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Chapter Author: Thomas R. Atkinson

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PART I

Income Data of the Bureau of the Census

Some Frontiers of Size-Distribution Research

THOMAS R. ATKINSON, FEDERAL RESERVE BANK OF ATLANTA

Beginning with the 1939 meeting, the size distribution of income has been a recurring subject for the attention of the Conference on Income and Wealth. Generally, the broad outlines of the field have twice been indicated by Simon Kuznets. For the 1941 Conference, Kuznets in his paper "The Why and How of Distribution of Income by Size" suggested that problems for size-distribution studies might logically be divided into three groups: (1) what recipients do with their income; (2) the influence of income on the recipient's other economic and social activities; and (3) non-overt states (attitudes, feelings, and so forth) imputable to income. Again, and more specifically, in June 1950, Kuznets indicated four lines of further inquiry: (1) historical changes and area differences; (2) causal factors in the size distribution of income; (3) factors in the relation between the size and use of income; and (4) normative valuations.

Within these broad subdivisions of inquiry, it is undoubtedly possible to add and compound the detailed questions that Kuznets and others have already suggested. But, as Kuznets has mentioned, the purposes that size distributions may serve are unmanageably numerous, so that any attempt to catalogue and subcatalogue further problems in the field will perhaps also be an unmanageable task. Instead of directing this paper to such a task, therefore, it would seem that a more selective and less comprehensive approach might have some benefits. Specifically, what are some current frontiers of size-distribution research?

Before discussing specific frontiers I would like to point out that the reluctance to consider the size distribution of income that Simon Kuznets, writing in 1939, noted has disintegrated almost to the point of nonexistence. If one attempts to guess the reason for growing interest in the subject of size distribution, one must almost completely reject Kuznets' 1939 prediction that it would come about because of realization of the economic immobility of the individual and the condition of national economic stagnation. Instead, the vast changes in the level and the seemingly vast changes in the distribution of income itself have intruded upon the consciousness of nearly all those old enough to have clear memories of the twenties and thirties and have removed much of the atmosphere of sanctity that previously surrounded the topic of how the fruits of the economy were distributed.

Part of the disintegration of opposition to size-distribution research probably has resulted from the relatively clear view of the workings of supply and demand factors in determining the size distribution of income in the forties and fifties. If pointed remarks have been directed at incomes in some menial occupations, then the influence of demand for the final product, the influence of unions, and the effects of licensing arrangements and building codes were all too clearly seen by those who criticized or ridiculed. The result was certainly the withering of the belief that some sacred force determined one's station in life for all time and the realization that to a considerable extent man-made forces were at work. In addition, as incomes rose generally, the belief that poverty could be eliminated only through redistribution died, removing much of the normative character of discussions of size-distribution topics, together with the almost inevitable opposition to such normative judgments. Lastly, I suspect that the process of collecting and publishing size-distribution data has snowballed and has contributed to the removal of opposition to discussion of the topic. Above all though, it is the existence of changes in the income distribution that catalyzes our interest. What these changes mean in terms of economic effects and how the changes come about provide the major questions around which this paper is oriented.

What Does the Income Distribution Determine?

Awakened interest in size-distribution research seems to stem partly from the belief that changes in the functioning of the economy have been produced, or are capable of being produced, by changes in the distribution of income. This brings us at once to the effect of income distribution upon aggregate consumption.

Fortune Magazine had this to say in one of a series of articles on the changing American market:

> Though not a head has been raised aloft on a pikestaff, nor a railway station seized, the U. S. has been for some time now in a revolution. The income explosion of recent years, and the great reshuffling associated with it, have transformed the older American market beyond recognition. This transformation—not to mention the drastic upward revision in living standards—can be construed in no less portentous a word than a revolution. ("The Rich Middle Income Class," *Fortune,* May 1954, p. 95.)

The point of the article, needless to say, was that the increase in the "free spending" middle-income groups had played an important part in the increase in total consumption.

If there has been a fairly widespread acceptance by the public of the doctrine that aggregate consumption has increased over the last twenty years because of greater income equality, it has been generated largely without benefit of statistical support. Some current estimates suggest that the redistribution of after-tax income from 1941 to 1950 amounted to 10 or 11 per cent as measured by the percentage reduction of concentration coefficients between the two years.[1] The effect on consumption of such a redistribution is another matter. Numerous studies of aggregate consumption functions over time seem to have gotten along quite well without income-distribution variables.[2] Even calculations based on static studies of consumption at various income levels suggest an increase in consumption accompanying a 10 per cent redistribution of 0.2 to 2.2 per cent without multiplier effects and from 0.6 to 7.0 per cent with multiplier effects.[3] Clearly this is not the stuff that vast changes in aggregate consumer expenditures are made of. Clearly also, the last word has not been heard on this subject, and, despite the negative results so far, it will remain one of the important frontiers in economic research.

