistance). It is fair to argue that both the proportion and progressivity of direct taxes and the proportion of total income of individuals accounted for by government assistance to the less privileged economic groups have grown during recent decades. This is certainly true of the United States and the United Kingdom, but in the case of Germany is subject to further examination. It follows that the distribution of income after direct taxes and including free contributions by government would show an even greater narrowing of inequality in developed countries with size distributions of pretax, ex-government-benefits income similar to those for the United States and the United Kingdom.

Second, such stability or reduction in the inequality of the percentage shares was accompanied by significant rises in real income per capita. The countries now classified as developed have enjoyed rising per capita incomes except during catastrophic periods such as years of active world conflict. Hence, if the shares of groups classified by their annual income position can be viewed as approximations to shares of groups classified by their secular income levels, a constant percentage share of a given group means that its per capita real income is rising at the same rate as the average for all units in the country; and a reduction in inequality of the shares means that the per capita income of the lower-income groups is rising at a more rapid rate than the per capita income of the upper-income groups.

The third point can be put in the form of a question. Do the distribu-

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(Oxford, 1951) p. 39; for 1929, Colin Clark, *National Income and Outlay* (London, 1937) Table 47, p. 109; for 1880, 1910, and 1913, A. Bowley, *The Change in the Distribution of the National Income, 1880-1913* (Oxford, 1920).

Germany. For the constituent areas (Prussia, Saxony and others) for years before the first world war, based on S. Prokopovich, *National Income of Western European Countries* (published in Moscow in the 1920's). Some summary results are given in Prokopovich, "The Distribution of National Income," *Econ. Jour.*, March 1926, XXXVI, 69-82. See also, "Das Deutsche Volkseinkommen vor und nach dem Kriege," *Einzelschrift zur Stat. des Deutschen Reichs,* no. 24 (Berlin, 1932), and W. S. and E. S. Woytinsky, *World Population and Production* (New York, 1953) Table 192, p. 709.

tions by annual incomes properly reflect trends in distribution by secular incomes? As technology and economic performance rise to higher levels, incomes are less subject to transient disturbances, not necessarily of the cyclical order that can be recognized and allowed for by reference to business cycle chronology, but of a more irregular type. If in the earlier years the economic fortunes of units were subject to greater vicissitudes—poor crops for some farmers, natural calamity losses for some nonfarm business units—if the over-all proportion of individual entrepreneurs whose incomes were subject to such calamities, more yesterday but some even today, was larger in earlier decades, these earlier distributions of income would be more affected by transient disturbances. In these earlier distributions the temporarily unfortunate might crowd the lower quintiles and depress their shares unduly, and the temporarily fortunate might dominate the top quintile and raise its share unduly—proportionately more than in the distributions for later years. If so, distributions by longer-term average incomes might show less reduction in inequality than do the distributions by annual incomes; they might even show an opposite trend.

One may doubt whether this qualification would upset a narrowing of inequality as marked as that for the United States, and in as short a period as twenty-five years. Nor is it likely to affect the persistent downward drift in the spread of the distributions in the United Kingdom. But I must admit a strong element of judgment in deciding how far this qualification modifies the finding of long-term stability followed by reduction in income inequality in the few developed countries for which it is observed or is likely to be revealed by existing data. The important point is that the qualification is relevant; it suggests need for further study if we are to learn much from the available data concerning the secular income structure; and such study is likely to yield results of interest in themselves in their bearing upon the problem of trends in temporal instability of income flows to individual units or to economically significant groups of units in different sectors of the national economy.

II. *An Attempt at Explanation*

If the above summary of trends in the secular income structure of developed countries comes perilously close to pure guesswork, an attempt to explain these dimly discernible trends may surely seem foolhardy. Yet it is necessary to do so if only to bring to the surface some factors that may have been at play; induce a search for data bearing upon these factors; and thus confirm or revise our impressions of the trends themselves. Such preliminary speculations are useful

provided it is recognized that we are at a relatively early stage in a long process of interplay among tentative summaries of evidence, preliminary hypotheses, and search for additional evidence that might lead to reformulation and revisions—as bases for new analysis and further search.

The present instalment of initial speculation may be introduced by saying that a long-term constancy, let alone reduction, of inequality in the secular income structure is a puzzle. For there are at least two groups of forces in the long-term operation of developed countries that make for *increasing* inequality in the distribution of income before taxes and excluding contributions by governments. The first group relates to the concentration of savings in the upper-income brackets. According to all recent studies of the apportionment of income between consumption and savings, only the upper-income groups save; the total savings of groups below the top decile are fairly close to zero. For example, the top 5 per cent of units in the United States appear to account for almost two-thirds of individuals' savings; and the top decile comes close to accounting for all of it. What is particularly important is that the inequality in distribution of savings is greater than that in the distribution of property incomes, and hence of assets.[2] Granted that this finding is based on distribution of annual income, and that a distribution by secular levels would show less inequality in income and correspondingly less concentration of savings, the inequality in savings would still remain fairly sharp, perhaps more so than in holdings of assets. Other conditions being equal, the cumulative effect of such inequality in savings would be the concentration of an *increasing* proportion of income-yielding assets in the hands of the upper groups—a basis for larger income shares of these groups and their descendants.

The second source of the puzzle lies in the industrial structure of the income distribution. An invariable accompaniment of growth in developed countries is the shift away from agriculture, a process usually referred to as industrialization and urbanization. The income distribution of the total population, in the simplest model, may therefore be viewed as a combination of the income distributions of the rural and of the urban populations. What little we know of the structures of these two component income distributions reveals that: (a) the average per capita income of the rural population is usually lower than that of the urban;[3] (b) inequality in the percentage shares within the

[2] See Kuznets, *op. cit.*, particularly Chapters 2 and 6.

[3] The lower level of per capita income of the agricultural or rural population compared with that of urban is fairly well established, for this country by states, and for many

distribution for the rural population is somewhat narrower than in that for the urban population—even when based on annual income; and this difference would probably be wider for distributions by secular income levels.[4] Operating with this simple model, what conclusions do we reach? First, all other conditions being equal, the increasing weight of urban population means an increasing share for the more unequal of the two component distributions. Second, the relative difference in per capita income between the rural and urban populations does not necessarily drift downward in the process of economic growth: indeed, there is some evidence to suggest that it is stable at best, and tends to widen because per capita productivity in urban pursuits increases more rapidly than in agriculture. If this is so, inequality in the total income distribution should increase.

