

DOES CONSUMPTION ENTAIL INCOME?
IMPLICATIONS OF THE DUAL CLASSIFICATION
OF CONSUMPTION EXPENDITURE FOR THE
INCOME SIDE OF THE HOUSEHOLD SECTOR
IN THE NATIONAL ACCOUNTS*

BY UTZ-PETER REICH

Federal Statistical Office, Wiesbaden

In the future revision of the SNA the dual classification of flows in the national accounts will gain some importance with respect to consumption expenditures. It is likely that outlays of different institutions for consumption are added to form a new aggregate "individual consumption." The question is whether this development requires an adjustment on the income side of the household accounts.

In order to find an answer it is first necessary to scrutinize the concept of disposable income in its standard form, and in its different variations. The result is a distinction between "disposable income in the strict sense" and "income after distribution," where the standard definition actually realizes the latter concept. It is then shown that the dual structure of the accounts does not permit the adding of individual consumption to saving of households so that the concept of enlarged income defeats its purpose.

1. INTRODUCTION

A positive effect of undertaking a revision of national accounts is that it stimulates debate, and this is a pre-condition of keeping national accounts alive. Discussing specific problems and devising solutions requires a theoretical effort about national accounts in general, and this deepens understanding of them even if for the particular issue at stake a satisfactory solution might not in the end be conceived of. National accounts cannot be compiled properly if they are not placed in the context of an ongoing intellectual effort to describe our developing economy.

One way of arguing for or against a proposed solution is to call on certain accounting principles. Such principles are warranted in order to create and to evaluate consistency within the system of accounts. But national accounting principles are not part of the national accounts proper. As it stands they have not even been fully elaborated. It may be one of the tasks of the planned revision to develop this theoretical superstructure of national accounting if only in order to better understand present practice.

One of these principles, newly evoked in discussions, is the transactor/transaction principle. In its strong form it says that national accounts should register

* This is a thoroughly revised version of a paper presented at the Nineteenth General Conference of the International Association for Research in Income & Wealth, Noordwijkerhout, August 1985. The author wishes to thank the discussants of the paper, especially Søren Brodersen, Günter Kopsch, Heinrich Lützel, Tom Rymes, and Carsten Stahmer for valuable comments. The views expressed are the author's and not necessarily those of the Federal Statistical Office.

all and only all transactions occurring in an economy; in its weak form it demands at least separation of transactions from imputations. Since in present accounting practice transactions and imputations are intertwined at almost every balance of the accounts the transactor/transaction principle affects all parts of the system. In this paper a particular balance is investigated, namely, disposable income of private households (N3 of ESA).

A concrete question about this aggregate has been brought out by the proposal to develop and to incorporate in the national accounts a new concept of consumption.

Operationalized in the Material Product System,¹ then developed into a general measure of welfare,² it has now been given its theoretical base under the name of individual consumption.³ This means that besides the conventional private consumption expenditure in the system of national accounts, and based on a new, dual classification of such expenditures, a new measure is constructed incorporating expenditures for consumption of households that are incurred not only by households themselves but by other sectors as well. This measure is supposed to be invariant against national differences in institutions and ways of financing household consumption, and thus it is the proper concept to be used in international comparisons. If this proposal is accepted the question arises whether a change in income concepts corresponding to the change in consumption concepts must be envisaged.⁴ Does from an "enlarged consumption" follow an "enlarged income," does consumption entail income?

At first glance, the answer seems to be affirmative. The economic position of an individual is not to be described by money income alone. If, in addition, goods or services are furnished free this increases welfare. The term "income in kind" has been coined to describe this phenomenon, and own-account production as well as wages in kind are well-accepted examples of this rule. Yet, the rule is applied rigorously only for primary income. For transfers national practices differ. Furthermore, if it is obvious that the enlarged consumption concept entails an enlarged income concept of private households then why not go all the way and impute an income or collective consumption and, last but not least, for investment as well, i.e. why not equate household income to national income?

To do so violates the transactor/transaction principle at least in its strict form. The purpose of this paper is to investigate whether the implications of the proposed dual classification of consumption expenditures justify such an imputation or not.

2. THE CONCEPT OF INDIVIDUAL CONSUMPTION

The discussion of household consumption has led to an important clarification in that one has learnt to distinguish more clearly than before between consumption and expenditure. Although this is a natural extension of the distinction between production and sales it has not always been fully recognized and

¹ UNSO (1977a).

