Volume Title: The Personal Distribution of Income and Wealth

Volume Author/Editor: James D. Smith, ed.

Volume Publisher: NBER

Volume ISBN: 0-870-14268-2

Volume URL: http://www.nber.org/books/smit75-1

Publication Date: 1975

Chapter Title: Comments on Part III

Chapter Author: Martin David

Chapter URL: http://www.nber.org/chapters/c3756

Chapter pages in book: (p. 225 - 230)

CHAPTER 8

Comments on Part III

Martin David
University of Wisconsin

The title of this session indicates that the authors were to deal with the impact of the accounting period on the distribution of income. All three of the papers have difficulty dealing with the topic and bringing it into a useful focus. Benus beings with a declaration that he will not deal with instability per se and concludes (Table 6) with an analysis that locates groups with large interpersonal differences in income trends—which appears to me to be an important feature of instability. Kohen begins with a measure that purports to refer to instability, but in fact cannot distinguish systematic changes in relative income position from random noise affecting the income position of an individual. The David paper concentrates on a phenomenon that has nothing to do with income in a Hicksian sense in either the short or long run, yet has more relevance to the session topic than either of the other papers.

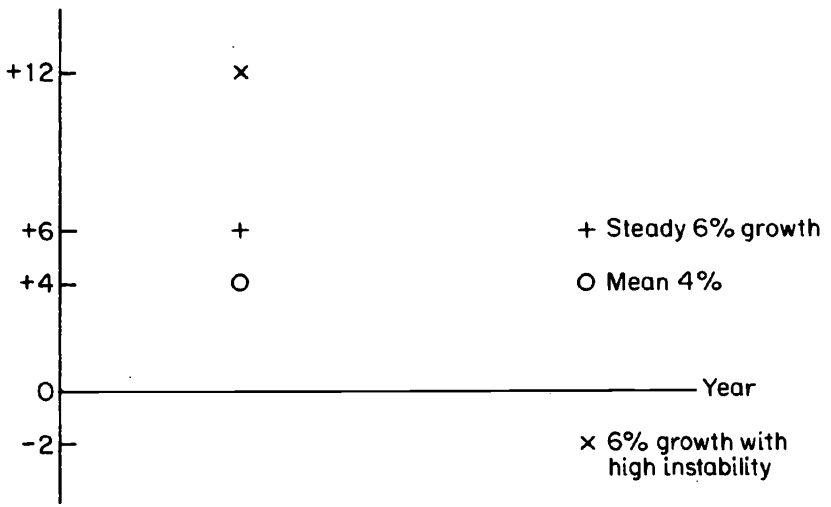
I believe that there are two reasons for this: (1) one cannot deal with a concept of long-run income without a conceptual structure; and (2) the conceptual structure can be useful for understanding the *origins* of the income distribution or the *welfare consequences* of the distribution, but a failure to distinguish the focus of interest leads to data that cannot be assimilated by any intelligent user. The capital-gains paper has solved both of these problems: (1) necessarily, the conceptual structure for income is the Internal Revenue Code; and (2) the focus of the paper is to impart an understanding of the welfare consequences of the favorable tax treatment of capital gains for long-term vertical equity in the tax structure. As a coauthor, I am the first to admit that the evidence presented is not ideal; yet the conceptual unity of the questions being investigated cannot be faulted.

Let me elaborate on the conceptual structures that might be brought to bear on the Benus and Kohen papers. Any attempt to

deal with a long-run concept of the origins of income must explicitly account for the persistent and obvious life-cycle pattern of income. The model may also account for endogenous changes in the demand for human labor, net accumulation of wealth due to increased productivity of both human and nonhuman assets, and compensatory features of the public sector that alter the outcomes of markets; but all of this is conceptualization that must be built on a model of the life cycle of incomes. Given a model, one can then answer numerous pertinent questions. For example:

1. What are the model parameters?
2. Is there evidence of stable interpersonal differences?
3. What is the stochastic process associated with the model, and what do its parameters tell us about income instability?

It is clear from these three questions that I believe that income instability can only be measured as the stochastic portion of a model of income determination. Lack of a model leads to precisely the confusion of concepts that appears in the Kohen paper. In the diagram below, observations of RIC for two individuals (indicated by x and t) are contrasted. One (x) has a highly variable rate of growth of income which averages 6 percent per annum. The other (t) has a steady rate of increase of 6 percent per annum. The two individuals cannot be distinguished in the Kohen analysis; both will be treated as positive deviations from the grand sample mean (o) of 4 percent per annum.



The use of a theoretical model permits inference on the basis of limited data. Fase (1971) demonstrated that the dynamic stochastic process determining earnings could be inferred from cross-section age-earnings ogives. Those who would quarrel with his conceptualization can only do so by specifying a model that clearly pinpoints the inadequacies of the pooling of data from a cross section of individuals. Our only clues about the differences in cross-section and panel information concerning the origin of income that is available in either the Benus or Kohen paper is contained in the differences between one- and multi-year Gini coefficients. This is clearly not an adequate description of the stochastic process producing instability or of the model of lifetime income ogives.

