

## NOTES AND COMMENTS

### SOME CRITICAL REFLECTIONS ON MEASURES OF NET ECONOMIC WELFARE

BY HANS WERNER HOLUB  
*University of Innsbruck, Austria*

In recent years a growing number of reform proposals has been published under the heading: "Measures of Net Economic Welfare (MNEW)": Sametz (1968), Nordhaus & Tobin (1972), Juster (1973), Economic Council of Japan (1974), Zolotas (1981), just to name a few. Maintaining basically the one-dimensional monetary measure of SNA, these proposals extend their selection norms by including non-market activities, leisure time, services of private and public capital, by reclassifying the flows of SNA into intermediate inputs, consumption and investment, and by introducing additional capital stock.

This growing interest in constructing MNEWs is due to a changed attitude towards the meaning and importance of production and work. Modern welfare states have increasingly succeeded in covering the material needs of their populations. This has directed attention away from the apparently self-evident products to the accompanying circumstances of production which were assumed to be negative. Consequently, the notion of production had to be shifted into the private sphere. This meant that an increasing number of non-market activities had to be subsumed into total production and the costs of production of private households were emphasized. This, in turn, led to the introduction of new categories of costs not yet shown in SNA, like environmental damages, and also to reclassifying former returns as costs. It is interesting to note that the present recession has reversed this trend.

In the following pages, I will try to show that the MNEW proposals move into a wrong direction and that it is not convenient to incorporate a growing number of capital stocks simultaneously into one-dimensional accounting systems. To shorten the argument, these two statements will be illustrated only by the well-known work of Nordhaus and Tobin (1972). Nevertheless, the statements are also correct for the other MNEWs which only differ from each other with regard to the selection norms.

Starting from the question(s) an accounting system is designed to answer, I introduce a hierarchical scheme which can be used to analyse any accounting system or reform proposal, namely:

- the question(s) which an accounting system is intended to answer
- the dimensions and measures of the system
- the formal construction of the system
- selection norms I: the decision whether an item will be included in the system at all

—selection norms II: the decision whether an item relates just to the current period or is added to a wealth stock, i.e. whether it relates to future periods as well

—selection norms III: the valuation of the items.

This simple scheme is based on the idea that the shaping of an accounting system, first of all, depends on the purpose for which it is constructed. Although even a precisely specified question will not automatically lead to an unequivocal shaping of an accounting system it enables the critic to uncover inconsistencies and therefore considerably reduces the arbitrariness of the analysis.

In this context, special consideration should be given to the formal construction of systems. Due to the definitional character of accounting systems there is no simple logical “right” or “wrong” concerning the shaping of its parts. But it is also obvious that different formal constructions entail different amounts of arbitrariness. With regard to the introduction of flows, a closed *cyclical system* at least has to embrace the definition and interpretation of cross-entries and balances. To guarantee the necessary consistency of all these flows and balances, there is a strong need for a comprehensive theoretical basic idea. Tables where the items without cross-entries simply are added or subtracted or indices where the items are even mutually unconnected are much easier to construct and do not need such a comprehensive theory. Although the strict hierarchy of the above scheme has to be modified due to statistical constraints, which also influence the shaping of accounting systems, it will prove a useful analytical tool.

We start the argument with an analysis of the question MNEWs are supposed to answer. In this context “welfare” is a misnomer as it is not intended to measure any sort of total economic welfare but a “genuine” real consumption of households (Nordhaus and Tobin 1972, p. 4), which is only a very limited part of total welfare. To achieve this, the existing items are classified as returns or expenses. Their difference, a surplus or net product, measures the economic success of the household sector.

In an earlier article I have generalized the concept of economic success of a sector by stating the following conditions (Holub 1981, p. 335, slightly modified):

(I) There are intrasectoral flows within the sector, the values of which are determined internally by this sector.

(II) The only purpose of introducing these internal flows is the calculation of a sectoral success balance.

(III) There is a sectoral wealth stock which is changed positively or negatively by the success balance of the current period. This makes it possible to compute the reproduction of this wealth stock.

In SNA for the entrepreneurial sector, all three criteria unequivocally exist, which means that SNA can be interpreted as a measure of national entrepreneurial success. This result is not affected by the argument that identifiable non-private costs of the sector, like pollution, are lacking. From the internal viewpoint of this sector, profit is the only adequate standard. External costs have to be included if and only if they really are internalized. It can also easily be shown that SNA provides no measure of success for the other institu-

tional sectors, namely government and private households (Holub 1981, p. 336). I will take up these results again below.

