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1. The Feasibility of a Standard Comprehensive System of Social Accounts

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Introduction

SOCIAL ACCOUNTING has made great progress during the last twenty or thirty years. But it seems still to be in a somewhat formative stage. Certainly as it stands today it is by no means a unified whole. One part of the field has been carefully cultivated; in other parts cultivation is only beginning.

During the nineteenth century the work which would now be considered embryonic social accounting put primary emphasis on a tangible asset picture. The twentieth century was not far advanced when the emphasis shifted from a balance sheet approach to an income statement approach. The carefully cultivated part of the field of social accounting today consists of the national income and product accounts. It is true that in the last few years more attention has again been given to national wealth and that we now know a good deal about the structure of claims against it. But inquiries in this area have not yet become an organic part of the main body of social accounts; rather, national balance sheet exhibits currently have a status analogous to the memorandum item supplements frequently appended to the formal financial statements of individual business corporations.

This is one of the major respects in which social accounting has not yet become a homogeneous whole. There are two others that are more difficult to specify. One relates to the way an economy is divided up into sectors for the purposes of social accounting and to the number of sectors into which it is divided. The other involves institutional differences between different economies and the way social accounts deal with them. For the moment we may indicate the nature of these two respects in which social accounting has not yet become systematized by posing two questions. (1) Can a single standard, general purpose scheme of sectoring an economy be devised that will reconcile such special purpose sectoring schemes

as those appropriate to input-output studies and those appropriate to studies of the money circuit? (2) Do different countries require different systems of social accounting, or can a standard system be devised that will be reasonably appropriate to all, regardless of differences in national institutional structures? It is my understanding that these two questions were specifically included in my assignment.

Briefly the present situation pertinent to these questions may be summarized as follows: We now have a recommended standard system of transaction accounts; it is set forth in Chapter III of a document entitled *A System of National Accounts and Supporting Tables.*[1] This system constitutes a kind of core or nucleus. Clustering around it there is an extensive, unsystematized social accounting periphery. Some parts of the periphery tie in closely with the core; others are more loosely connected to it. On the core there is something like a consensus today; but it would seem wise to examine the periphery carefully before we crystallize international conventions in regard to the core too far. The core emphasizes the income statement side of social accounting; conventions for this side can either help or hinder work on the balance sheet side, and conventions that can help are clearly to be preferred. In any case, the core itself is essentially a product of the study of highly industrialized countries; it is pertinent to ask whether the conventions it proposes are well adapted to less developed economies. Moreover, one can discern in the periphery two tendencies that seem to be at loggerheads with each other; one inevitably wonders whether a more comprehensive system of standard accounts could help to resolve the apparent conflict.

Our present concern then is: can a general purpose comprehensive system be devised, a system that will give adequate emphasis to the balance sheet aspect of social accounting, avoid tendencies that conflict with each other, and be an acceptable standard for all countries? I offer a somewhat qualified affirmative answer to this question below, and attempt an extremely tentative sketch of the form such a system might take.

As background for a discussion of this question it may be useful to have in mind an outline of what may be called the "pre-statistical conception" of social accounting. By the pre-statistical conception is meant the conception that prevailed from the late eighteenth to

[1] *A System of National Accounts and Supporting Tables*, United Nations, Statistical Office, Studies in Methods, Series F, No. 2, 1953.

the early twentieth century. It divided an economy into two sectors. The business, or productive, sector was in effect assumed to hire all the factors of production it used and to sell all the final product to the other, or ultimate, sector. The ultimate proceeds of these sales were taken to consist exclusively of distributive shares or factor hires. The ultimate sector was conceived as owning all the national wealth, receiving all these hires (national income), spending part of this income on consumption, and saving the rest of it and investing all the savings in additions to national wealth. This conception involved a very simple system of social accounts. The national product account showed two main items on the right, consumption and investment, and the several distributive shares on the left. The personal account showed the same items with debits and credits reversed. The national balance sheet showed tangible assets on the left and on the right did not attempt to detail the ownership claims by type. Investment equaled the increment in national wealth.