² UNSO (1977b), chapter iii, Saunders, Ch. (1980).

³ Pêtre, J. (1983).

⁴ EUROSTAT CN/30.

properly followed in the terminology of the international systems of accounts and their translations.⁵ Once the distinction is accepted it is possible to construct cross-classifications between the two concepts. Expenditures for individual consumption can then be made not only by households but by any other sector as well, in principle. They are accounted for by a heading “individual consumption” on the outlay account of each sector (Figure 1).

Any producing sector		Households	
Outlays	Incomes	Outlays	Incomes
...		...	
Individual consumption		Individual consumption	
...		...	

Figure 1. Individual Consumption in the Income and Outlay Accounts

Purchases of government for schools, for example, fall under this category. In the new concept they are singled out from within the total of government final consumption expenditure, to form part of government expenditure for individual consumption. The sum of these expenditures over all sectors (along one row if the accounts are drawn side-by-side) represents the total individual consumption of an economy.⁶

As is seen from Figure 1 the concept of individual consumption does not directly require a change in the concept of income. The right-hand side of the accounts may be tabulated as before as long as the new item merely constitutes a re-grouping of outlays on the left-hand side of the accounts.⁷ It is rather due to the principle, namely, of a clear-cut distinction between transactions in money and the use of goods and services that some of the older conventions are called into question, and income may be affected. Thus, “as a result of the strict application of the expenditure criterion for the break-down of individual consumption by sector” Pêtre proposes to restrict social benefits recorded in the income distribution accounts to cash benefits.⁸ This is current practice in some countries (e.g. Federal Republic of Germany)⁹ and it is recommended in the SNA.¹⁰

But the opposite, namely the inclusion, of social benefits in kind in income redistribution is also current practice (e.g. France)¹¹ and it is recommended in the ESA.¹² Under this circumstance a unifying convention is close to becoming a political issue.

⁵ Pêtre, J. (1983). p. 36.

⁶ EUROSTAT CN/28, Table iv. Actually the document considers only the inclusion of government expenditures for individual consumption, but we follow Ruggles, R. (1984), p. 11 in extending this to the enterprise sector as well.

⁷ It is more than that for the enterprise sector, but this point is left aside.

⁸ Pêtre, J. (1983). p. 38.

⁹ VGR (1983), p. 99.

¹⁰ SNA (1968), Table 7.1, p. 129. To be precise the recommendation pertains to social-security benefits, while for social assistance grants third party payments are re-routed through the household.

¹¹ SECN (1976), p. 149f.

¹² EUROSTAT (1979), p. 84. This applies to market services.

But there is also theoretical substance involved. If the cash criterion is applied to social benefits there is no reason why it should not be generalized and applied throughout the system so that all income in kind such as wages in kind or own-account production is excluded from the distribution accounts. Or if we generalize the other way, namely that every consumption implies a corresponding income, then, by definition, not only social benefits in kind but all individual consumption forms part of household income and must be recorded as such (Figure 2).

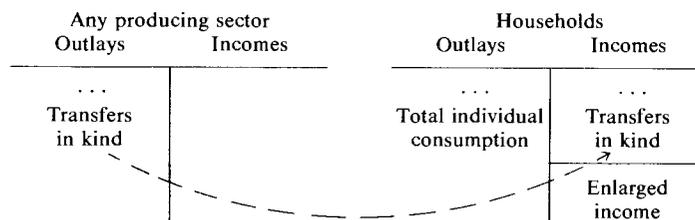


Figure 2. The recording of individual consumption entailing income

In this view the concept of an “enlarged consumption” necessarily leads to the concept of an “enlarged income” and all individual consumption is collected on the one account of the household sector. The expenditures of the other sectors are re-routed to the household account for this purpose. Present conventions halt somewhere in between the two extremes, but the theoretical distinction between transaction and use shatters this balance and calls for a definite move in one direction or the other.