If there is an interest in the effects of changes in the size distribution of income in this and similarly advanced countries, there is even greater interest in this topic in relation to so-called underdeveloped areas. When, as at present, the economies of many of these nations are undergoing rapid change, knowledge is urgently needed about the effects of changes in the size distribution of income. At least two directions of investigation of the effect of size distributions are important in thinking about underdeveloped areas.

First, in many countries economic development has been accompanied by balance-of-payment problems, and the effect of changes in the distribution of income seems of major importance. A recent *Economic Survey of Latin America* by the United Nations stresses this relationship in many of the analyses of individual countries, for the most part focusing attention upon the relation between income distribution and consumption.

Second, there is the question of the relation between income dis-

[1] Calculated from Selma Goldsmith, George Jaszi, Hyman Kaitz, and Maurice Liebenberg, "Size Distribution of Income since the Mid-Thirties," *Review of Economics and Statistics,* February 1954, n. 7, p. 7, and Table 13, p. 25.

[2] Martin Bronfenbrenner, Taro Yamane, and C. H. Lee, "A Study in Redistribution and Consumption," *Review of Economics and Statistics,* May 1955, p. 159.

[3] *Ibid.,* p. 151, and Table 3, p. 155.

tribution and capital formation. Henry Aubrey has suggested in relation to his study of the development of Mexico that a highly unequal income distribution supplied the wherewithal for capital formation, and therefore that "an egalitarian distribution of gains from progress, however desirable socially and politically, is not necessarily the best procedure from a long-term developmental point of view." [4] Despite the apparent logic of this position, Simon Kuznets has warned that the seeming connection between income inequality and capital formation in Western Europe may not hold true for countries presently classified as underdeveloped. On the other hand, he suggests that the lesson of Western Europe cannot be disregarded in favor of development encouraged through inflation or rigid controls instead of a climate favorable to saving and private investment activity.[5] Here then we have a series of frontiers of practical importance to millions of people.

Closely related to the question of how the income distribution affects the level of important economic magnitudes is the problem of how the income distribution affects the stability of the economy. Since World War II, largely without empirical support, the doctrine has developed that a highly equal income distribution provides a measure of resistance to depressions. In 1955 perhaps the most widely recognized version was advanced by Galbraith in his book *The Great Crash*.[6] Galbraith makes the point that the stock market crash of 1929 had such severe impact because, among other things, the deflation of asset values struck at the consumption and investment activities of the high-income groups in whose hands an extreme concentration of income existed at that time. In the fortuitous publication of this book shortly before the September 1955 fall in stock prices, Galbraith pointed out that the greater equality of income distribution since 1929 was a point in support of the belief that such serious effects could not again result from a collapse in equity prices. Despite Galbraith's provocative suggestion about the asset effect on consumption and investment acting on a seemingly constant size distribution, I suspect that cyclical changes in the size distribution which affect these aggregates are closer to the heart of the stability problem. A final aspect of the stability problem is perhaps the relation of cyclical changes in the income distri-

[4] Henry G. Aubrey, "Mexico: Rapid Growth," in *Economic Development: Principles and Patterns,* H. F. Williamson and J. A. Buttrick, editors, Prentice-Hall, 1954, p. 548.

[5] Simon Kuznets, "Economic Growth and Income Inequality," *American Economic Review,* March 1955, pp. 25–26.

[6] John Kenneth Galbraith, *The Great Crash,* Houghton Mifflin, 1955, pp. 182–183.

bution to the mechanism of built-in flexibility. We need to know whether changes in the distribution of income during the business cycle enforce or retard the tendency of the progressive tax system to produce some countercyclical dampening of movements in disposable income.

The topics discussed this far as frontiers in size-distribution research all revolve around the general subject of what people do with their incomes, and more especially how and why they change their ways of spending when their incomes change. More and more we become disenchanted with the belief that we can reason about the effect of income changes by assuming that families moving to a new economic status will adopt the spending pattern of their new position, retain that of their old status, or possibly evolve a compromise between the two with a lag in adjustment. Since most reasoning on the effects of redistribution is still based upon static rather than dynamic studies of income and consumption, it is clear that much remains to be done in studying the behavior of identical spending units over time before satisfactory conclusions can be reached. It is evident that periodic data on consumption and on investment activity of identical consumer units are required. Moreover, to the extent that recent thinking on the determinants of consumption tends to stress both emulation and the retention of previous consumption-saving patterns after incomes have changed, it is necessary to know where the spending unit is in the income pyramid and where it was in the previous periods. The questions of income status (or where in the income pyramid the recipient or spending unit normally finds himself over a period of years), of income incidence (or where he finds himself in a particular year), and of what changes he makes in his behavior as a result, therefore, assume increased importance because of developments in consumption theory.

