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Design of the Accounts

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ALL national income and product estimates, their variants and their subtotals, are accounting magnitudes; the logic behind them is accounting logic; they all involve "netting" and "offsetting" operations aimed at the elimination of double counting; and they all can be conceived of—though they need not be—as the results of consolidating books for the various individual units that make up the country's economy. If "design of accounts," then, is taken to mean the entire structure of national income and product estimates, their inclusions and exclusions, their subtotals and their variants, the subject is too broad for a single paper. So I shall take "design of accounts" to refer to the *explicit* accounting framework in which the national income and product concepts or estimates are fitted, and take "design" to refer to the general principles that should govern the construction of such a framework. I shall not, then, discuss which net total is the most useful, or what breakdowns are most urgently required, or even which approaches to the logic of valuation are the most fruitful. Instead I shall discuss the role and influence of an explicit, over-all accounting framework that serves to bring all the estimates into orderly relation and make manifest their interrelations and their multiple facets or interpretations.

Thus limited, the topic has no a priori claim to relevance. There is little evidence in the papers presented here that an over-all accounting framework—one that joins the different tabulations together—is of any interest. Most of what is contained in this volume is concerned with how to estimate certain magnitudes, either "real" or financial; but only one of the papers devotes any appreciable attention to the entire set of accounts.

This result can, of course, be attributed to the division of assignments: "expenditure side" and "income side" have been parceled out, and it has been nobody's business to take the two sides together. But this result may be more than an accidental outcome of the division of labor. Most of the arguments presented for using a particular approach, or method of valuation, or definition of a magnitude, have been con-

cerned with its suitability to the *one* side of the account under immediate discussion. And this I take as some evidence that, in general, people *do* use their accounts one side at a time. The several discussions of imputations and of depreciation are especially good examples. Witness also Kenneth D. Ross's remark that accounts "can just show a single period, whereas the other tables give a running comparison annually or quarterly" (page 299).

If we now recall Simon Kuznets' inability to see great value and relevance in the elaborate accounting framework on which the Commerce Department has bestowed so much pride and care, perhaps we are led to suspect that the practical relationship between national accounting systems and national accounting magnitudes is not particularly close. This is the conclusion I reach; and I reach it while sharing the aesthetic appreciation of national accounts that so many others feel. The accounts have a tremendous pedagogical importance (if not for students, for their teachers). They bring out the interrelationships among economic units, as well as among the magnitudes expressed in the national income totals and subtotals. But much of this purpose could be served *without putting numbers into the tables.* *X*'s, *Y*'s, and asterisks will serve nearly as well in getting across most of the lesson.

The blank tables will not, of course, perform one other function that the completed set of accounts will—that is to communicate a general notion of relative magnitudes in an economy. But when one wishes to trace relative magnitudes over time, or focus even on a cross section, one usually departs from this full set of accounts and works with individual series or the components of one side of one account only. Most users of national income statistics do not utilize the fully integrated set of accounts; they simply profit by knowing that they are there.

I am not, however, attacking the importance of integrated accounts: rather, I have a conclusion to draw. It is that the fully integrated accounts should mainly be designed for their theoretical, rather than their statistical, use. They should be constructed not as a repository for statistics, but for their own specialized purpose of getting across the nature of the accounting interrelationships, and for displaying certain orders of magnitude that are essential to any first approximation to the analysis of an economy, but that are shortly left behind by the main body of analysts.

Perhaps the integrated accounts should *not* be designed in careful relation to the various subaccounts and economic measures that are presented elsewhere, but should involve definitions and concepts that are optimum for the particular purposes for which integrated accounts

are used. Specifically this would mean, at least, leaving out of the integrated accounts trivia that have for good reason to be carried in subaccounts. It may also mean not making certain compromises with statistical feasibility that have to be made in the current series; and definitely should mean including categories that theoretically belong in but cannot be estimated at all. An asterisk for government investment and a dagger for household investment are better than tables that are drawn up on the assumption that these logical categories are nonexistent just because nobody can acquire or agree on figures.