3. VARIATIONS IN THE CONCEPT OF DISPOSABLE INCOME

If the implications of a dual classification of consumption expenditures for the concept of disposable income of households are to be assessed properly this concept itself needs to be well defined. It is so in the ESA, but around it a literature has developed which, if taken at its substance, puts doubts on the ESA standard. The United Nations does not recommend a corresponding concept in the SNA, but in its guidelines on distribution statistics a concept called “available” income of households is developed which seems rather close to that of disposable income in ESA in its intention.¹³ The French national accounts provide for a concept called “discretionary” income (in its English translation), which also is similar, at least in its wording, to “disposable” income.¹⁴

Figure 3 shows the qualitative relationships.¹⁵ It begins with the total of income flows as they are registered on account C3 (distribution) of the ESA (including gross operating surplus of individual enterprises). This aggregate is then grouped, in the next line, into income in kind, income tied to certain expenditures (e.g. reimbursements),¹⁶ income in cash, and, finally, re-routed

¹³ UNSO (1977).

¹⁴ SECN (1976).

¹⁵ The figure is derived and discussed in Reich, U.P. (1984), p. 29.

¹⁶ SECN (1976), p. 287.

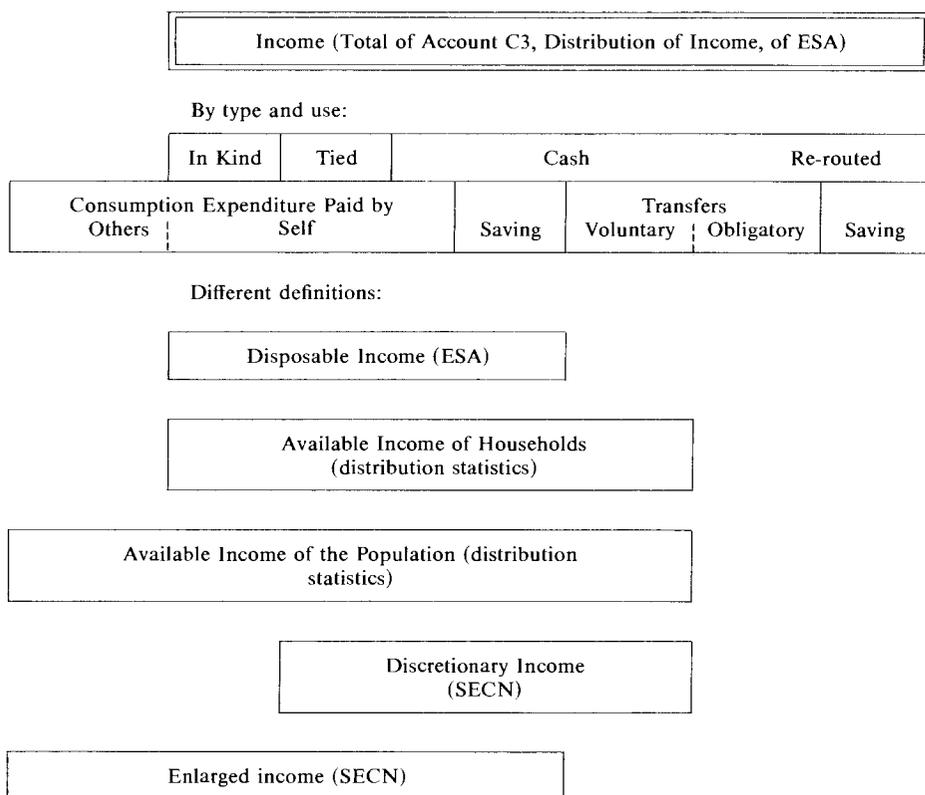


Figure 3. Different Concepts for Structuring Household Income

income. The last comprises employers' social contributions and imputed interest to insurance policy holders. In the third line the use of this income is shown where for some types of income the use is fixed. Income in kind cannot but be consumed, tied income likewise. Cash income can be consumed, transferred or saved. Of the re-routed incomes use is again pre-determined: employers' contributions are necessarily transferred, imputed interest necessarily saved.

The next five rows show different definitions of household income that have been constructed from these flows, first the standard definition of disposable income in the ESA,¹⁷ then the definition introduced under the name of "available income" by the UN guidelines on distribution statistics. In contrast to the standard definition this measure is gross of all voluntary-requted and unrequited transfers (e.g. consumer debt interest). By adding individual consumption paid for by other sectors it is extended to "available income of the population."¹⁸ "Discretionary income" is a concept developed in the French accounts, consisting of dispos-

¹⁷ SNA provides this concept only on a national level, not for individual sectors. This may be proper with respect to enterprises and government, as the concept of disposable income is not very meaningful there. This point, however falls outside the present topic.