What Determines the Income Distributions?

We come now to the general topic of what causes the income distribution itself and the closely related subject of the measurement of changes in the size distribution, and causes and permanence of the apparent changes. Herman P. Miller, one of the contributors to this volume, has put in clear focus perhaps the most challenging question for further research into income size distributions. He has set forth two opposing quotations at the head of his chapter on recent changes in income distribution in his book, *Income of the American People*.[7]

[7] Herman P. Miller, *Income of the American People*, Wiley, 1955, p. 97.

> The American economy for many decades has had a rising standard of per capita income, and no evidence exists that the distribution of income during the period was appreciably different from that which now exists. (Testimony of Margaret G. Reid, *Hearings before the Subcommittee on Low-Income Families of the Joint Committee on the Economic Report,* 81st Cong., 1st Sess., December 1949, p. 347.)

> The transformation in the distribution of our national income that has occurred within the past twenty years . . . may already be counted as one of the great social revolutions in history. (Arthur F. Burns, *Looking Forward,* Thirty-first Annual Report of the National Bureau of Economic Research, 1951, p. 3.)

The questions of whether there has, in fact, been a significant change in the distribution of personal incomes, and whether any such change has been in the nature of a cyclical movement or represents a long-term, relatively permanent trend constitute a major frontier in size-distribution research.

As is perhaps inevitable with a significant economic thesis, Kuznets' conclusion that there has been an important decline in the shares going to the upper-income groups has recently come under challenge. Among others, Seers,[8] Lampman,[9] and Perlo [10] suggest, in effect, that the income that Kuznets sought to measure was not actually measured by him and that even if it was, it would have been incomplete or it would have been the wrong income concept to use. Major points in criticism of Kuznets' findings are:

1. The decline in production for home use rather than for market overemphasizes growing income equality, and the possibility exists that price increases have affected the lower-income groups more than the higher-income groups.
2. Income reported on tax returns does not show nonwage income or illegal income, and is subject to evasion and avoidance that favors the upper-income groups.
3. Kuznets' treatment of capital gains and undistributed profits introduces a downward bias into his conclusions.

[8] Dudley Seers, review of Kuznets' *Shares of Upper Income Groups in Income and Savings,* in the *Economic Journal,* June 1955, pp. 315–317.

[9] R. J. Lampman, "Recent Changes in Income Inequality," *American Economic Review,* June 1954, pp. 251–268.

[10] Victor Perlo, "New Findings on Upper Income Shares," Proceedings of the Business and Economics Section, 1955–56, American Statistical Association, p. 292.

Although many of the comments made in criticism of Kuznets' thesis seem relevant, one gets the impression that many of the criticisms are directed less against Kuznets' findings than against the accepted definitions of income. Along this line, the finding by Goldsmith, Jaszi, Kaitz, and Liebenberg that the distribution of national income (rather than personal income) showed little decline in concentration in the upper-income groups from the mid-thirties to 1950 because of the countercyclical movement in undistributed corporate profits, I am sure, makes all of us wonder what we really should be measuring.[11]

It is probably fair to say that the next few years will witness a good many attempts to further measure the changes in the distribution of income that have occurred and are now occurring. Essentially our knowledge of the income distribution upon which we draw our conclusions has come either from income tax data or from sample surveys conducted by personal interviews. In view of the prevailing feelings that the tax materials err most in the lower-income groups and that survey results err most in underestimating incomes in the higher brackets, much remains to be done in discovering ways and means of correcting for the resulting biases in studies based on one or the other methods or, alternatively, in linking the two types of data. Ultimately we may turn for comparison purposes to distributions based on average incomes over several years. One wonders whether the same degree of reduction in inequality would be found between prewar and postwar years if averages for two or more years could be used rather than income for single years.

Closely related to the problem of verifying the view that a change has taken place is the question of the degree of permanence of the changes which our admittedly imperfect data have shown in the over-all distribution. To form valid conclusions on this question requires our knowing more about the determinants of income than we know now.

While there are some reasons to believe that the decline in income inequality may not be as great as our measurements show, there seem to be excellent reasons to believe that the income distribution has become less unequal. A list of the factors tending to make the actual income distribution (as contrasted with the observed distribution) more equal might include the following: [12]

[11] Goldsmith, Jaszi, Kaitz, and Liebenberg, *op. cit.*, pp. 19–20.