Two questions then arise: First, why does the share of the top-income groups show no rise over time if the concentration of savings has a cumulative effect? Second, why does income inequality decline and particularly why does the share of the lower-income groups rise if both the weight of the more unequal urban income distribution and the relative difference between per capita urban and per capita rural incomes increase?

The first question has been discussed elsewhere, although the results are still preliminary hypotheses,[5] and it would be impossible to do more here than summarize them briefly.

Factors Counteracting the Concentration of Saving

One group of factors counteracting the cumulative effect of con-

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other countries (see, *e.g.*, a summary table of closely related measures of product and workers engaged, for various divisions of the productive system, in Colin Clark, *Conditions of Economic Progress,* 2nd ed. [London 1951], pp. 316-18). The same table suggests, for the countries with sufficiently long records, a stable or increasing relative difference between per-worker product in agriculture and per-worker product in other sectors of the economy.

[4] This is true of the U. S. distributions prior to the second world war (see sources cited in footnote 1); in the years after the second world war the difference seems to have disappeared. It is true of the distributions for Prussia, cited by Prokopovich; and most conspicuous for India today as shown in the rough distributions by M. Mukherjee and A. K. Ghosh in "The Pattern of Income and Expenditures in the Indian Union: A Tentative Study," *International Statistical Conferences,* December 1951, Calcutta, India, Part III, pp. 49-68.

[5] Some elements of the discussion appeared in "Proportion of Capital Formation to National Product," a paper submitted to the annual meeting of the American Economic Association in 1951 and published in *Am. Econ. Rev.,* Proceedings, May 1952, XLII, 507-26. A more elaborate statement is presented in "International Differences in Capital Formation and Financing" (particularly Appendix C, Levels and Trends in Income Shares of Upper Income Groups), a paper submitted to a Conference on Capital Formation and Economic Growth held in 1953 under the auspices of the Universities-National Bureau Committee for Economic Research. It is now in press as part of the volume of proceedings of that conference.

centration of savings upon upper-income shares is legislative interference and "political" decisions. These may be aimed at limiting the cumulation of property directly through inheritance taxes and other explicit capital levies. They may produce similar effects indirectly, *e.g.,* by government-permitted or -induced inflation which reduces the economic value of accumulated wealth stored in fixed-price securities or other properties not fully responsive to price changes; or by legal restriction of the *yield* on accumulated property, as happened recently in the form of rent controls or of artificially low long-term interest rates maintained by the government to protect the market for its own bonds.

To discuss this complex of processes is beyond the competence of this paper, but its existence and possible wide effect should be noted and one point emphasized. All these interventions, even when not directly aimed at limiting the effects of accumulation of past savings in the hands of the few, do reflect the view of society on the long-term utility of wide income inequalities. This view is a vital force that would operate in democratic societies even if there were no other counteracting factors. This should be borne in mind in connection with *changes* in this view even in developed countries, which result from the process of growth and constitute a re-evaluation of the need for income inequalities as a source of savings for economic growth. The result of such changes would be an increasing pressure of legal and political decisions on upper-income shares—increasing as a country moves to higher economic levels.

We turn to three other, less obvious groups of factors countervailing the cumulative effects of concentration of savings. The first is demographic. In the presently developed countries there have been differential rates of increase between the rich and the poor—family control having first spread to the former. Hence, even disregarding migration, one can argue that the top 5 per cent of 1870 and its descendants would account for a significantly smaller percentage of the population in 1920. This is even more likely in a country like the United States with its substantial immigration—usually entering the income distribution at the lower-income levels; and may be less likely in a country from which the poor have emigrated. The top 5 per cent of population in 1920 is, therefore, comprised only partly of the descendants of the top 5 per cent of 1870; perhaps half or a larger fraction must have originated in the lower-income brackets of 1870. This means that the period during which effects of concentration of savings can be assumed to have cumulated to raise the income share of any given fixed ordinal group (whether it be the top 1, 5, or 10 per cent of the population) is much shorter than the fifty years in the span; and hence these effects are much weaker than they would have

been if the top 5 per cent of 1870 had, through their descendants, filled completely the ranks of the top 5 per cent of the population of 1920. Although the cumulative effect of savings may be to raise the relative income of a *progressively diminishing* top proportion of total population, their effect on the relative share of a *fixed* top proportion of the population is much reduced.

The second group of forces resides in the very nature of a dynamic economy with relative freedom of individual opportunity. In such a society technological change is rampant and property assets that originated in older industries almost inevitably have a diminishing proportional weight in the total because of the more rapid growth of younger industries. Unless the descendants of a high-income group manage to shift their accumulating assets into new fields and participate with new entrepreneurs in the growing share of the new and more profitable industries, the long-range returns on their property holdings are likely to be significantly lower than those of the more recent entrants into the class of substantial asset holders. "From shirt-sleeves to shirt-sleeves in three generations" probably exaggerates the effects of this dynamism of a growing economy: there are, among the upper-income groups of today, many descendants of the upper-income groups of more than three or even four generations ago. But the adage is realistic in the sense that a *long unbroken* sequence of connection with rising industries and hence with major sources of continued large property incomes is exceedingly rare; that the successful great entrepreneurs of today are rarely sons of the great and successful entrepreneurs of yesterday.

The third group of factors is suggested by the importance, even in the upper-income brackets, of service income. At any given time, only a limited part of the income differential of a top group is accounted for by the concentration of property yields: much of it comes from the high level of service income (professional and entrepreneurial earnings and the like). The secular rise in the upper incomes due to this source is likely to be less marked than in the service incomes of lower brackets, and for two somewhat different reasons. First, in so far as high levels of service incomes of given upper units are due to individual excellence (as is true of many professional and entrepreneurial pursuits), there is much less incentive for and possibility of keeping such incomes at continued high relative levels. Hence, the service incomes of the descendants of an *initially high* level unit are not likely to show as strong an upward trend as the incomes for the large body of population at lower-income levels. Second, a substantial part of the rising trend in per capita income is due to interindustry shift, *i.e.*, a shift of workers from lower-income to higher-income industries. The possibilities of rise

due to such interindustry shifts in the service incomes of the initially high-income groups are much more limited than for the population as a whole: they are already in high-income occupations and industries and the range for them toward higher paid occupations is more narrowly circumscribed.