¹⁸ The question of how to treat income transfers between households is left aside.

able cash income only. As a complement in the other direction “enlarged income” is offered there, too, which includes all individual consumption.

It is an open question whether these new concepts should be added to the standard concept of disposable income or whether they should not be seen rather as a replacement in the sense that they express more clearly what the old definition intends to express. For, to common sense, the three words “disposable,” “available,” and “discretionary” are synonymous.

To take one example, the concept of available income recommended by the UN distribution statistics guidelines is defined gross of consumer debt interest, in contrast to “disposable” income of the ESA where these flows are subtracted. From the point of view of disposability the first is correct. These interest payments are voluntary and underlie the disposition of households’ income as much as any purchase of goods. Consequently, the question arises whether the ESA definition of disposable income should be altered to be computed gross of consumer interest paid, or how else the contradiction between the name of this aggregate and its statistical content might be resolved. Of course, the implications of dual classification of consumption expenditures cannot be discussed before that question has been resolved one way or another.

4. THE DISTINCTION BETWEEN DISPOSITION AND DISTRIBUTION

If there is ambiguity in the definition of disposable income a reasonable hypothesis for its cause may be conglomeration of two actually disparate concepts. A similar hypothesis has led to the discovery of the distinction between expenditure and consumption, so that it may also be tried here.

It is hard to trace the term disposable income back to its first user. Probably it was taken from everyday language to describe something obvious. The private household or whoever earns income from production does not have complete control over it; obligatory transfers are deducted. On the other hand, transfers are received which also affect the purchasing power in the hands of households. Therefore, if household action is to be studied, be it in purchasing different goods and services, be it in deciding between expenditure and saving, disposable rather than earned income is the appropriate income measure.

But under closer scrutiny, “disposable” income of national accounts raises doubts as to whether it is really an operationalization of the liquid resources households are in a position to dispose of. Income in kind is not really disposable in the sense that a decision about its consumption is required, or even possible. Income in kind cannot be saved, and it cannot be substituted for other goods and services. This is not just a play on words. To incorporate income in kind in disposable income contaminates a fundamental variable in macroeconomic analysis, because the marginal rate of consumption of income in kind is one, always.¹⁹

Reimbursements, consumption subsidies and other income tied to a particular expenditure suffer from similar defects. These flows, although being paid in money, are not disposable for an arbitrary expenditure or for saving. As for

¹⁹ It is true that flows in kind have an effect on the disposition of cash income but so do all kinds of circumstances (climate, accidents, etc.) without their being included as part of the income measure.

income in kind the household may decide on the consumption and then receive the money for this particular purpose, but otherwise no disposition is possible.

On the other hand, there are some flows which households to have control over and yet they fall outside of the “disposable” income of national accounts. Interest on consumer debt was already mentioned. Private transfers are a second case. A household certainly is free to decide between a payment to a tennis club (private transfer) and a purchase of a vacation trip. Voluntary transfers, as the set of all such flows might be called, are disposable in the direct meaning of the word, and it is hard to justify on these grounds that they should be netted out from disposable income. In fact, distribution statistics include these flows in what it calls “available” income, but the question is addressed to “disposable” income just as well, because these words are synonymous.

Finally, one may argue about the definition of disposable income even within consumption expenditures. It is well known in market research that consumers, in an actual buying situation, have much less funds at their disposal than what is shown as disposable income in the national accounts. There are all kinds of long run obligations which the household is free to incur in the first instance, but once a positive decision has been taken the effect on income is not different from obligatory transfers. If insurance premiums are not disposable expenditures then the rents for housing or school tuitions are not much different.

Disposition of income is a complex phenomenon, and an adequate definition of disposable income may not be easy to attain. But whatever the definition is, “disposable income” of national accounts does not agree with it in any consistent way.

Actually, the rationale of the so-called disposable income in national accounts lies in a different field. The system of national accounts describes the transactions between the agents of an economy with the purpose of deriving from them an assessment of production. For national accounts, then, three kinds of transactions are distinguished (sections 109, 404 ESA):

- (1) Transactions in goods and services,
- (2) Distributive transactions linked to the process of production,
- (3) Other transactions involving the distribution of income.²⁰

Production, distribution and use are the three stages of accounting for income in national accounts. At the moment the second stage of distributive transactions is in focus. It naturally defines two income concepts, namely income before and income after distribution.

