

DISCUSSION

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I. Introduction

This set of papers shows that researchers have been quite active compiling new wealth data sets and using the data to examine a range of issues relevant for statisticians, economists, and policymakers. One major issue addressed is the distribution of wealth in America over the course of the twentieth century. This is important for those concerned with "distributive justice," whether one's view is endowments-based, utilitarian, egalitarian, or some other orientation. Another issue in the papers is whether debtors are able to pay off their debt, which interests borrowers, lenders, and the Internal Revenue Service.

Economists and policymakers typically search for a concept of wealth that measures well-being. Therefore, an important consideration for these papers is how wealth should be defined. Marley's paper in particular pays careful attention to the components of wealth and the unit of measurement (individual or household). Statisticians and econometricians will be intrigued by the information that can be obtained from estate tax data and survey data, the sampling problems associated with these data, and the degree to which such problems can be overcome by judicious sample design.

The authors demonstrate considerable knowledge of complex data. However, the analyses contain gaps, chiefly related to theoretical underpinnings. The models or hypotheses being tested are rarely specified, and assumptions are not always thoroughly justified. Estimation issues also arise, associated with sampling problems and the construction of the wealth measure. The following suggestions might help focus the authors' continuing research.

II. Comments and Suggestions

A. Theory

My principal comment is that many of the papers would benefit by the inclusion of at least a rudimentary model. Much of the work is preliminary and provides detailed and useful descriptions of the new data sets. However, if specific questions are asked of the data, or if a particular methodology is used to transform the data and conclusions are drawn from the transformed data, it is important for the reader to see an outline of the model or hypothesis the researcher is testing. A model is also useful for the researcher, because it helps frame his or her questions, assumptions, constraints, and conclusions, however tentative.

1. The Avery Paper

The evaluation of the "consumer credit crisis" in the Avery, et al. paper deals with a timely issue and demonstrates the detail of the SCF data. However, the analysis is rudderless without an explicit model of consumer behavior. The variable to be explained often appears to be the probability of being in a particular debt group in 1986 or the probability of moving from one debt group in 1983 to another debt group in 1986. These probabilities are tied to certain demographic and economic variables, such as age and purchases of durable goods. However, a reference is made to the probability of a high-debt household making a purchase of a durable

good. This appears to reverse the dependent and independent variables. Furthermore, the authors present one-way and two-way frequencies for the 1986 high-debt group. While these are descriptive, they don't tell the reader about the partial derivatives. That is, what is the effect of age, for example, on the transition probability if all other variables are held constant?

These problems are easily remedied. First, the authors could extend their analysis within a linear probability model. For example, the probability of moving from a low-debt group to a high-debt group could be posed as a function of income (permanent and transitory), accumulated assets, age, household structure in both years, and other economic and demographic variables. In this fashion, partial effects could be isolated. The demography literature has utilized this approach, particularly in connection with birth spacing. (See Curtin, et al. 1979.)

Second, the authors could develop a more general model of consumer financial behavior. In their example, they analyze only non-mortgage debt. However, because different types of assets (or liabilities) may be substitutes for one another, many theories of household demand refer to the household portfolio when discussing financial decision-making. It is interesting that in the SCF data over 60% of the high-debt group were homeowners and 40% of homeowners had paid off their mortgages. Although no comparable statistics for the low- and medium-debt groups are offered, this conveys the possibility that different forms of debt are substitutes. Preliminary work by a colleague using the Federal Reserve Board's flow-of-funds statistics suggests that mortgage debt may be a replacement for consumer debt.

2. The Wealth Distribution Papers

The Schwartz, McCubbin, Medve, and Marley papers contribute greatly to the knowledge of twentieth-century wealth, particularly wealth held by those in the upper tail of the distribution. However, these authors should address at least two theoretical issues if they wish to analyze the wealth distribution comprehensively. The first is the implicit assumptions made in calculating wealth at a point in time; the second is the comparison over time of these estimates.

a. Point estimates

The estate multiplier method presumes that the wealth of living individuals of a given age and gender is directly related to the wealth of recently dead individuals of the same age and gender, and inversely related to a constant probability of death for the same group. Users of this method admit their first assumption: that the probability of death as a function of wealth becomes flat above a certain (although unspecified) wealth. In population analyses, probabilities of death for a certain age and gender are usually culled from a model life table. Model life tables are typically constructed from cross-sections of actual populations but are intended to represent synthetic populations followed from birth to death. The life tables are generalized by building in a net growth or

shrinkage factor so that they may be applied to actual populations that are expanding or contracting. Suppose a given life table applies to individuals possessing wealth above a certain threshold level. Although the probabilities for the estate multiplier should probably be derived from a stationary or stable population life table, they appear to be either assumed constant over time or mechanically adjusted from year to year.