These three groups of factors, even disregarding such legislative and political intervention as is indicated above, are all characteristics of a dynamic growing economy. The differentials in rate of natural increase between the upper- and the lower-income groups are true only of a rapidly growing population—with or without immigration—but accompanied by declining death rates and declining birth rates, a demographic pattern associated in the past only with the growing Western economies. The impact of new industries on obsolescence of already established wealth as a source of property income is clearly a function of rapid growth, and the more rapid the growth the greater the impact will be. The effect of interindustry shifts on the rise of per capita income, particularly of lower-income groups, is also a function of growth since only in a growing economy is there much shift in the relative importance of the several industrial sectors. One can then say, in general, that the basic factor militating against the rise in upper-income shares that would be produced by the cumulative effects of concentration of savings, is the dynamism of a growing and free economic society.

Yet while the discussion answers the original question, it yields no determinate answer as to whether the trend in income shares of upper groups is upward, downward, or constant. Even for the specific question discussed, a determinate answer depends upon the relative balance of factors—continuous concentration of savings making for an increasing share, and the offsetting forces tending to cancel this effect. To tell what the trend of upper-income shares is likely to be, we need to know much more about the weights of these conflicting pressures. Moreover, the discussion has brought to the surface factors that, in and of themselves, may cause either an upward or a downward trend in the share of upper-income groups and hence in income inequality—in distributions of annual or of secular income. For example, the new entrants into the upper groups—the upward "migrants"—who rise either because of exceptional ability or attachment to new industries or for a variety of other reasons—may be entering the fixed upper group of say the top 5 per cent with an income differential—either annual or long-term—that may be relatively *greater* than that of entrants in the preceding generation. Nothing in the argument so far excludes this possibility—which would mean a rise in the share of upper-income groups, even if the share of the old "resident" part remains constant or

even declines. Even disregarding other factors that will be noted in the next section, no firm conclusion as to trends of upper-income shares can be derived from the bare model discussed. Search for further data might yield evidence that would permit a reasonably rough but determinate conclusion; but I have no such evidence at hand.

The Shift from Agricultural to Nonagricultural Sectors

What about the trend toward greater inequality due to the shift from the agricultural to the nonagricultural sectors? In view of the importance of industrialization and urbanization in the process of economic growth, their implications for trends in the income distribution should be explored—even though we have neither the necessary data nor a reasonably complete theoretical model.

The implications can be brought out most clearly with the help of a numerical illustration (see Table I). In this illustration we deal with two sectors: agriculture (A) and all others (B). For each sector we assume percentage distributions of total sector income among sector deciles: one distribution (E) is of moderate inequality, with the shares starting at 5.5 per cent for the lowest decile and rising 1 percentage point from decile to decile to reach 14.5 per cent for the top decile; the other distribution (U) is much more unequal, the shares starting at 1 per cent for the lowest decile, and rising 2 percentage points from decile to decile to reach 19 per cent for the top decile. We assign per capita incomes to each sector: 50 units to A and 100 units to B in case I (lines 1-10 in the illustration); 50 to A and 200 to B in case II (lines 11-20). Finally, we allow the proportion of the numbers in sector A in the total number to decline from 0.8 to 0.2.

The numerical illustration is only a partial summary of the calculations, showing the shares of the lowest and highest quintiles in the income distribution for the total population under different assumptions.[6] The basic assumptions used throughout are that the per capita income of sector B (nonagricultural) is always higher than that of sector A; that the proportion of sector A in the total number declines; and that the inequality of the income distribution within sector A may be as wide as that within sector B but not wider. With the assumptions con-

[6] The underlying calculations are quite simple. For each case we distinguish 20 cells within the total distribution—sets of ten deciles for each sector. For each cell we compute the percentage shares of both number and income in the number and income of total population, and hence also the relative per capita income of each cell. The cells are then arrayed in increasing order of their relative per capita income and cumulated. In the resulting cumulative distributions of number and countrywide income we establish, by arithmetic interpolation, if interpolation is needed, the percentage shares in total income of the successive quintiles of the country's population.

TABLE I.—PERCENTAGE SHARES OF 1ST AND 5TH QUINTILES IN THE INCOME DISTRIBUTION FOR TOTAL POPULATION UNDER VARYING ASSUMPTIONS CONCERNING PER CAPITA INCOME WITHIN THE SECTORS, PROPORTIONS OF SECTORS IN TOTAL NUMBER, AND INTRASECTOR INCOME DISTRIBUTIONS

	Proportion of Number in Sector A to Total Number						
	0.8 (1)	0.7 (2)	0.6 (3)	0.5 (4)	0.4 (5)	0.3 (6)	0.2 (7)
I. Per Capita Income of Sector A = 50; of Sector B = 100							
1. Per capita income of total population	60	65	70	75	80	85	90
Distribution (*E*) for Both Sectors							
2. Share of 1st quintile	10.5	9.9	9.6	9.3	9.4	9.8	10.2
3. Share of 5th quintile	34.2	35.8	35.7	34.7	33.2	31.9	30.4
4. Range (3-2)	23.7	25.9	26.1	25.3	23.9	22.1	20.2
Distribution (*U*) for Both Sectors							
5. Share of 1st quintile	3.8	3.8	3.7	3.7	3.8	3.8	3.9
6. Share of 5th quintile	40.7	41.9	42.9	42.7	41.5	40.2	38.7
7. Range (6-5)	36.8	38.1	39.1	39.0	37.8	36.4	34.8
Distribution (*E*) for Sector A, (*U*) for Sector B							
8. Share of 1st quintile	9.3	8.3	7.4	6.7	6.0	5.4	4.9
9. Share of 5th quintile	37.7	41.0	42.9	42.7	41.5	40.2	38.7
10. Range (9-8)	28.3	32.7	35.4	36.0	35.5	34.8	33.8
II. Per Capita Income of Sector A = 50; of Sector B = 200							
11. Per capita income of total population	80	95	110	125	140	155	170
Distribution (*E*) for Both Sectors							
12. Share of 1st quintile	7.9	6.8	6.1	5.6	5.4	5.4	5.9
13. Share of 5th quintile	50.0	49.1	45.5	41.6	38.0	35.0	32.2
14. Range (13-12)	42.1	42.3	39.4	36.0	32.6	29.6	26.3
Distribution (*U*) for Both Sectors							
15. Share of 1st quintile	3.1	2.9	2.7	2.6	2.6	2.7	3.1
16. Share of 5th quintile	52.7	56.0	54.5	51.2	47.4	44.1	40.9
17. Range (16-15)	49.6	53.1	51.8	48.6	44.8	41.4	37.9
Distribution (*E*) for Sector *A*, (*U*) for Sector B							
18. Share of 1st quintile	7.4	6.2	5.4	4.7	4.2	3.9	3.8
19. Share of 5th quintile	51.6	56.0	54.6	51.2	47.4	44.1	40.9
20. Range (19-18)	44.2	49.8	49.2	46.5	43.2	40.2	37.2