The first is often called primary income, although this is not a standardized term. The second is called disposable income (N3 in ESA). But distributed income is not identical to disposable income by any meaning of the two words. This is the clue for clarifying the ambiguity in that concept.

In order to prove this statement take the critical cases above. To net out voluntary transfers from the ESA balance N3 is not justified on the ground of disposition, it is on the ground of distribution. On the other hand, to include income tied to certain expenditures is correct under the distribution aspect and wrong under the disposition aspect.

²⁰ The fourth category of financial transactions is neglected here as it does not concern income.

Thus we arrive at our first result. The balance N3 of account C3 (distribution) is called “disposable income” in the ESA. But according to its statistical operationalization in the system of accounts, what is actually measured is “distributed income”. The structure of the system—production, distribution, use—determines the meaning of its resulting balances. The question of whether the balance N3 should be renamed accordingly in the revision is left open, but for the rest of this article matters will be clearer if the balance resulting from distributive transactions is understood to mean “distributed income.”

5. THE TRANSACTOR/TRANSACTION PRINCIPLE

In debating national accounts the transactor/transaction principle plays an increasingly important role. First recalled as an intrinsic feature of the 1968 SNA²¹ it has come to serve as a tool of analysis of the fundamental structure of the accounts,²² and it is likely to influence significantly the next version of the SNA. A thorough review of this line of thought must be foregone here. For brevity's sake, a blunt definition must suffice.

Definition

A transaction is any creation of a claim and liability pair specified in terms of value, time and transactors.

Again resisting the temptation of justifying the definition by various elaborations, only the flows which are relevant to the present topic are considered here (Figure 3):

- cash income,
- re-routed income,
- tied income,
- income in kind.

All forms of cash income clearly are transactions—not the receipt of the cash, of course, which is a financial transaction in itself, but the pre-existing liability which it settles.

Re-routed transactions in the present system are employers' actual social contributions (R102 ESA) and imputed interest accruing to insurance policy holders (R42 ESA). It is obvious that re-routing transactions does not create claims and liabilities. The procedure places a third party between the claimant and the debtor so that it appears as if there were two transactions instead of one. But both the claim and the liability of the third party are fictitious and not found on its balance sheet.

Tied income comprises items such as reimbursement in cash for goods and services bought by households, usually in connection with social benefits (Section 482b ESA). This is a delicate matter. To take the standard probing case, if a household incurs a liability vis-a-vis a doctor, and is reimbursed (fully or in part) by a third party, its liability creates one transaction, and its claim against the third party another if and only if the two are independent, i.e. if the household

²¹ Ruggles, R. (1984).

²² van Bochove, C. A. and Bloem, A. M. (1985).

must pay the doctor no matter whether or not he receives the reimbursement, the liability of the household to the doctor is a legal fact. This is the case with all private insurance schemes, and these operations are treated accordingly, as two transactions, purchase and transfer, in the national accounts. If, however, the liability to the doctor does not fall on the household (e.g. in a health ticket insurance scheme) but is offset *uno actu* by an equivalent claim of the household vis-a-vis the insurer, it is the latter who “bears the expense”²³ and thus participates in the (single) transaction. The household is netted out from the transaction.

Income in kind, finally, has two forms. In the form of income from production such as remuneration in kind (section 408j ESA) or entrepreneurial withdrawal from quasi-corporate enterprises (R45 ESA), it appears as a liability in the books of the paying institution. The liability is specified, not necessarily in money, but at least in terms of physical quantities. It results from a contract establishing a claim and liability pair between two economic agents, and thus forms a transaction, by definition.²⁴

On the contrary, transfers in kind fall outside the definition. Social benefits, in particular, are not transactions when they are rendered in kind, because they do not give rise to a claim. It is true that the beneficiary has a right to the good or service, but the corresponding action of government is founded on law, not on contract, and the right of the beneficiary does not appear as a liability in the books of government.²⁵ Since neither SNA nor ESA give an explicit definition of the transaction principle it is not possible to determine easily the degree to which their rules concerning social benefits follow the transactor/transaction principles. It may be that the explanation of personal attribution of market services found in the French system (section 5.132 SECN) covers the same cases which fall under the transactor/transaction principle on the basis of the definition given above.