While this was no doubt an oversimplification of the real industrialized world of a century and a half or more ago, it represented a long step forward in economic thought at the time and has continued to be useful for handling a number of questions. But partly because some aspects of the industrialized world have become quantitatively more important (e.g. government), and partly because we now insist on greater accuracy in detail, our present system of income and product accounts reflects many complications not suggested by this simple two-sector approach.

One of the changes in the conception of social accounting that has taken place during the past twenty or thirty years stands out sharply. In the pre-statistical conception the business sector coincided with the productive sector and the household or personal sector coincided with the ultimate sector. Today the standard set of social accounts draws a sharp distinction between two ways of sectoring our economy, the functional and the institutional. The pre-statistical division of an economy into two parts is retained, but this is now a purely functional sectoring cutting across the three main domestic institutional sectors. The productive sector includes the business current or value added account and value added accounts for governments and households. The ultimate sector that receives the proceeds and buys the final product includes the personal account for households, the general government account, and the business capital account. This sectoring change was definitely a step in the direction of recognizing the institutional

structure of a national economy in the scheme of social accounts.

Another significant step taken in the same direction is less obvious. The definition of production that most frequently went along with the pre-statistical conception of social accounts was *activities that contribute to the satisfaction of human wants.* (Presumably this meant some wants, not all. But the class of wants implied in this type of definition was never accurately specified, though for the most part both spiritual and carnal wants were apparently excluded.)

The objective of defining production in this way was presumably to provide a material welfare concept that would apply equally to primitive and to industrialized economies, but the result was a fair amount of ambiguity. Today we have a more objective definition. Production consists in *activities that contribute to the deflated gross domestic or regional product.*[2] Such a definition avoids major ambiguities and reduces the main area of argument about what is included in the material welfare concept of production to a definite empirical one of how to draw the specifications for measuring domestic product. But this kind of definition inevitably takes into account certain pecuniary aspects of an economy's institutional structure, aspects that determine what things get assigned money valuations. The gross domestic product of a country includes, in addition to items assigned a money valuation either directly or in terms of factor cost, only a restricted set of imputations. The United Nations document that proposes a standard system of national accounts includes specifications of the social accounting conventions that define these imputations. The conventions help to give gross domestic product a standard meaning. But I propose that this kind of standardization involves a paradox. There is need for standard imputation rules, but even with such rules the term "gross domestic product" inevitably takes on somewhat different meanings as it is applied to economies that differ markedly in their institutional structures.

These comments on the pre-statistical conception of social accounting and the changes in it that have come about in the last twenty or thirty years suggest a qualification that should be attached to any assertion that a standard comprehensive system is feasible. They also suggest two of the main characteristics a comprehensive system of accounts should possess. The qualification is

[2] This term is here used in the sense assigned to it in the UN document cited above.

that to the extent that social accounting determinations reflect institutional differences they can never be perfectly standard. One suggested characteristic of a comprehensive system is that the present standard social accounting core of transaction accounts that relate to a sectoring of the economy in which functional and institutional distinctions are crossed should be complemented by a set of balance sheet accounts relating to these same sectors. The other characteristic is that the balance sheet accounts and the transaction accounts should articulate somewhat, as did the pre-statistical concepts, saved and invested national income and national wealth. To these two characteristics I propose to add a third. The social accounting core so extended should lend itself to micro-economic elaboration through subdivision of sectors and of accounting items. Two types of elaboration with which we will be particularly concerned are elaboration in an input-output direction and elaboration in a moneyflows direction.

But the next step must be to examine briefly the present standard core of social accounting.

I. The Present Standard Accounts

The Standard System of National Accounts proposed in UN Statistical Office Document F2 is the product of a number of years of effort in which Richard Stone has played a leading role. In 1944 representatives of the agencies responsible for preparing the official estimates of national income for the United Kingdom, Canada, and the United States met and reached something of a consensus on a number of social accounting questions.[3] A further step toward the development of standard conventions was the report of the Subcommittee on National Income of the League of Nations Committee on Statistics.[4] The Committee had just started consideration of the subject of national income in 1939 when its deliberations were interrupted by the war; the Subcommittee was appointed in 1945. Still other forward steps were taken by the National Accounts Research Unit of the Organization for European Economic Cooperation which produced first *A Simplified System*

[3] See Edward F. Denison's account of these tripartite discussions, *Studies in Income and Wealth, Volume Ten*, National Bureau of Economic Research, 1947, pp. 3-22.