For methods of calculating the shares of quintiles, see text (p. 12 and fn. 6). Some differences will not check because of rounding.

cerning three sets of factors—intersector differences in per capita income, intrasector distributions, and sector weights—varying within the limitations just indicated, the following conclusions are suggested:

First, if the per capita income differential increases, or if the income distribution is more unequal for sector B than for sector A, or if both conditions are present, the rise over time in the relative weight of sector B causes a marked increase in inequality in the countrywide income distribution. We have here a demonstration of the effects upon trends in income inequality of interindustry shifts away from agriculture discussed above (pp. 7-8).

Second, if the intrasector income distribution is the same for both sectors, and the widening inequality in the countrywide income distribution is due only to the increasing per capita income differential in favor of sector B, such widening is greater when the intrasector income distributions are characterized by moderate rather than wide inequality. Thus, if the intrasector distributions are of the *E* type, the range in the countrywide distribution widens from 23.7 to 26.3 as proportion of A drops from 0.8 to 0.2 and as the ratio of per capita income of sector B to that of sector A changes from 2 to 4 (see line 4, col. 1, and line 14, col. 7). If the *U* distributions are used, the range, under identical conditions, widens only from 36.8 to 37.9 (see line 7, col. 1, and line 17, col. 7). This difference is revealed more clearly by the change in the share of the 1st quintile, which bears the brunt of widening inequality: for the *E* distribution, the share drops from 10.5 (line 2, col. 1) to 5.9 (line 12, col. 7); for the *U* distribution, from 3.8 (line 5, col. 1) to 3.1 (line 15, col. 7).

Third, if the per capita income differential between sectors is constant, but the intrasector distribution of B is more unequal than that of A, the widening inequality in the countrywide distribution is the greater, the lower the assumed per capita income differential. Thus for a differential of 2 to 1, the range widens from 28.3 when the proportion of A is 0.8 (line 10, col. 1) to 36.0 at the peak when the proportion of A is 0.5 (line 10, col. 4) and is still 33.8 when the proportion of A drops to 0.2 (line 10, col. 7). For a per capita income differential of 4 to 1, the widening of the range at the maximum is only from 44.2 (line 20, col. 1) to 49.8 (line 20, col. 2) and then the range declines to 37.2 (line 20, col. 7), well below the initial level.

Fourth, the assumptions utilized in the numerical illustration—of a rise in proportions of total number in section B, of greater inequality in the distribution within sector B, and of the growing excess of per capita income in B over that in A—yield a decline in the share of the 1st quintile that is much more conspicuous than the rise in the share of the 5th quintile. Thus the share of the 1st quintile, with the proportion of A at 0.8, distribution in B more unequal than in A, and a per capita income differential of 2 to 1, is 9.3 (line 8, col. 1). As we shift to a proportion of A of 0.2, and a per capita income differential of 4 to 1, the

share of the 1st quintile drops to 3.8 (line 18, col. 7). Under the same conditions, the share of the 5th quintile changes from 37.7 (line 9, col. 1) to 40.9 (line 19, col. 7).

Fifth, even if the differential in per capita income between the two sectors remains constant and the intrasector distributions are identical for the two sectors, the mere shift in the proportions of numbers produces slight but significant changes in the distribution for the country as a whole. In general, as the proportion of A drifts from 0.8 downwards, the range tends first to widen and then to diminish. When the per capita income differential is low (2 to 1), the widening of the range reaches a peak close to middle of the series, *i.e.*, at a proportion of A equal to 0.6 (lines 4 and 7); and the movements in the range tend to be rather limited. When the per capita income differential is large (4 to 1), the range contracts as soon as the proportion of A passes the level of 0.7, and the decline in the range is quite substantial (lines 14 and 17).

Sixth, of particular bearing upon the shares of upper-income groups is the finding that the share of the top quintile declines as the proportion of A falls below a certain, rather high fraction of total numbers. There is not a single case in the illustration in which the share of the 5th quintile fails to decline, either throughout or through a substantial segment of the sequence in the downward movement of the proportion of A from 0.8 to 0.2. In lines 6 and 9, the share of the 5th quintile declines beyond the point at which the proportion of A is 0.6; and in all other relevant lines the downward trend in the share of the 5th quintile sets in earlier. The reason lies, of course, in the fact that with increasing industrialization, the growing weight of the nonagricultural sector, with its higher per capita income, raises the per capita income for the whole economy; and yet per capita income within each sector and the intrasector distributions are kept constant. Under such conditions, the upper shares would fail to decline only if there were either a greater rise in per capita income of sector B than in that of sector A; or increasing inequality in the intrasector distribution of sector B.

Several other conjectural conclusions could be drawn with additional variations in assumptions, and multiplication of sectors beyond the two distinguished in the numerical illustration. But even in the simple model illustrated the variety of possible patterns is impressive; and one is forced to the view that much more empirical information is needed to permit a proper choice of specific assumptions and constants. Granted that several of the conclusions could be generalized in formal mathematical terms, useful inferences would be within our reach only if we knew more about the specific sector distributions and the levels and trends in per capita income differentials among the sectors.

If then we limit ourselves to what is known or can be plausibly as-

sumed, the following inferences can be suggested. We know that per capita income is greater in sector B than in sector A; that, at best, the per capita income differential between sectors A and B has been fairly constant (*e.g.*, in the United States) and has perhaps more often increased; that the proportion of sector A in total numbers has diminished. Then, if we start with intrasector distribution of B more unequal than for A, we would expect results suggested by either lines 8-10 or 18-20. In the former case, the range widens as the proportion of A drops from 0.8 to 0.5, and then narrows. In the latter case, the range declines beyond the point at which the proportion of A is 0.7. But in both cases, the share of the 1st quintile declines, and fairly appreciably and continuously (see lines 8 and 18). The magnitude and continuity of the decline are partly the result of the specific assumptions made; but one would be justified in arguing that within the broad limits suggested by the illustration, the assumption of greater inequality in the intrasector distribution for sector B than for sector A, yields a downward trend in the share of the lower-income groups. Yet we find no such trend in the empirical evidence that we have. Can we assume that in the earlier periods the internal distribution for sector B was not more unequal than for sector A, despite the more recent indications that urban income distribution is more unequal than the rural?