Actually, the Commerce Department's Tables V and VI have not been designed for their usefulness. They are reconciliation tables, designed to show nothing more than that the selection of similar items from the sector tables yields a balanced selection. They could as well be printed without numbers, or replaced by a footnote pointing out that such tables could, if desired, be drawn up. This criticism is most frequently made of the "rest of world" accounts; in an informal poll I have yet to find a single person who could think of any possible interest in the breakdown figures in that table. Wages and salaries, yes; but surely not *net*. (There is plenty of blank space on the other side of the table to permit gross figures.)

The same kind of criticism can be leveled at the savings and investment account: here is the place to regroup and redivide the various increments in assets and liabilities of the economy, and perhaps even to show for each sector what it added to its various holdings and debts. The Securities and Exchange Commission breakdown of personal savings shows the direction in which progress is to be sought. Some skill is needed, as the National Income Division points out, to avoid an overelaboration that might add to the tables' complexity and not proportionately to their value. The present inclusion of foreign branch profits and two kinds of excess of wage accruals over disbursements in the savings account shows that the criterion has not always been followed, and that the ruling principle has been to prove that the sector tables balance as they should. But those tables do perform an important educational purpose, and should be given due attention. Furthermore, if instead of compromising with statistical deficiencies the tables were allowed to reflect them, a dramatic plea for enlarged statistical resources would emerge.

It is quite important, of course, to have, at least in mind if not in the statistical publications, a fully worked out set of accounts for the economy as a whole, to impose discipline and responsibility on those who define and estimate pieces of the whole. But because progress comes from criticism rather than admiration, I shall discuss some of

the ill effects that an internally consistent, comprehensive set of national accounts can have on the development of statistical information and analytical concepts.

EXCESSIVE COMPREHENSIVENESS

A virtue of national accounts is that they enforce comprehensiveness. They begin with some comprehensive definition of a total, which is broken down in such fashion that nothing gets lost. National product is better than industrial production because it is all there. As a by-product, one often gets a free estimate this way, since a residual may often be obtained by subtraction, if the the total has an alter ego that can be estimated independently.

On the other hand, the quest for comprehensiveness can cause casualties. Categories that cannot be estimated in total may get left out, to avoid inclusion of a ragged piece. Nobody can estimate, perhaps even define in a manner that commands agreement, household or government investment, or assets, or depreciation; so they go altogether unstated. We might secure data on the number of automobiles, but not for all consumer capital, so we leave cars out as inconclusive. Data on schools we might get, but not for ammunition and roads, so we leave government assets out.

Comprehensiveness can also be spurious, and subject to misinterpretation. Gross national product is preferable, for many people, to industrial production; but if monthly GNP figures are only industrial production times a constant, seasonally adjusted, with the addition of a few other categories estimated in the same way, it is not more comprehensive and a good deal less straightforward. Most users of GNP still glance at the Federal Reserve Board index, and at those in their favorite newspapers or magazines, and check the employment figures, perhaps looking at car and steel production, before deciding whether activity went up or down from one quarter to the next. And they are right. Any very short period figures on GNP are bound to be constructed out of indexes. The demand for quicker and quicker estimates can only lead to a casserole of indexes served up as GNP. The fetish for a "single best estimate of the economy's performance" has already gone too far.

EXCESSIVE BALANCE

The main characteristic of accounts is that they balance; at least they do if they are "consistent." One of the virtues of the accounting framework, it is claimed, is that it enforces consistency. This problem of consistency arises largely because national accounts are not just

"double-entry"; they are "quadruple-entry." A *firm* enters each transaction, or valuation, simultaneously in two places, because every transaction has two sides. Its two-sidedness is mainly a result of the fact that most transactions involve exchange of some sort, but it is assured in any event because the balance sheet has a residual somewhere, where unbalanced transactions have a simultaneous impact. But *national* accounts reflect more than the two-sidedness of transactions; they reflect the fact that there are two *parties* to most transactions—one man's payment is another man's receipt—and consistency can only be assured if both parties view the transaction in consistent ways.