This detailing brings to attention the fact that the definition given above is not the only one possible, of course. It may be formulated more restrictively, so as to include only cash movements or, in the other direction, more comprehensively, so as to include all transfers in kind (e.g. free education). The definition above has been chosen because it satisfied best a formal criterion.

Claim and liability are fixed concepts in every developed society. They are neutral as to the purposes or ideas which stand behind them. It is hard to find a formal criterion of similar strength that would distinguish transaction and transactors in an objective way. On the other hand, to restrict the definition to cash transactions would be superficial in that the form of payment (money) is taken as its substance. The substance of transactions is the contract, the will of two agents to agree on some economic exchange and this constitutes value.

The transactor/transaction principle can be understood to say that all and only all transactions are to be recorded, and each of them once in the national

²³ Pêtre, J. (1983). p. 30.

²⁴ It is on purpose, of course, that the definition of transaction has been moulded so as to cover a somewhat broader area than the payments in money. For this reason market economy and money economy do not coincide.

²⁵ There is no room here to dwell on the legal entity required to create, hold, and close claims and liabilities, but the general idea of ‘owning’ units, recognizable as transactors in contract law, is clear.

accounts. Compared to this the dual classification proposal implies a more complex view. According to it transactions relating to consumption should be shown for the ultimate bearer of the expense as demanded by the transactor/transaction principle, and, in addition, from these entries a functional variable called individual consumption is to be constructed which overcomes the institutional dependency inherent in the concept of transaction, in order to arrive at international comparability, i.e. comparability in terms of goods and services. Like the economy they describe national accounts have thus two levels, one functional, one institutional, and these belong to the same thing like two sides of a coin.

The application of this view to the relationship of consumption and income forms our last section.

6. CONSUMPTION AND SAVING

A major reserve against accepting a pure transactions concept of disposable income stems from an idea expressed by the equation:

$$(1) \quad Y = C + S.$$

This is one of the first equations in university courses on macroeconomics, it expresses in a nutshell the discoveries of Keynesian analysis, and it is thus embedded deeply in the understanding of national accounts.²⁶ It is this equation, basically, which creates the readiness to employ concepts such as an “enlarged income,” on a provisional basis at least. Before concluding, therefore, this equation must be scrutinized in the light of the investigations carried out so far.

A first step in this direction is to place the equation in the context of the dual classification that has been proposed for consumption expenditures. Under this rule the letter *C* can stand for two variables in equation (1). It can mean either expenditure of (usually) money for consumption goods (*E*), or consumption of the good itself (*C*). The other variables necessarily follow this same pattern. In this way, saving may mean either non-expenditure of money (net lending) or non-consumption of produced goods. One can differentiate the two aspects clearly by calling the non-expenditure “saving” (*S*) and the non-consumption “investment” (*I*). Given this double aspect on the right-hand side of equation (1) the variable on the left-hand side must also carry a double connotation, one functional, one institutional.

Again this differentiation is easier to attain by employing different terms so that one is called “production” (*P*), the other “income” (*Y*). Translating this into symbols equation (1) becomes

$$(2) \quad P = C + I,$$

and

$$(3) \quad Y = E + S.$$

Both equations are true. Production equals the sum of consumption and investment (non-consumption), by definition, and the same holds for income as the

²⁶ Vanoli, A. (1985), p. 5.

sum of expenditures and saving. Since, as a third definition, households can spend for consumption only it is easy to confound the two aspects. But in the light of dual classification they are different.

It follows that the process of distribution within a society also carries this double character. There can be distribution of goods and services, and distribution of means to buy such things. The two cannot be added because they represent two aspects of the same thing.

Take the simple accounting case of Figure 4, where the transactions occurring in connection with a government health system are shown. The employed personnel receive compensation w , which is entered on both the government (G) and the household (H) account. Households pay taxes or social contributions (t) to the government. The two do not match, ordinarily, so that balances occur. To the saving of households (s) corresponds a deficit on the side of government sector. The question is whether to this transaction variable representing the increase of indebtedness of the government sector to the households the transformation flow of consumption can be added in order to form “enlarged income.”