There is, obviously, room for conjecture. It seems most plausible to assume that in earlier periods of industrialization, even when the nonagricultural population was still relatively small in the total, its income distribution was more unequal than that of the agricultural population. This would be particularly so during the periods when industrialization and urbanization were proceeding apace and the urban population was being swelled, and fairly rapidly, by immigrants—either from the country's agricultural areas or from abroad. Under these conditions, the urban population would run the full gamut from low-income positions of recent entrants to the economic peaks of the established top-income groups. The urban income inequalities might be assumed to be far wider than those for the agricultural population which was organized in relatively small individual enterprises (large-scale units were rarer then than now).

If we grant the assumption of wider inequality of distribution in sector B, the shares of the lower-income brackets should have shown a downward trend. Yet the earlier summary of empirical evidence indicates that during the last 50 to 75 years there has been no widening in income inequality in the developed countries but, on the contrary, some narrowing within the last two to four decades. It follows that the intrasector distribution—either for sector A or for sector B—must have shown sufficient narrowing of inequality to offset the increase called

for by the factors discussed. Specifically, the shares of the *lower* income groups in sectors A and/or B must have increased sufficiently to offset the decline that would otherwise have been produced by a combination of the elements shown in the numerical illustration.

This narrowing in inequality, the offsetting rise in the shares of the lower brackets, most likely occurred in the income distribution for the urban groups, in sector B. While it may also have been present in sector A, it would have had a more limited effect on the inequality in the countrywide income distribution because of the rapidly diminishing weight of sector A in the total. Nor was such a narrowing of income inequality in agriculture likely: with industrialization, a higher level of technology permitted larger-scale units and, in the United States for example, sharpened the contrast between the large and successful business farmers and the subsistence sharecroppers of the South. Furthermore, since we accept the assumption of *initially* narrower inequality in the internal distribution of income in sector A than in sector B, any significant reduction in inequality in the former is less likely than in the latter.

Hence we may conclude that the major offset to the widening of income inequality associated with the shift from agriculture and the countryside to industry and the city must have been a rise in the income share of the lower groups within the nonagricultural sector of the population. This provides a lead for exploration in what seems to me a most promising direction: consideration of the pace and character of the economic growth of the urban population, with particular reference to the relative position of lower-income groups. Much is to be said for the notion that once the early turbulent phases of industrialization and urbanization had passed, a variety of forces converged to bolster the economic position of the lower-income groups within the urban population. The very fact that after a while, an increasing proportion of the urban population was "native," *i.e.*, born in cities rather than in the rural areas, and hence more able to take advantage of the possibilities of city life in preparation for the economic struggle, meant a better chance for organization and adaptation, a better basis for securing greater income shares than was possible for the newly "immigrant" population coming from the countryside or from abroad. The increasing efficiency of the older, established urban population should also be taken into account. Furthermore, in democratic societies the growing political power of the urban lower-income groups led to a variety of protective and supporting legislation, much of it aimed to counteract the worst effects of rapid industrialization and urbanization and to support the claims of the broad masses for more adequate shares of the growing income of the country. Space does not permit the discussion of demographic, political, and social considerations that could be brought

to bear to explain the offsets to any declines in the shares of the lower groups, declines otherwise deducible from the trends suggested in the numerical illustration.

III. *Other Trends Related to Those in Income Inequality*

One aspect of the conjectural conclusion just reached deserves emphasis because of its possible interrelation with other important elements in the process and theory of economic growth. The scanty empirical evidence suggests that the narrowing of income inequality in the developed countries is relatively recent and probably did not characterize the earlier stages of their growth. Likewise, the various factors that have been suggested above would explain stability and narrowing in income inequality in the later rather than in the earlier phases of industrialization and urbanization. Indeed, they would suggest widening inequality in these early phases of economic growth, especially in the older countries where the emergence of the new industrial system had shattering effects on long-established pre-industrial economic and social institutions. This timing characteristic is particularly applicable to factors bearing upon the lower-income groups: the dislocating effects of the agricultural and industrial revolutions, combined with the "swarming" of population incident upon a rapid decline in death rates and the maintenance or even rise of birth rates, would be unfavorable to the relative economic position of lower-income groups. Furthermore, there may also have been a preponderance in the earlier periods of factors favoring maintenance or increase in the shares of top-income groups: in so far as their position was bolstered by gains arising out of new industries, by an unusually rapid rate of creation of new fortunes, we would expect these forces to be relatively stronger in the early phases of industrialization than in the later when the pace of industrial growth slackens.

One might thus assume a long swing in the inequality characterizing the secular income structure: widening in the early phases of economic growth when the transition from the pre-industrial to the industrial civilization was most rapid; becoming stabilized for a while; and then narrowing in the later phases. This long secular swing would be most pronounced for older countries where the dislocation effects of the earlier phases of modern economic growth were most conspicuous; but it might be found also in the "younger" countries like the United States, if the period preceding marked industrialization could be compared with the early phases of industrialization, and if the latter could be compared with the subsequent phases of greater maturity.

If there is some evidence for assuming this long swing in relative inequality in the distribution of income before direct taxes and exclud-

ing free benefits from government, there is surely a stronger case for assuming a long swing in inequality of income net of direct taxes and including government benefits. Progressivity of income taxes and, indeed, their very importance characterize only the more recent phases of development of the presently developed countries; in narrowing income inequality they must have accentuated the downward phase of the long swing, contributing to the reversal of trend in the secular widening and narrowing of income inequality.

No adequate empirical evidence is available for checking this conjecture of a long secular swing in income inequality;[7] nor can the phases be dated precisely. However, to make it more specific, I would place the early phase in which income inequality might have been widening, from about 1780 to 1850 in England; from about 1840 to 1890, and particularly from 1870 on in the United States; and, from the 1840's to the 1890's in Germany. I would put the phase of narrowing income inequality somewhat later in the United States and Germany than in England—perhaps beginning with the first world war in the former and in the last quarter of the 19th century in the latter.