Furthermore, national accountants are usually interested in something more than just consolidating the nation's books to see what they get; they have their own definitions of what they want to measure. If every firm and individual uses the same erroneous criterion for measuring something, the national accounts are desired to avoid that consistent error and show the measurement right.

Still consistency comes at a price. It often involves violating somebody's point of view; more than that, it involves violating some points of view that are of economic significance. The tax treated by government as a current receipt and by the taxpayer as a capital operation can be made to yield consistent tables by treating it either way, the same on both sides. But if consumer expenditure is affected by the way the taxpayer treats the tax, or if government operations depend on whether the revenue is current or capital, significant violence is done either way.

Where Richard Stone says, "a good system of classification is necessarily a consistent one," I should make the much weaker statement, "A good system of classification treats inconsistency as the exception rather than the rule, and keeps track of its inconsistencies." Actually a number of "inconsistencies" have already been incorporated in the national income accounts; but by keeping track of them and giving new names to some totals, the result is made to seem reasonably consistent. "Disposable income" reflects the reasonable inconsistency of treating transfer payments as "like income earned in production" for certain purposes but unlike it for the estimation of net product. Yet a good deal more "loosening up" would be useful. As long as the inconsistencies are kept limited in number and confined to qualitatively identifiable magnitudes they need not seriously adulterate the present totals. Further, they can be listed separately so as to be removable at will or at least to make clear their exceptional nature, and so as to keep all accounting magnitudes defined in terms of each other.

A first step would be the inclusion of more capital gains in some

disposable income concept, perhaps even in *the* disposable income concept.[1] Realized corporate gains on inventory are already allowed for, since dividends are what matter, and since any influence of inventory or other realized gains (treated as distributable income by the corporation) have had their influence on dividends. Realized inventory appreciation for unincorporated business, however, can make a strong claim to inclusion in disposable income. Where to draw the line—as to which types of capital gains are most like income, and whether realized gains are the only ones to include, and so forth—is not an easy question to answer. Surely, though, many capital gains are important enough, and similar enough to income, to belong somewhere in a set of national income estimates, and some of them may be at least as much disposable income as many items already included in the present definition of the term.

The treatment of depreciation is another case where, by abandoning the consistency requirement, we can avoid a dilemma and increase our information. Certainly we want some estimates of real wear and tear on capital; we need them to predict capital outlays, or to plan a mobilization, or to learn about the relation of capital stock to productivity. Certainly we need to know what business firms write off as depreciation, since it affects their actions as investors, managers, and consumers. There is no need to impose consistency on our tables if, in fact, business men evaluate a significant magnitude wrongly, or just differently from the economist; both estimates are of economic significance. In this respect, I differ from Budd and Hagen who prefer to abandon book values entirely in attempting to measure capital consumption for national accounts. If they had said "for real GNP estimates"—which I think they had mainly in mind—instead of "for national accounts," I could agree with them. Here is one of the conspicuous instances, alluded to earlier, where preoccupation with one side of the accounts forces an inappropriate decision on the other side under the rule of consistency. Incidentally, an important part of the argument over depletion allowances would disappear if this rule were relaxed.

In some cases consistency has been an excuse for "netting out" transactions whose two sides may not in fact be symmetrical. All life insurance premiums and benefits are suppressed, except for the margin that covers operating costs and the saving that results from the pricing practices of insurance companies. In other words, the net actuarial current cost of life insurance is canceled against the benefits. The amounts must be pretty large. Perhaps their smoothness over time makes their

[1] This has been suggested by Joseph Mayer (*Review of Economics and Statistics*, May 1954, p. 195).

invisibility of reduced significance. In view, however, of the painfully "current" nature of the premium payments in contrast to the frequently "capital" nature of the benefits, it is hard to imagine that they are symmetrical in their impact on expenditure behavior. Similarly, the treatment of social security, insurance, and other institutional forms of saving as personal saving may also be more grounded in the logic of accounting consistency than in actual behavior. A relaxing of the accounting concepts would help remind users of the data that many important magnitudes are looked at differently by payers, payees, and economists. While present treatment of saving cannot, perhaps, be condemned as wrong, its justification is less by a good deal than the pure logic of consistency often seems to imply.