At first sight a reform proposal like that of Nordhaus and Tobin could call forth criticism on all levels of our hierarchical scheme. It is interesting that in the literature criticism solely concentrates on selection norms. The critics discuss single items with regard to definition, registration, valuation and deflation and often propose the introduction of further items. (See the comments of M. Abramovitz and R. C. O. Matthews in Nordhaus and Tobin (1972), and F. S. Singer, I. Bernolak, D. Usher, E. F. Denison, and J. R. Meyer in Moss (1973)). Because of the possibility of arbitrarily adding or subtracting single items due to the weak formal construction and the lack of a generalizing basic idea of the system, this is an endless debate on a mere plausibility level. Under such circumstances it is not surprising that the old arguments of the 1940s and 1950s reappear again and again.

The question to be answered by an accounting system without a more rigorous formal construction is too general to allow a less arbitrary debate on single items. An extreme example is the case of social indicators where the single items are totally disconnected. It was this total freedom of choice which prevented social indicators from becoming a generally accepted accounting system. The resulting arbitrariness invited economists to use them with different definitions and valuations and thus inhibited emergence of a widely accepted standard system. The easier it is to change an accounting system the more difficult it is to carry it through. Without the necessity of having a theoretical basic idea and without the necessity of harmonizing single items each user can change such a system according to his own aims, e.g. to “scientifically” prove an asserted result.

But even the relatively weak formal construction of MNEWs leads to inconsistencies. For instance, Nordhaus and Tobin subtract disamenities of urbanization, valued at fictive prices, from normal SNA items, valued at market prices. Thus, items which represent phenomena outside the traditional economic range are directly connected with SNA items. The only linkage between these two types of items which seems to make them comparable is the same measure, i.e. money. Their difference (or sum) cannot be interpreted as a difference of two homogenous items. Strictly speaking it cannot be interpreted at all.

These and similar objections result from the procedure used in calculating MNEWs to transform SNA, an accounting system which measures entrepreneurial success by additions and deductions, into a system which measures the success of private households. If we call the three assumptions of a measure of economic success the “core” of such an accounting system, then the above statement means that MNEWs contain parts of a second core or its items are consistent with a second core, respectively. But two different cores are not compatible in *one* accounting system. As *one* system can measure only *one* sectoral success, a measure of household success cannot use the internal cyclical flows and the other specific characteristics of SNA because this immediately leads to inconsistencies. This, by the way, explains why MNEWs cannot employ closed cyclical systems. Either one gives up SNA and constructs a new accounting system which measures success of the household sector or one retains SNA as a starting point. The second possibility, which was chosen by the

advocates of MNEWs, needs, to avoid inconsistencies, a weak formal construction of the system, in the case of MNEWs an addition and deduction procedure.

Even with this weak formal construction such inconsistencies are not totally eliminated. Nordhaus and Tobin simultaneously introduce internal flows of the household sector (“private instrumental expenditures”) and internal flows of the entrepreneurial sector (by taking into consideration the capital basis for a future growth of consumption in MEW-S).

To avoid misinterpretations it has to be stated clearly that the outlined advantages of closed cyclical systems exclusively refer to the measurement of sectoral successes. It is not implied that this formal construction is adequate for the other questions, too.

The above problems also arise when one tries to incorporate a growing number of capital stocks simultaneously into one-dimensional accounting systems (Juster, Courant and Dow (1982)). The depreciation of a capital stock is an internal flow of the sector in question. Therefore, if specific capital stocks of different sectors are incorporated into *one* accounting system elements of various internal cycles are mixed up which leads to inconsistencies of the described type. For this reason the proposal of Juster is no improvement over one-dimensional MNEWs. This does not imply, however, that estimating various capital stocks for other reasons is not desirable.

Summing up the preceding arguments one can conclude that prevailing one-dimensional MNEWs are not an efficient way to measure the economic success of the household sector. It was never claimed that MNEWs should replace SNA. I even doubt that they can supplement it.

The statements so far were exclusively of the critical type. However, the history of national accounting has shown that merely critical arguments just are added to the standardized canon of criticism which exists in the literature parallel to the criticized systems. Therefore, it is necessary to point out at least one possible solution.

Such a possible solution could be Labor-Consumption-Accounting (LCA) (Holub, Reich, and Sonntag (1981)). LCA is based on a closed cyclical system. As was pointed out it therefore had to abandon SNA and to define new sectors and flows especially designed for the private household sector. In contrast to SNA, the economic process in LCA is seen as a labor-trading process. The reproduction of real capital is replaced by the reproduction of labor, which leads to the question how much labor do the household categories receive in return for their own labor and to what end is the rest of their labor used.

A consistent response to these questions leads, among other things, to a specification of services provided by government with respect to the types of households which benefit from them; that is, the global final demand approach for the public sector has to be abandoned. In addition, that part of consumption which is necessary for the maintenance of working capacity has to be identified. The balance of success for each type of household is calculated as the difference between private and public net consumption and internal and external costs.

It is not the purpose of this article to discuss LCA. It surely is not an end product. But it points in the right direction whereas MNEWs, in my opinion, lead into a blind alley.

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