Is there a possible relation between this secular swing in income inequality and the long swing in other important components of the growth process? For the older countries a long swing is observed in the rate of growth of population—the upward phase represented by acceleration in the rate of growth reflecting the early reduction in the death rate which was not offset by a decline in the birth rate (and in some cases was accompanied by a rise in the birth rate); and the downward phase represented by a shrinking in the rate of growth reflecting the more pronounced downward trend in the birth rate. Again, in the older countries, and also perhaps in the younger, there may have been a secular swing in the rate of urbanization, in the sense that the proportional additions to urban population and the measures of internal migration that produced this shift of population probably increased for a while—from the earlier much lower levels; but then tended to diminish as urban population came to dominate the country and as the rural reservoirs of migration became proportionally much smaller. For old, and perhaps for young countries also, there must have been a secular swing in the proportions of savings or capital formation to total economic product. Per capita product in pre-industrial times was not large enough to permit as high a nationwide rate of saving or capital formation as was attained in the course of industrial development: this is

[7] Prokopovich's data on Prussia, from the source cited in footnote 1, indicate a substantial widening in income inequality in the early period. The share of the lower 90 per cent of the population declines from 73 per cent in 1854 to 65 per cent in 1875; the share of the top 5 per cent rises from 21 to 25 per cent. But I do not know enough about the data for the early years to evaluate the reliability of the finding.

suggested by present comparisons between net capital formation rates of 3 to 5 per cent of national product in underdeveloped countries and rates of 10 to 15 per cent in developed countries. If then, at least in the older countries, and perhaps even in the younger ones—prior to initiation of the process of modern development—we begin with low secular levels in the savings proportions, there would be a rise in the early phases to appreciably higher levels. We also know that during recent periods the net capital formation proportion and even the gross, failed to rise and perhaps even declined.

Other trends might be suggested that would possibly trace long swings similar to those for inequality in income structure, rate of growth of population, rate of urbanization and internal migration, and the proportion of savings or capital formation to national product. For example, such swings might be found in the ratio of foreign trade to domestic activities; in the aspects, if we could only measure them properly, of government activity that bear upon market forces (there must have been a phase of increasing freedom of market forces, giving way to greater intervention by government). But the suggestions already made suffice to indicate that the long swing in income inequality must be viewed as part of a wider process of economic growth, and interrelated with similar movements in other elements. The long alternation in the rate of growth of population can be seen partly as a cause, partly as an effect of the long swing in income inequality which was associated with a secular rise in real per capita income levels. The long swing in income inequality is also probably closely associated with the swing in capital formation proportions—in so far as wider inequality makes for higher, and narrower inequality for lower, country-wide savings proportions.

IV. *Comparison of Developed and Underdeveloped Countries*

What is the bearing of the experience of the developed countries upon the economic growth of underdeveloped countries? Let us examine briefly the data on income distribution in the latter, and speculate upon some of the implications.

As might have been expected, such data for underdeveloped countries are scanty. For the present purpose distributions of family income for India in 1949-50, for Ceylon in 1950, and for Puerto Rico in 1948 were used. While the coverage is narrow and the margin of error wide, the data show that income distribution in these underdeveloped countries is somewhat *more* unequal than in the developed countries during the period after the second world war. Thus the shares of the lower 3 quintiles are 28 per cent in India, 30 per cent in Ceylon, and 24 per cent in Puerto Rico—compared with 34 per cent in the United States and 36

per cent in the United Kingdom. The shares of the top quintile are 55 per cent in India, 50 per cent in Ceylon, and 56 per cent in Puerto Rico, compared with 44 per cent in the United States and 45 per cent in the United Kingdom.[8]

This comparison is for income before direct taxes and excluding free benefits from governments. Since the burden and progressivity of direct taxes are much greater in developed countries, and since it is in the latter that substantial volumes of free economic assistance are extended to the lower-income groups, a comparison in terms of income net of direct taxes and including government benefits would only accentuate the wider inequality of income distributions in the underdeveloped countries. Is this difference a reliable reflection of wider inequality also in the distribution of *secular* income levels in underdeveloped countries? Even disregarding the margins of error in the data, the possibility raised earlier in this paper that transient disturbances in income levels may be more conspicuous under conditions of primitive material and economic technology would affect the comparison just made. Since the distributions cited reflect the annual income levels, a greater allowance should perhaps be made for transient disturbances in the distributions for the underdeveloped than in those for the developed countries. Whether such a correction would obliterate the difference is a matter on which I have no relevant evidence.

Another consideration might tend to support this qualification. Underdeveloped countries are characterized by low average levels of income per capita, low enough to raise the question how the populations manage to survive. Let us assume that these countries represent fairly unified population groups, and exclude, for the moment, areas that combine large native populations with small enclaves of nonnative, privileged minorities, *e.g.*, Kenya and Rhodesia, where income inequality, because of the excessively high income shares of the privileged minority, is appreciably wider than even in the underdeveloped countries cited above.[9] On this assumption, one may infer that in countries

[8] For sources of these data see "Regional Economic Trends and Levels of Living," submitted at the Norman Waite Harris Foundation Institute of the University of Chicago in November 1954 (in press in the volume of proceedings). This paper, and an earlier one, "Underdeveloped Countries and the Pre-industrial Phases in the Advanced Countries: An Attempt at Comparison," prepared for the World Population Meetings in Rome held in September 1954 (in press) discuss issues raised in this section.

[9] In one year since the second world war, the non-African group in Southern Rhodesia, which accounted for only 5 per cent of total population, received 57 per cent of total income; in Kenya, the minority of only 2.9 per cent of total population, received 51 per cent of total income; in Northern Rhodesia, the minority of only 1.4 per cent of total population, received 45 per cent of total income. See United Nations, *National Income and Its Distribution in Underdeveloped Countries*, Statistical Paper, Ser. E, no. 3, 1951, Table 12, p. 19.

with low average income, the secular level of income in the lower brackets could not be below a fairly sizable proportion of average income—otherwise, the groups could not survive. This means, to use a purely hypothetical figure, that the secular level of the share of the lowest decile could not fall far short of 6 or 7 per cent, *i.e.*, the lowest decile could not have a per capita income less than six- or seven-tenths of the countrywide average. In more advanced countries, with higher average per capita incomes, even the *secular* share of the lowest bracket could easily be a smaller fraction of the countrywide average, say as small as 2 or 3 per cent for the lowest decile, *i.e.*, from a fifth to a third of the countrywide average—without implying a materially impossible economic position for that group. To be sure, there is in all countries continuous pressure to raise the relative position of the bottom-income groups; but the fact remains that the lower limit of the proportional share in the secular income structure is higher when the real countrywide per capita income is low than when it is high.