If the analysis is oriented toward the welfare consequences of income changes in the long run, then another set of considerations must be developed. An individual's welfare is determined by the flows of current services he receives from goods consumed or from stocks to which he has access. Variation in income translates into variation in welfare to the extent that the unit cannot average income flows. Borrowing, lending, or changing the household structure may all result in an averaging of real goods and services consumed in relation to income received. In addition, variation may set in motion particular tax or transfer mechanisms that compensate or exacerbate the change in flows of income from the market.

Interest in the latter kind of problem has sparked the concern over the negative income tax and its relation to wealth holdings, the studies of tax averaging (David et al., 1970), and the focus of the paper in this session on capital gains.

Neither the Kohen nor the Benus paper appear to have adopted a focus on individual welfare; by default, they appear to be dealing with the origins of the income distribution over a longer period of time. The Gini measures that both papers concentrate on focus on the difference in concentration of indivdual incomes depending on the period of observation. The only sense I can make of this question is that the authors are concerned with "layering" or the existence of heterogeneous income trajectories for individuals within a given well-defined demographic group. Measures of such trajectories can better be explicitly developed by reference to a model. I have done so in a paper that deals very crudely with the age-income-profile problem (David, 1971).

The thrust of the argument so far has been that the papers fail to address meaningful questions. However, there are meaningful results that can be drawn from the information presented, perhaps with little alteration in the analysis. What is required is a careful reading of past studies of income variation and an attempt to replicate, confirm, or contradict earlier findings. The principal sources with which I am familiar are: Friedman and Kuznets (1945), Hanna, Pechman, and Lerner (1948), Bristol (1958), Morgan and Kosobud (1964), Huang and Meyers (1964), David and Miller (1970), Fase (1971) and David (1971). The Kohen evidence can be restructured to give answers to the same questions that were addressed by Bristol, Huang, Morgan, and Friedman: What is the significance of regression of income toward the mean? What is the intertemporal covariance of different income sources? There is no need, indeed it is obfuscating, to invent a new conceptual structure to deal with those questions.

The Benus evidence ought to be restructured to give comparable results to those obtained in David (1971). Table 5 comes close, but there are important differences. First, in the David paper, variation in income is taken relative to the mean for the cohort, not for the individual, with the result that the David paper may be said to have an implicit model of lifetime income, whereas Table 5 does not. (Futhermore, the interpretation of findings in the two studies is startlingly different: farmers' income instability is small relative to the income for the cohort [David, 1971], yet large relative to the individual means [see Benus, Table 5].) The second major difference is that the David paper obtains a set of descriptive parameters that characterize long-run income variation over the life cycle for different occupation groups. The task of subsequent work is to challenge that description, not to go on fishing, or search, expeditions. The Automatic Interaction Detection Program (AID) technique that underlies Tables 5 and 6 is a search technique that assumes no prior information on the relationship between the dependent variable and the independent variables. The report in David (1971) indicates that an investigation based on no prior knowledge is an absurd starting point for an investigation.

One must conclude that the Benus and Kohen papers are internally imprecise and lacking in adequate references and corroboration of earlier work. These defects arise from the failure to view the question to be addressed either as a question of the

origin of income instability or the welfare consequences of instability. The lack of an explicit model of the lifetime-income determination process flaws any attempt to speak of the sources of income instability. Lack of an explicit concern for the link between income instability and a specific mechanism that affects well-being limits the value of information for discussing welfare consequences. We can hope that further work on these valuable data sources will be better targeted to scientific and policy-related questions.

REFERENCES

1. Bristol, R. B. (1958). "Factors Associated with Income Variability." *American Economic Review* 48 (May 1958):279-90.
2. David, M. (1971). "Lifetime Income Variability and Income Profiles." *Proceedings of the Social Statistics Section of the American Statistical Association, 1971,* pp. 285-92.
3. David, M., and Miller, R. F. (1970). "A Naive History of Individual Incomes in Wisconsin, 1947-1959." *Review of Income and Wealth* Series 16, No. 1 (March 1970):79-116.
4. Fase, M. M. G. (1971). "On the Estimation of Lifetime Income." *Journal of the American Statistical Association* 66 (December 1971):686-92.
5. Friedman M., and Kuznets, S. (1945). *Income from Independent Professional Practice.* (New York: NBER, 1945), Chap. VII, "The Stability of Relative Income Status."
6. Hanna, F.; Pechman, J.; and Lerner, S. (1948). *Analysis of Wisconsin Income,* Studies in Income and Wealth, Vol. 9 (New York: NBER, 1948).
7. Huang, D. S., and Meyers, J. G. (1964). "Income Variability and the Analysis of Income Size." *Journal of Political Economy* 72 (June 1964):289-94.
8. Miller, R. F.; David, M.; Groves, H. M.; and Weigner, E. A. (1970). "Optimal Choices for an Averaging System—A Simulation Analysis of the Federal Averaging Formula of 1964." *National Tax Journal* 23 (September 1970):275-96.
9. Morgan, J., and Kosobud, R. (1964). *Consumer Behavior of Individual Families over Two and Three Years.* (Ann Arbor, Michigan: Institute for Social Research, 1964.)