A second assumption of the estate multiplier method is that, given wealth, there is no self-selection into death. This isn't obvious; the bulk of lifetime medical expenses is incurred in the final weeks of life. Unadjusted estate wealth may therefore be too low to infer wealth of the living, at least in the era before major medical insurance. This sample selection bias may not be a major problem in a model of wealth estimation for the very wealthy, but it is a consideration worthy of more careful thought.

Finally, the possibility of double-counting is not discussed in the papers using estate tax data. If a husband bequeathed all his assets to his wife and both died in the same year, it seems that the estate multiplier method would include the husband's bequest as wealth twice.

b. Comparison of estimates over time

The analysis of secular wealth trends requires an appraisal of the importance of intergenerational transfers, which these papers lack. Moreover, as mentioned, changing patterns of bequests can affect the validity of comparisons unless a model explicitly allows for them.

There is a substantial body of literature on the intergenerational transmission of wealth. Contrary to a strict life-cycle hypothesis, some researchers have found that retirees continue to accumulate wealth. (For example, see Menchik and David 1983, Bernheim 1984). This may partly be attributable to a bequest motive, particularly among the very wealthy. Hurd and Mundaca (1987) find that inherited wealth is 15 to 20 percent and gifts are 5 to 10 percent of the total wealth of wealthy individuals. Parsons (1984) and Bernheim, et al. (1985) discuss the possibility of parents using the carrot (or perhaps the stick) of promised bequests to induce their children to visit and care for them in their declining years. They point to evidence that parents have tended to leave bequests even though the after-tax net worth of a family would be maximized by making *inter vivos* transfers instead. Steuerle (1986) also notes that charitable giving increases at the time of death even though lifetime giving has tax advantages over posthumous giving. He concludes that wealthholding itself provides utility, perhaps because the wealthholder retains prestige, self-insurance against unforeseen events, and more control over future wealth disposition.

Transmission of qualities other than wealth can also influence the wealth distribution. Becker's (1981) model allows parents to transmit to children both ability and wealth (in the form of human capital investments as well as bequests). If ability is positively associated with earnings, neglecting this intergenerational link can cause one to miss a possible reason for changes in wealth distribution. Becker shows that if there is regression to the mean over time in ability, there will be regression to the mean in wealth. Menchik (1979) and Wahl (1985) find this general result empirically, although family fertility plays an important role in determining the lot of specific family members.

Another point associated with comparisons of wealth in different years is that American secular bequest

patterns seem to have changed, partly due to the economy's transition from agriculture to industry. There is evidence of primogeniture in early America and of partible egalitarian bequests in more recent years. (For a review, see Newell 1984.) Changes in bequest patterns may also be ascribed to changes in tax law, as McCubbin and Marley mention.

In summary, the amount of wealth left as bequests (which could be negative), to whom it is left, fertility, the heritability of traits, and changes in these patterns can influence the distribution of wealth at a point in time and over time. A model incorporating these issues could extend the conclusions of the wealth distribution papers.

3. The Wealth Concept

Marley raises a significant question: What concept of wealth should be used? She notes that estimates of the level of household wealth are quite sensitive to the methods used in construction and to the choice of a wealth concept. She recognizes that stock measures leave out future expected savings, which could cause substantial misstatements of wealth. She does not, however, mention omitted intergenerational variables that could be equally important. She (and Avery, et al.) also notes material differences in results derived from using an individual rather than a household wealth concept. There have been several other studies on income and wealth concepts (see Reid 1952, Steuerle 1985, Wahl 1985) which emphasize the necessity for a sound theoretical model that elucidates wealth definitional issues.

B. Data

1. Life-cycle Issues

The type of wealth data needed depends on the question one is trying to answer. Jianakoplos, et al. (1987) emphasize the dangers of inferring actual patterns of wealth accumulation from successive cross-sections and show that the standard adjustments to cross-sectional data are inadequate.

