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## Discussion

*Gerald E. Auten, Office of Tax Analysis, Department of the Treasury*

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**T**he paper by Petska, Strudler, and Petska makes a valuable contribution in the measurement of income trends over the last 18 years. While others have documented the increasing inequality of reported income, this study is unique in having such a long series of large cross-section tax return microdata. The use of tax return data has some significant advantages over the survey data used in many studies of income distribution trends. Most importantly, tax returns have data on the incomes of the very wealthy that are not top-coded or truncated. In addition, much of the information on tax returns is based on administrative records, such as W-2's for wages and 1099's for dividends and interest. This is likely to produce more accurate reporting of income than responses to surveys, which are more prone to underreporting. The reporting of sole proprietorship and partnership business income is more problematic as underreporting of this type of income is well known, but surveys are unlikely to do any better. Tax returns also include data on realized capital gains, which are not included in the Current Population Survey. This is perhaps a mixed blessing, however, since capital gains frequently reflect transitory income from the realization of gains accrued over many years.

As the authors are well aware, examining income trends over such a long period is fraught with many difficulties involving the definition of income, the units of observation, and behavioral responses to changing tax laws. By using retrospective income, they are able to adjust for most of the important statutory changes in tax laws over this period. This is an improvement over some previous studies that did not adjust for statutory changes in the definition of income (see Feenberg and Poterba, 1993). While retrospective income is generally a comprehensive measure of income, it does not include transfer payments, the most important of which are Social Security benefits. Since the Social Security system was still maturing over the earlier part of this period, this is potentially important and could affect their findings. In addition, in both tax and non-tax data, it is almost im-

possible to adjust for the changes in depreciation rules that occurred in 1982 and again in 1987.

A second issue is the unit of observation. While tax units generally correspond with households, often they do not. In 1997, for example, there were 101.0 million households, but 122.4 million income tax returns filed. One difference is that 2.6 million married taxpayers filed separately, generating two tax returns, but perhaps counting as one household. In addition, unrelated individuals may constitute a single household, but file separate tax returns. Finally, relatively few dependents filed separate tax returns prior to 1987. But starting in 1987, many dependents have been required to file because they could no longer claim a personal exemption in addition to the one claimed on the return on which they are claimed as dependents. By 1997, the 11.3 million dependent returns represented 9 percent of the total of 122 million returns filed. Since most of these had only modest amounts of income, nearly 40 percent of the bottom quintile of tax returns consists of dependent filers. The authors calculate that omitting the dependent filers would reduce the Gini coefficient by .03, or about one-third of the total calculated increase since 1979. (This overstates the effect somewhat since there were some dependent filers prior to 1987.) A related issue is the effect of the declining average size of households, which can also lead to overestimates in the changes in inequality. While some studies have computed population quintiles by the numbers of individuals in households, most studies have used households or tax units as reported.

The reporting of income can also be affected by changing taxpayer behavior in response to higher and lower tax rates and changes in the opportunities to invest in tax-favored investments. For example, the Tax Reform Act of 1986 substantially reduced tax rates on wages and other "ordinary" income, while increasing tax rates on capital gains. Thus, one might expect, and various studies have confirmed, that taxpayers would

tend to increase their reporting of ordinary income and reduce realizations of capital gains from the sale of stock and other assets. Changing behavior with respect to the reporting of income can distort the measurement of changes in the distribution of income (Auten and Carroll, 1999).

These comments should not be taken as specifically critical of the authors, because they apply generally to various studies that have attempted to examine the distribution of income over long periods, using survey as well as tax return data. I hope that the authors will continue to work with their data to further refine their analysis and test the effects of such adjustments as omitting dependent filers and computing centiles by numbers of persons instead of tax units. Because of the lack of Social Security data, the analysis could also be limited to nondependent taxpayers under age 65, approximately the working age population. Such calculations might be done for two or three key years to see how their results might be affected.

The paper by Sailer and Nuriddin reports on a project to code taxpayers by occupation based on the self-reported occupations on tax returns and employer information reported on W-2's filed by employers. How accurate are the occupations reported by taxpayers? In general, taxpayers seem to take the task seriously and report plausible occupations. On occasion, one observes responses intended to influence how an auditor might view such a return. For example, reporting "farmer/lawyer" might suggest a lawyer with a hobby farm hoping to deduct some losses.

These occupational data have proven useful in various studies. Let me mention a few examples. In the last few years, tax revenues have exceeded forecasts by many billions of dollars. One of the hypotheses about the sources of the extra revenue was that it represented stock options granted to executives. The occupation codes were valuable in checking the extent to which increased wages were being reported by executives and managers likely to have such stock options. Another application was in a study of the responses of taxpayers to the lower tax rates under the Tax Reform Act of 1986. The occupation codes were used to develop variables to control

for the effects of changes in demand for human capital and for particular professions (Auten and Carroll, 1999).

Eller and Johnson report on the results of a study of the audit results for Federal estate tax returns. Estate tax returns involve some of the most complex rules and elections and also involve households with considerable wealth. Consequently, these returns are subject to very high audit rates: over 19 percent as compared to less than 1 percent for individual income tax returns. Estate tax returns also provide some of the best data for examining trends in the distribution of wealth. Thus, a study of this type can shed light on the accuracy of these data for use in wealth studies.

What do we learn from their study? One thing to note is that the overall net changes in values are relatively small. Although total gross estate was adjusted in 74 percent of the audit cases, the net increase was only 3.5 percent of the value subject to audit. It might seem surprising that audits increased deductions by a net 1.0 percent, but much of this increase likely reflects corrections to previous undervaluations in the gross estate, which allowed the deductions to be used. The net estate tax increased by 8.7 percent for instance. This suggests that although taxpayers have an incentive to understate the value of property in their estates, estate tax returns generally give reasonably accurate measures of the assets of these wealthy decedents. Of course, there may be other wealth in grandfathered trusts or transferred to children and other heirs through family limited partnerships that is not observed. In addition, some estates claim discounts from market value for minority ownership interests in business or the illiquidity of large blocks of stock that would also tend to understate wealth.

The study provides an interesting hint about how the IRS might refine the future selection of returns for audit. Careful statistical analysis of this data set could identify the most important characteristics of a return in predicting the additional revenue that might be collected from auditing a particular return. A similar procedure could also be followed for individual tax returns, since the last Taxpayer Compliance Measurement Study used for this purpose is now more than 10 years old, and new studies seem unlikely.

I would encourage the authors to continue their work and, in particular, to provide some additional disaggregation that could offer useful insights. For example, it would be interesting to know more about the distribution of changes in asset valuations by size of change, by size of estate, and by marginal tax rate. This would provide additional insight into the extent of error in reported estate values and how this may be related to the incentives of taxpayers to understate asset values in response to high tax estate tax rates.

The paper by Paul Arnsberger highlights the dramatic growth of the non-profit sector over the last 20 year, more than doubling its share of GDP. I would encourage the author to pursue his work in this area. More disaggregation of charitable organizations by type may help in understanding these groups. For example, non-profit hospitals and colleges depend largely on fees

for revenues, while other types like social welfare organizations may be more dependent on contributions. Something to note is that, in the very near future, the Form 990 returns of 501(c)(3) charities will be available on the Internet, making them easily available to those who wish to do research or be better informed in making their charitable donation decisions.

## References

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