[12] See Geoffrey H. Moore, "Secular Changes in the Distribution of Income," *Proceedings of the American Economic Association*, 1952, pp. 527–544; Morris A. Copeland, "Social and Economic Determinants of the Distribution of Income in the United States," *American Economic Review*, March 1947, pp. 56–75; and

1. Shifts in the distribution of income by source caused by changes in the structure of factor prices and in changes in the quantities of factor services supplied
2. Shifts in the distribution of wealth caused by the tax structure
3. Shifts in after-tax income produced by taxation, fiscal policy, and the increased importance of government social programs
4. Shifts in the occupational structure toward occupations with higher incomes and more equal distributions of that income
5. Increased percentage of full-time employees
6. Compacting of wage and salary rates for full-time earners within and between occupations
7. Increase in the number of earners per family; changes in family size and composition
8. Increase in farm incomes in relation to other incomes
9. Changes in the degree of occupational and geographical and rural-urban mobility

Obviously, a considerable frontier exists in drawing up additions to this list and in refining and following back to more basic determinants the factors already recognized. Only then can the existing body of knowledge be sufficient to answer the question of how permanent is the change in the distribution of income.

It is in the field of the determinants of income for the individual that I think the key to many of our size-distribution problems lies. So far we can report little progress beyond the stage reached by Friedman and Kuznets. Recently both Miller [13] and Adams [14] have attempted to look at the influence of various socio-economic variables upon income, and they have widened our knowledge about the influence of the variables they used for analysis. It is interesting to note, however, that each ultimately came upon stumbling blocks that seemed insurmountable because insufficient information appeared to be available. Miller, in noting the differences in incomes between occupations, wondered about occupational mobility both within and between generations. Adams was left to puzzle about whether the differences in abilities between individuals would explain his observed residual variation.

A somewhat different approach to the problem of what determines income is taken by two other recent writers. Robert Summers

Miller, *op. cit.;* Lampman, *op. cit.;* and Goldsmith, Jaszi, Kaitz, and Liebenberg, *op. cit.*

[13] Miller, *op. cit.*

[14] F. Gerard Adams, "Some Personal Economic Characteristics and the Size of Wage and Salary Income," unpublished paper presented at the meetings of the Econometric Society, New York, December 1955.

attempts to "generate" mathematically a hypothetical distribution of lifetime incomes utilizing as data the apparent age-income relationship in the postwar years, the relation between this year's and last year's income, and an initial size distribution.[15] Conrad, on the other hand, tackles the problem of relating the income distribution to the structure of production, the supply of factors, and the demand for final products by means of an input-output system.[16] His analysis puts emphasis upon explaining the size distribution in terms of the level and the occupational composition of employment. These studies appear to suggest that the frontiers in research on income determinants will lie in the problems of assessing mobility, ability, the effect of past income on present and future income, factor supply and demand, and, finally, production techniques.

Not only is research going forward on the determinants of the income of the individual and how they relate to the size distribution, but another developing frontier is that of assessing actual and proposed public policy measures in terms of their effects on the distribution of income. Conrad has followed the lead of others in determining the redistributive effects of public budgets in the United States in 1950.[17] Cartter has attempted a somewhat similar task for the central government fiscal program of Britain for 1948 to 1949.[18] Undoubtedly future studies will increase our ability to assess the impact of both single policy measures and broad public programs encompassing many separate measures. Ultimately though, unless we learn the diverse ways that policies with distributive effects manifest themselves in their impact on the individual and how he in turn reacts to a changed economic status, our assessment of policy measures is likely to be somewhat lacking in applicability.

Within the confines of this short paper I have attempted to suggest a few frontiers for research in the size distribution of income. The theme I have chosen to follow is that it is changes in the distribution of income that furnish the greatest challenge for present research. We are not yet out of the woods in knowing how much of a redistribution has occurred over the past two decades—nor do

[15] Robert Summers, "An Econometric Investigation of the Lifetime Size Distribution of Average Annual Income," unpublished paper presented at the meetings of the Econometric Society, New York, December 1955.

[16] Alfred H. Conrad, "Structural Change, Labor Utilization and the Distribution of Incomes," unpublished paper presented at the meetings of the Econometric Society, New York, December 1955.

[17] Alfred H. Conrad, "Redistribution through Government Budgets in the United States, 1950," in *Income Redistribution and Social Policy,* Alan Peacock, editor, London, J. Cape, 1954.

[18] Allan M. Cartter, *The Redistribution of Income in Postwar Britain,* Yale University Press, 1955.

we know what the effect on aggregate consumption, saving, and investment has been. Not knowing this, we do not know how to assess public measures that would alter the distribution of incomes, and we do not know how permanent are past or future changes produced by accident of history or design of public policy. Even so, we are closer to answers to these questions than we were a few years ago, and the pace of our progress seems to be quickening.