[4] *Measurement of National Income and the Construction of Social Accounts*, United Nations, Studies and Reports on Statistical Methods, No. 7, 1947.

of National Accounts[5] and then *A Standardized System of National Accounts*.[6] In 1952 the Secretary-General of the UN appointed a group of national income experts whose report is published as Studies in Methods, Series F, No. 2.

The extent to which this report succeeds in setting forth a consensus is undoubtedly in large part attributable to the years of research and consultation that preceded it.[7] But there are a number of respects in which the UN document represents a substantial advance over all its predecessors. Among the features that merit special favorable comment I would note—in addition to tne formalizing of product imputation conventions already mentioned—the central role it assigns to gross domestic product, the grosser rest of the world account, the identification of an approximate net borrowing or lending figure for each of the four institutional sectors, the fuller identification of transfer-type transactions, and the long start toward a standard final product classification. A less consequential point is that interest on personal debt and interest originating in the government sector are treated according to a common rule.

In what follows it will be convenient to have an outline of the standard set of accounts before us. Exhibit 1 gives such an outline. In most respects the exhibit exactly follows pages 18-19 of the UN document. However, some of the item captions have been expanded or reworded, and two rearrangements have been introduced: Account 1, Domestic product, and Account 2, National income, have been combined; and a clearing account, Account 7, Financial and existing asset transactions, has been added. One result of combining Accounts 1 and 2 is that national income has been omitted as a separate item. I shall take up the question of this omission in section II. A second result is that the central role of gross domestic product is highlighted.

The preface to the UN document explains that it "is the work of an international group of experts and that the recommendations contained in it represent their conclusions." These recommendations are wisely divided into two parts, the interlocking system of

[5] *A Simplified System of National Accounts*, Paris, OEEC, 1950 and 1951.

[6] *A Standardized System of National Accounts*, Paris, OEEC, 1952.

[7] It should be noted that Stone took the initiative in arranging the 1944 meeting, directed the work of the OEEC National Accounts Research Unit, and served as chairman of both the League Subcommittee and the UN group of experts.

accounts outlined in Exhibit 1, and a set of twelve supplementary tables providing for information that "could not be given as a part of that accounting system without overburdening it unduly." Since I propose to treat the supplementary tables as belonging to the periphery rather than the core of present-day social accounting, comment on them will in general be deferred, most of it to section III of this paper.

The listing above of the features of the report that merit special favorable comment did not include one feature that is very striking—in lieu of a consolidated national savings and investment account we find a domestic capital formation account, a saving item in Account 4, one in Account 5, and in Account 6 item 6.5, Net dissaving by the rest of the world. And when we look among the supporting tables we find Table V, The finance of gross domestic capital formation. The debit side of Account 3 is also the investment side of the national savings and investment account; Table V gives the savings side.

There may be a difference of opinion as to whether this dismemberment of the savings and it vestment account is an improvement. But clearly it is a logical corollary of the improved handling of transfer and borrowing and lending transactions. It will be urged later that this change is a move in the right direction, but not a large enough one.

A longer-term comparison will make the direction of changes clearer. The interlocking system of accounts shown in Exhibit 1 has a predecessor in each of the documents mentioned above, beginning with the 1947 League of Nations Subcommittee report. These systems—in addition to the fact that each is an interlocking system—have the following basic points in common:

a1. Four institutional sectors are distinguished—business enterprises, public and private; households and private nonprofit institutions; general governments, central and local; and the rest of the world.

a2. For each of these sectors the following five types of debit transaction entries (so far as applicable) must be separately identified—final product expenditures on capital account, final product current (consumption) expenditures, proceeds charges (mainly for distributive shares, capital consumption, and indirect taxes), intermediate product expenditures (which are not intended to be presented separately but to be used as deductions in computing values added), and all other debits.