G	H
w $-s$	t
t	s w

Transactions
 w = salaries of doctors,
 t = direct taxes,
 s = saving of households.

<i>Derived national accounts balances</i>	G	H	Total
GDP =	w	—	w
Distributed income =	t	$w - t (= s)$	w
Consumption =	w	—	w

Figure 4. Transactions for a government health service

From the table of transactions the national accounts balances shown above can be derived. GDP, distributed income and consumption make sense in their conventional definition for sectors individually and for the economy as a whole. “Enlarged income” does not. For constructing it one would add an entry w' on the income side of the household account equal in value to w , and deduct it, for reasons of consistency, from the account of the government sector, simulating a transfer. The entry w' then increases households’ distributed income from s to an “enlarged income” of $(s + w')$ as desired, but it also decreases the “enlarged income” of the government sector from t to $(t - w') = -s$ (Figure 5). This is not a sensible operation.

The concept of “enlarged income” is not suitable for application across the sectors of an economy. It is not even suitable for the economy as a whole. If w represents the value of GDP it does not make sense to derive an “enlarged income” of households of the value of $(2w - t) = (w + s)$, not even from a welfare

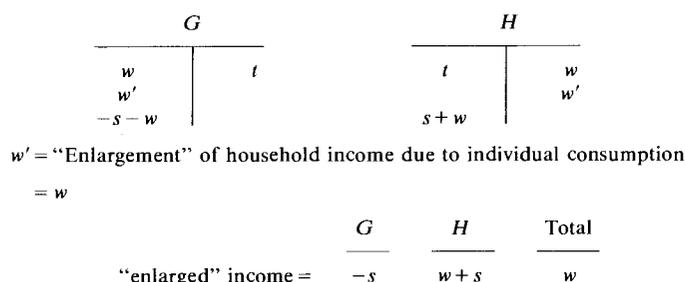


Figure 5. Transactions plus "enlargement"

point of view. For the higher saving of households is matched by the higher debt of government which falls back on the population as a whole.

To know, therefore, that households enter into a certain consumption cannot entail an equivalent entry on their income account.

REFERENCES

- Institut National de la Statistique et des Etudes Economiques (SECN) (1976), *Système élargi de comptabilité nationale—méthodes*, Paris
- Pêtre, J., The Treatment in the National Accounts of Goods and Services for Individual Consumption Produced, Distributed or Paid by Government, Paper prepared for the Eighteenth General Conference of the IARIW, 1983.
- Reich, U. P., The Definition of Household Income Measures in National Accounts, Report for EUROSTAT, 1984.
- Ruggles, R., Possible Future Directions for National Accounts, 1984.
- Saunders, C., Measures of Total Household Consumption, *Review of Income and Wealth*, 26, 4, 351-366, 1980.
- Statistical Office of the European Communities (EUROSTAT), *European System of National Accounts (ESA)*, Second edition, Luxembourg, 1979.
- , CN/28, Working Party on National Accounts, Supplementary Tables on Individual Final Consumption by Purpose and Final Expenditure by Sector, 1982.
- , CN/30, Working Party on National Accounts, Possible Need for Alternative Income Measures, 1982.
- United Nations Statistical Office (UNSO), *A System of National Accounts (SNA)*, Series F, No. 2, Rev. 3, New York, 1968.
- , *Provisional Guidelines on Statistics of the Distribution of Income, Consumption and Accumulation of Households*, Series M, No. 61, New York, 1977.
- , *Comparisons of the System of National Accounts and the System of Balances of the National Economy, Part One, Conceptual Relationships*, Series F, No. 20, New York, 1977a.
- , *The Feasibility of Welfare-Oriented Measures to Supplement the National Accounts and Balances: Technical Report*, Series, F, No. 22, New York, 1977b.
- van Bochove, C. A. and Bloem, A. M., The Structure of the Next SNA: Review of the Basic Options, Paper prepared for UN/ECE, CES/WP. 22/77, 1985.
- Vanoli, A., Sur la structure générale du SCN à partir de l'expérience du système élargi de comptabilité nationale français, *Review of Income and Wealth*, Series 32, No. 2, 1986.
- VGR, Statistisches Bundesamt, Konten und Standardtabellen 1983, Wiesbaden, 1984.