If the long-term share of the lower-income groups is larger in the underdeveloped than in the average countries, income inequality in the former should be narrower, not wider as we have found. However, if the lower brackets receive larger shares, and at the same time the very top brackets also receive larger shares—which would mean that the intermediate income classes would not show as great a progression from the bottom—the net effect may well be wider inequality. To illustrate, let us compare the distributions for India and the United States. The first quintile in India receives 8 per cent of total income, more than the 6 per cent share of the first quintile in the United States. But the second quintile in India receives only 9 per cent, the third 11, and the fourth 16; whereas in the United States, the shares of these quintiles are 12, 16, and 22 respectively. This is a rough statistical reflection of a fairly common observation relating to income distributions in underdeveloped compared with developed countries. The former have no "middle" classes: there is a sharp contrast between the preponderant proportion of population whose average income is well below the generally low countrywide average, and a small top group with a very large relative income excess. The developed countries, on the other hand, are characterized by a much more gradual rise from low to high shares, with substantial groups receiving more than the high countrywide income average, and the top groups securing smaller shares than the comparable ordinal groups in underdeveloped countries.

It is, therefore, possible that even the distributions of secular income levels would be more unequal in underdeveloped than in developed countries—not in the sense that the shares of the lower brackets would be lower in the former than in the latter, but in the sense that the shares

of the very top groups would be higher and that those of the groups below the top would all be significantly lower than a low countrywide income average. This is even more likely to be true of the distribution of income net of direct taxes and inclusive of free government benefits. But whether a high probability weight can be attached to this conjecture is a matter for further study.

In the absence of evidence to the contrary, I assume that it is true: that the secular income structure is somewhat more unequal in underdeveloped countries than in the more advanced—particularly in those of Western and Northern Europe and their economically developed descendants in the New World (the United States, Canada, Australia, and New Zealand). This conclusion has a variety of important implications and leads to some pregnant questions, of which only a few can be stated here.

In the first place, the wider inequality in the secular income structure of underdeveloped countries is associated with a much lower level of average income per capita. Two corollaries follow—and they would follow even if the income inequalities were of the same relative range in the two groups of countries. First, the impact is far sharper in the underdeveloped countries, where the failure to reach an already low countrywide average spells much greater material and psychological misery than similar proportional deviations from the average in the richer, more advanced countries. Second, positive savings are obviously possible only at much higher relative income levels in the underdeveloped countries: if in the more advanced countries some savings are possible in the fourth quintile, in the underdeveloped countries savings could be realized only at the very peak of the income pyramid, say by the top 5 or 3 per cent. If so, the concentration of savings and of assets is even more pronounced than in the developed countries; and the effects of such concentration in the past may serve to explain the peculiar characteristics of the secular income structure in underdeveloped countries today.

The second implication is that this unequal income structure presumably coexisted with a low rate of growth of income per capita. The underdeveloped countries today have not always lagged behind the presently developed areas in level of economic performance; indeed, some of the former may have been the economic leaders of the world in the centuries preceding the last two. The countries of Latin America, Africa, and particularly those of Asia, are underdeveloped today because in the last two centuries, and even in recent decades, their rate of economic growth has been far lower than that in the Western World—and low indeed, if any growth there was, on a per capita basis. The underlying shifts in industrial structure, the opportunities for internal

mobility and for economic improvement, were far more limited than in the more rapidly growing countries now in the developed category. There was no hope, within the lifetime of a generation, of a significantly perceptible rise in the level of real income, or even that the next generation might fare much better. It was this hope that served as an important and realistic compensation for the wide inequality in income distribution that characterized the presently developed countries during the earlier phases of their growth.

The third implication follows from the preceding two. It is quite possible that income inequality has not narrowed in the underdeveloped countries within recent decades. There is no empirical evidence to check this conjectural implication, but it is suggested by the absence, in these areas, of the dynamic forces associated with rapid growth that in the developed countries checked the upward trend of the upper-income shares that was due to the cumulative effect of continuous concentration of past savings; and it is also indicated by the failure of the political and social systems of underdeveloped countries to initiate the governmental or political practices that effectively bolster the weak positions of the lower-income classes. Indeed, there is a possibility that inequality in the secular income structure of underdeveloped countries may have widened in recent decades—the only qualification being that where there has been a recent shift from colonial to independent status, a privileged, *nonnative* minority may have been eliminated. But the implication, in terms of the income distribution among the *native* population proper, still remains plausible.

The somber picture just presented may be an oversimplified one. But I believe that it is sufficiently realistic to lend weight to the questions it poses—questions as to the bearing of the recent levels and trends in income inequality, and the factors that determine them, upon the future prospect of underdeveloped countries within the orbit of the free world.

The questions are difficult, but they must be faced unless we are willing completely to disregard past experience or to extrapolate mechanically oversimplified impressions of past development. The first question is: Is the pattern of the older developed countries likely to be repeated in the sense that in the early phases of industrialization in the underdeveloped countries income inequalities will tend to widen before the leveling forces become strong enough first to stabilize and then reduce income inequalities? While the future cannot be an exact repetition of the past, there are already certain elements in the present conditions of underdeveloped societies, *e.g.*, "swarming" of population due to sharp cuts in death rates unaccompanied by declines in birth rates—that threaten to widen inequality by depressing the relative position of lower-income groups even further. Furthermore, if and when industrialization

begins, the dislocating effects on these societies, in which there is often an old hardened crust of economic and social institutions, are likely to to be quite sharp—so sharp as to destroy the positions of some of the lower groups more rapidly than opportunities elsewhere in the economy may be created for them.

The next question follows from an affirmative answer to the first. Can the political framework of the underdeveloped societies withstand the strain which further widening of income inequality is likely to generate? This query is pertinent if it is realized that the real per capita income level of many underdeveloped societies today is lower than the per capita income level of the presently developed societies before *their* initial phases of industrialization. And yet the stresses of the dislocations incident to early phases of industrialization in the developed countries were sufficiently acute to strain the political and social fabric of society, force major political reforms, and sometimes result in civil war.

