A DIFFICULTY IN INTERPRETING THE PERSONAL SAVING RATE

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Many observers attribute considerable significance to a residual statistic in the National Income and Product Accounts of the United States (NIPA), the personal saving rate. For example, the *Wall Street Journal* recently commented, "... the savings rate slumped to an incredible 3.3 percent in November [1979]. The implications of this for U.S. capital formation helps [sic] explain ... why the gold price has soared this past year." (1980) This note's twofold purpose is first to point out a way in which this statistic can be misleading, and second to demonstrate that the source of difficulty is the NIPA definition of income. Moreover, since the American definition of income conforms to generally accepted international procedures, an international audience may find that this seemingly local problem is instructive.

The Misleading Statistic. The saving rate is defined as $s = (Y - C)/Y$, where s is the saving rate, Y is disposable personal income, and C represents personal outlays, the main component of which is personal consumption expenditure. It will be useful to divide Y into two parts, the imputed net rental value of owner-occupied housing labeled N, and the remaining portion of Y labeled Y'. Similarly, we can divide C into three parts: N, an imputed capital consumption allowance for owner-occupied housing labeled D, and the remainder of C labeled C'. With the new symbols,

$$(1) \qquad s = \frac{(Y'+N)-(C'+N+D)}{Y'+N} = \frac{Y'-C'-D}{Y'+N}.$$

Suppose that the price of housing rises relative to prices of other commodities, *ceteris paribus*. Such a price increase would raise the estimated value of the nation's housing stock. Consequently, the space rental value of owner-occupied housing would rise. Since capital consumption is estimated as a fraction of the housing stock, the imputed capital consumption expense would also increase. As can be seen from (1), however, increasing either N or D unambiguously lowers the personal saving rate. Accordingly a price change which makes homeowners wealthier, without simultaneously increasing cash expenditures or lowering disposable income, actually lowers the published personal saving rate.

The Source of Difficulty. Capital revaluations are excluded from income as presented in the NIPA. This approach of the Bureau of Economic Analysis can lead to semantic contortions, exemplified in a recent statement by George Jaszi, its director, and Carol Carson, "Personal savings [*excluding* capital revaluations]

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equals the change in net worth of persons. . . ." (1979). It is a strange definition of net worth that would not be affected by a tripling of housing, common stock, or precious metal prices. Their definition of income, payment for factor services used in current production, is in accordance with standard international practices (as presented, for example, by the United Nations (1978)).

Another income concept advocated by many economists was clearly stated by J. R. Hicks, ". . . a person's income is what he can consume during the week and still expect to be as well off at the end of the week as he was at the beginning." (1946) In particular, this approach recognizes that a relative price change which alters capital asset values consequently changes an asset owner's consumption possibilities. Thus income can be regarded as the sum of traditionally defined income and capital revaluations. Similarly, saving, i.e. unconsumed income, would be defined to include capital revaluations.[1]

To illustrate the potential importance of capital revaluations, the table below contains NIPA estimates of s and an an alternative saving rate s', where $s' = [(Y + \Delta K) - C]/(Y + \Delta K)$. The symbol ΔK is Robert Eisner's (1980) estimate of revaluations, net of inflation, of owner-occupied housing and land owned by the household sector. This alternative is merely illustrative, and should not be taken as the optimal redefinition since other assets and liabilities are also important. Nevertheless, the alternative saving rate does reveal substantial effects made by land and housing revaluations. In particular, the fall of the alternative rate in 1974 and recovery by 1976 is consistent with the neoclassical view of saving declining temporarily in response to a temporary fall in real income. It is more difficult to rationalize the sustained decline in the official saving rate without employing *ad hoc* assumptions.

We therefore conclude that caution in interpreting the NIPA saving rate is certainly required, due to the large change in the saving rate when capital revaluations are introduced. This indicates the desirability of official estimates of capital revaluations, possibly as an addendum to current accounts.

TABLE FOR PERSONAL SAVING RATES

Year	1973	1974	1975	1976	1977
s	7.8	7.3	7.7	5.8	5.0
s'	11.3	7.3	9.1	11.3	10.9

s is the personal saving rate (percent) given in Table 2.1 of the NIPA, presented in the *Survey of Current Business.*

s' is the personal saving rate computed by adding estimates of housing and land revaluations to disposable personal income.

[1]Although this idea was motivated by examining American accounts, omission of asset revaluations from national income estimates may cause more problems in an open economy which is less diversified than the United States. For example, consider a country whose major export is petroleum, and imagine a rise in world oil prices relative to the country's import prices. The immediate change in that country's consumption potential could not be estimated without noting the higher value of its proved petroleum reserves.

References

1. Robert Eisner, Capital Gains and Income: Real Changes in the Value of Capital in the United States, 1946–1977, in Dan Usher (ed.), *The Measurement of Capital, Studies in Income and Wealth*, Vol. 45, NBER, 1980.
2. J. R. Hicks, *Value and Capital*, 2nd ed. Oxford University Press, 1946, p. 176.
3. George Jaszi and Carol S. Carson, The National Income and Product Accounts of the United States, An Overview, *Survey of Current Business*, 59, No. 10 (October 1979) p. 33.
4. National Income and Product Tables, *Survey of Current Business*, 59, No. 7 (July 1979) and 57, No. 7 (July 1977).
5. United Nations, *Yearbook of National Accounts Statistics*, United Nations Publishing Service, 1978, pp. ix–xxvii.
6. *Wall Street Journal* CXCV, No. 13 (January 18, 1980), The Gold Rush, p. 8.