Panel data such as the SCF data and intergenerational data such as the estate tax records bypass many of the life-cycle problems. These data have their own problems, however. Typical shortcomings involve undersampling of wealthy people, unrepresentativeness of the sample over time, number and frequency of observations, sample attrition, incorrect data reporting (which is probably less likely for tax records because of penalties), and possibly sample size.

The SCF data design explicitly attempts to correct the problem of undersampling of the wealthy by including a special, high-income group. Curtin, et al. (1987) report favorably on this aspect of the SCF data. The estate data concentrate on the wealthy and include all tax records filed, thus ameliorating the sampling problem.

Other problems remain, however. For instance, the sample selection bias inherent in the estate tax file has been mentioned. Steuerle (1985) also notes that estate tax valuations are typically low, especially for infrequently traded assets. In addition, the executor of the estate may elect to value an asset as of a date different than the decedent's death date. Valuations must be reasonable, but there is naturally a strong incentive to report the lowest possible estimate.

Sample size and unrepresentativeness could cause trouble in using the SCF data for the illustration the

Avery, et al. paper presents. Fewer than 30% of the total sample of just over 4,000 households reported consumer credit. Moreover, the paper does not discuss changes that are permanent versus those that are transitory, nor changes in household structure. These points are not raised in spite of the fact that, in only three years, a quarter of the households had income increases of greater than 40 percent and a quarter had income decreases of greater than 20 percent. I might also mention the McNeil and Lamas paper (1987), which warns against using panel data for short-term changes. In addition, it will be interesting to see if the conclusions about transition probabilities change when the 1989 data are in. It is plausible that households have high-debt and low-debt cycles, so the conclusion that households pay off debt may be illusory.

2. General Wealth Estimation Issues

One must be cautious about the unit of observation for wealth. Marley points out the dangers of using individual wealth for distribution measures, as the papers by McCubbin, Schwartz, and Medve do, if household structure and bequest patterns are changing. Other demographic changes, such as fertility and mortality, could also cause problems with using individual data.

The composition of the wealth measure used is important as well and is not always explicit in the papers. The criterion for "extremely wealthy" is not obvious in the papers using estate tax data. The appropriate data are probably after-tax, constant-dollar, net-worth measures, but these papers often appear to be using before-tax, current-dollar, gross measures. Asset value reported in the SCF data is not clear. It seems likely that face or book value is reported rather than market value, but market value is probably more important for decision-making. Marley's inclusion of expected Social Security benefits is appropriate, although McDermed, Clark, and Allen (1987) caution that survey respondents tend to underestimate pension wealth. Other components of wealth could also be included. For instance, Jorgenson and Fraumeni (1985) have built a data set that explicitly includes estimates of human capital. In terms of Becker's model, human capital represents intergenerational transfers of wealth other than bequests.

Comparisons of measures should also be carefully worked out. If comparisons are made across years, as in the Schwartz and Medve papers, some consideration should be given to whether the samples are from similar distributions. In statistical papers, a "significant" result should be supported by statistical tests. Also, as a minor point, a comparison of two years is just that; nothing can be said about the interim years, so "increasing" and "decreasing" are inappropriate terms. Marley and McCubbin perform an important service by comparing wealth estimates from different sources. I look forward to seeing how data sources may be reconciled and how significant the differences are.

In all of the papers, it would be useful to see more information on missing data. Often, what is left out is as important as what remains.

Finally, more discussion of the role of taxes is needed. For example, until the 1986 Tax Reform Act, interest was deductible. Therefore, the relevant cost of consumer credit would have to account for taxes. With progressive tax rates and inflation, even if before-tax interest payments as a percentage of before-tax income were increasing over time, the after-tax percentage might not be. This could be crucial for the conclusions of the Avery, et al. paper. As a second

example, McCubbin delineates the changes in the tax code that have affected the estate tax. It would be interesting to see how these influence bequest patterns. For instance, has the generation-skipping transfer tax been effective, and has it altered the distribution of individual wealth? Of family wealth? McCubbin could also pair her analysis with that of Shoup (1966), which describes Federal estate and gift taxes for earlier years.

III. Conclusion

I am enthusiastic about the new data sets presented, and I think the authors of the various papers have communicated the significance of and potential applications for their data. Many of my suggestions are intended to fill out theoretical frameworks; admittedly, some of them may be difficult to implement empirically. I believe we shall see important contributions to the wealth literature growing from the research presented in these papers.

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