The answer to the second question may be negative, even granted that industrialization may be accompanied by a rise in real per capita product. If, for many groups in society, the rise is even partly offset by a decline in their proportional share in total product; if, consequently, it is accompanied by widening of income inequality, the resulting pressures and conflicts may necessitate drastic changes in social and political organization. This gives rise to the next and crucial question: How can either the institutional and political framework of the underdeveloped societies or the processes of economic growth and industrialization be modified to favor a sustained rise to higher levels of economic performance and yet avoid the fatally simple remedy of an authoritarian regime that would use the population as cannon-fodder in the fight for economic achievement? How to minimize the cost of transition and avoid paying the heavy price—in internal tensions, in long-run inefficiency in providing means for satisfying wants of human beings as individuals—which the inflation of political power represented by authoritarian regimes requires?

Facing these acute problems, one is cognizant of the dangers of taking an extreme position. One extreme—particularly tempting to us—is to favor repetition of past patterns of the now developed countries, patterns that, under the markedly different conditions of the presently underdeveloped countries, are almost bound to put a strain on the existing social and economic institutions and eventuate in revolutionary explosions and authoritarian regimes. There is danger in simple analogies; in arguing that because an unequal income distribution in Western Europe in the past led to accumulation of savings and financing of basic capital formation, the preservation or accentuation of present income inequalities in the underdeveloped countries is necessary to secure the

same result. Even disregarding the implications for the lower-income groups, we may find that in at least some of these countries today the consumption propensities of upper-income groups are far higher and savings propensities far lower than were those of the more puritanical upper-income groups of the presently developed countries. Because they may have proved favorable in the past, it is dangerous to argue that completely free markets, lack of penalties implicit in progressive taxation, and the like are indispensable for the economic growth of the now underdeveloped countries. Under present conditions the results may be quite the opposite—withdrawal of accumulated assets to relatively "safe" channels, either by flight abroad or into real estate; and the inability of governments to serve as basic agents in the kind of capital formation that is indispensable to economic growth. It is dangerous to argue that, because in the past foreign investment provided capital resources to spark satisfactory economic growth in some of the smaller European countries or in Europe's descendants across the seas, similar effects can be expected today if only the underdeveloped countries can be convinced of the need of a "favorable climate." Yet, it is equally dangerous to take the opposite position and claim that the present problems are entirely new and that we must devise solutions that are the product of imagination unrestrained by knowledge of the past, and therefore full of romantic violence. What we need, and I am afraid it is but a truism, is a clear perception of past trends and of conditions under which they occurred, as well as knowledge of the conditions that characterize the underdeveloped countries today. With this as a beginning, we can then attempt to translate the elements of a properly understood past into the conditions of an adequately understood present.

V. *Concluding Remarks*

In concluding this paper, I am acutely conscious of the meagerness of reliable information presented. The paper is perhaps 5 per cent empirical information and 95 per cent speculation, some of it possibly tainted by wishful thinking. The excuse for building an elaborate structure on such a shaky foundation is a deep interest in the subject and a wish to share it with members of the Association. The formal and no less genuine excuse is that the subject is central to much of economic analysis and thinking; that our knowledge of it is inadequate; that a more cogent view of the whole field may help channel our interests and work in intellectually profitable directions; that speculation is an effective way of presenting a broad view of the field; and that so long as it is recognized as a collection of hunches calling for further investigation rather than a set of fully tested conclusions, little harm and much good may result.

Let me add two final comments. The first bears upon the importance of additional knowledge and a better view of the secular structure of personal income distribution. Since this distribution is a focal point at which the functioning of the economic system impinges upon the human beings who are the living members of society and for whom and through whom the society operates, it is an important datum for understanding the reactions and behavior patterns of human beings as producers, consumers, and savers. It follows that better knowledge and comprehension of the subject are indispensable, not only in and of itself but also as a step in learning more about the functioning of society—in both the long and short run. Without better knowledge of the trends in secular income structure and of the factors that determine them, our understanding of the whole process of economic growth is limited; and any insight we may derive from observing changes in countrywide aggregates over time will be defective if these changes are not translated into movements of shares of the various income groups.

But more than that, such knowledge will contribute to a better evaluation of past and present theorizing on the subject of economic growth. It was pointed out in the opening lines of this paper that the field is distinguished by looseness of concepts, extreme scarcity of relevant data, and, particularly, pressures of strongly held opinions. The distribution of national product among the various groups is a subject of acute interest to many and is discussed at length in any half-articulate society. When empirical data are scanty, as they are in this field, the natural tendency in such discussion is to generalize from what little experience is available—most often the short stretch of historical experience within the horizon of the interested scholar, which is brought to bear upon the particular policy problems in the forefront. It has repeatedly been observed that the grand dynamic economics of the classical school of the late 18th and early 19th centuries was a generalization, the main empirical contents of which were the observed developments during half to three quarters of a century in England, the mother country of that school; and that it bore many of the limitations which the brevity and exceptional character of that period and that place naturally imposed upon the theoretical structure. It is also possible that much of Marxian economics may be an overgeneralization of imperfectly understood trends in England during the first half of the 19th century when income inequality may have widened; and that extrapolations of these trends (*e.g.*, increasing misery of the working classes, polarization of society, etc.) proved wrong because due regard was not given to the possible effects upon the economic and social structure of technological changes, extension of the economic system to much of the then unoccupied world, and the very structure of human wants. Wider empirical foundations,

observation of a greater variety of historical experience, and a recognition that any body of generalizations tends to reflect some limited stretch of historical experience must force us to evaluate any theory—past or present—in terms of its empirical contents and the consequent limits of its applicability—a precept which naturally should also be applied to the oversimplified generalizations contained in the present paper.

My final comment relates to the directions in which further exploration of the subject is likely to lead us. Even in this simple initial sketch, findings in the field of demography were used and references to political aspects of social life were made. Uncomfortable as are such ventures into unfamiliar and perhaps treacherous fields, they can not and should not be avoided. If we are to deal adequately with processes of economic growth, processes of long-term change in which the very technological, demographic, and social frameworks are also changing—and in ways that decidedly affect the operation of economic forces proper—it is inevitable that we venture into fields beyond those recognized in recent decades as the province of economics proper. For the study of the economic growth of nations, it is imperative that we become more familiar with findings in those related social disciplines that can help us understand population growth patterns, the nature and forces in technological change, the factors that determine the characteristics and trends in political institutions, and generally patterns of behavior of human beings—partly as a biological species, partly as social animals. Effective work in this field necessarily calls for a shift from market economics to political and social economy.