REAL VERSUS MONEY MAGNITUDES IN THE NATIONAL ACCOUNTS

Budd and Hagen have pointed out a problem that arises in an open economy. It is that real *product* and real *income* diverge when the terms of trade change, and that the correct real magnitude depends on whether one is interested in productivity or purchasing power. The point they make is a valid one, though of minor importance for the United States. But they confine this problem to "open" economies, and consider it peculiar to the foreign account. On the contrary, this problem permeates all the accounts. It has a specific analogue in Reddaway's illustration that the real net output of the hog industry is negative when prices in the base year made corn too expensive to feed to hogs.[2] And it results from Budd's and Hagen's own statement that the real purchasing power of a sector is properly obtained by deflating that sector's income by a price series appropriate to the types of goods that it buys, if the aggregate product is simultaneously deflated in the usual fashion by product price indexes.

The fact is that the real accounts do not balance, only money accounts do. I think this point is insufficiently appreciated. Implicitly the Commerce Department appreciates it; none of their "real" series are ever put into accounting form, they are always shown as individual series. This practice may be due to the difficulty pointed out by Ross—that accounts are hard to show in time series. Whatever the immediate reason, though, there is an ultimate reason in the fact that the Commerce Department's real accounts would not balance if they drew them up. The reason is simple: the NID deflates disposable income by the

[2] W. B. Reddaway, "Some Problems in the Measurement of Changes in the Real Geographical Product," *Income and Wealth, Series I*, Erick Lundberg, editor, Cambridge, Eng., Bowes and Bowes for International Association for Research in Income and Wealth, 1951, p. 275.

consumer-expenditure deflator.[3] Like Budd and Hagen, the NID quite reasonably considers real purchasing power to depend on the prices paid by people for what they buy. But unless disposable income and consumption are always equal, that is, personal saving always zero, and other coincidences throughout the accounts equalize in the same way, "real product" and "real income" will not balance. To explain it crudely, the average deflators for the two sides of the accounts are constructed with different weights.

The reason for this disparity lies in the fact that what we call "real" magnitudes are not completely real; only the money magnitudes are real. The "real" ones are hypothetical. Money transactions represent actual phenomena. One can interpret the accounts as moneyflows, or (for product magnitudes) as flows of goods and services measured in current money value; either way the tables balance because money has the same value to both parties in a transaction, or because goods exchanged are valued simultaneously in the accounts. But "real" magnitudes are not double-entry (or "quadruple-entry") items; a real magnitude is one side of a transaction valued by itself.

The number of elementary imbalances that can readily be cited is fairly large. Savings, deflated by an index relevant to consumer expenditures, do not equal investment deflated by an investment goods index. Output, deflated by an output price index, does not equal the value of factor input, deflated by an input price index. Government expenditure, deflated by price indexes of things government buys, does not equal the "real" burden of taxation, deflated from the consumer's point of view. "Real" corporate savings depend on whether they are viewed as potential investment or potential dividends for consumption, since the deflators would differ. Finally, any interindustry or intersector input-output accounts can reproduce the Reddaway illustration if price ratios change *and* the physical ratios change too.

One can, of course, force the two sides of a balance sheet to balance after deflation, but only by depriving one of the two sides of any independent meaning. All that is required is to construct the "average deflator" used on one side and apply it to the entirety of the other side; but this scaling down process leaves the second side no more meaning, as a "real" magnitude, than a mirror image, and the components have even less meaning. There is no answer to the question, "real what?"

To say that deflated accounts do not balance is only a superficial way of saying that deflated values are inherently incommensurable, being physical volumes, or index approximations to them. This is prob-

[3] *National Income Supplement, 1954, Survey of Current Business*, Dept. of Commerce, note to table, pp. 24-25.

ably why so little use can be made, even by the Commerce Department, of its accounts in discussing the development of the American economy. Here an interest in "real" values is dominant, and real values do not follow the rules of accounting. And perhaps Kuznets' lack of enthusiasm for the accounting approach to national income and product reflects his preoccupation with "real" magnitudes, and the irrelevance of the Commerce Department's balance sheets to them.