EXHIBIT 1

The UN Group Report's Standard System of National Accounts
(*with modifications noted in the text*)

ACCOUNTS 1 AND 2, GROSS DOMESTIC PRODUCT

1.2	Indirect taxes (5.7)	1.4	Private consumption expenditure (4.1)
1.3	Less: Subsidies (—5.2)	1.5	General government consumption expenditure (5.1)
2.1	Compensation of employees (4.5)	1.6	Gross domestic fixed capital formation (3.1)
2.2	Income from farms, professions and other unincorporated enterprises (4.6)	1.7	Increase in stocks (3.2)
2.3	Private income from property (ex 2.4) (4.7)	1.8	Exports of goods and services (6.1)
2.4	Undistributed profits of corporate enterprises (3.4)	1.9	Less: Imports of goods and services (—6.3)
2.5	Direct taxes on corporations (5.8)		
2.6	General government income from property and entrepreneurship (5.5)		
2.7	Less: Interest on public debt (5.6)		
2.8	Less: Interest on consumer debt (4.8)		
2.10	Less: Net factor income payments from rest of world (—6.2)		
2.11	Provisions for consumption of fixed capital (3.3)		
	10 Total proceeds		= 11 Total gross domestic product

ACCOUNT 3, DOMESTIC CAPITAL FORMATION

3.1	Gross domestic fixed capital formation (1.6)	3.3	Provisions for consumption of fixed capital (2.11)
3.2	Increase in stocks (1.7)	3.4	Undistributed profits of corporate enterprises (2.4)
		3.5	Net amount brought forward from the private noncorporate sector account (4.11)
		3.6	Net amount brought forward from general government account (5.11)
		3.7	Net international transfers received by corporations (6.6)
		3.8	Net corporation borrowing and sales of existing assets (7.1)
	12 Total capital formation		= 13 Total sources of capital funds

(*continued on next page*)

EXHIBIT 1, (continued)

ACCOUNT 4, PRIVATE NONCORPORATE SECTOR

Current Account

(mainly of households and nonprofit institutions)

4.1	Private consumption expenditures (1.4)	4.5	Compensation of employees (2.1)
4.2	Direct taxes (5.9)	4.6	Income from farms, professions and other unincorporated enterprises (2.2)
4.3	Other current transfers to general government (5.10)	4.7	Income from property (2.3)
4.4	Net private saving n.e.c. (ex 2.4) (4.12)	4.8	Less: Interest on consumer debt (2.8)
		4.9	Current transfers from general government (5.3)
	14 Total current uses of funds		= 15 Total current sources of funds

Capital Reconciliation Account

4.10	Net capital transfers to general government (5.13)	4.12	Net private savings as above (4.4)
4.11	Net amount carried forward to capital formation account (3.5)	4.13	Net international transfers received (6.7)
4.15	Net lending and purchases of existing assets by all private noncorporate transactors (7.4)		
	16 Total capital uses of funds		= 17 Total capital sources of funds

ACCOUNT 5, GENERAL GOVERNMENT

Current Account

5.1	Consumption expenditures (1.5)	5.5	Income from property and entrepreneurship (2.6)
5.2	Subsidies (−1.3)	5.6	Less: Interest on public debt (2.7)
5.3	Current transfers to households (4.9)	5.7	Indirect taxes (1.2)
5.4	Saving (5.12)	5.8	Direct taxes on corporations (2.5)
		5.9	Direct taxes on households (4.2)
		5.10	Other current transfers from households (4.3)
	18 Total current uses of funds		= 19 Total current sources of funds

Capital Reconciliation Account

5.11	Net amount carried forward to capital formation account (3.6)	5.12	Saving (5.4)
		5.13	Net capital transfers from households (4.10)
		5.14	Net international transfers received (6.8)
		5.15	Net borrowing and sales of existing assets (7.2)
	20 Total capital uses of funds		= 21 Total capital sources of funds

(continued on next page)

EXHIBIT 1, (continued)

ACCOUNT 6, THE REST OF THE WORLD

So-called "Current" Account

6.1	Exports of goods and services to rest of world (1.8)	6.3	Imports of goods and services from rest of world (−1.9)
6.2	Net factor income payments to the nation by rest of world (−2.10)	6.4	Surplus carried forward (6.5)
	22 Total above uses of funds by rest of world		= 23 Total above sources of funds for rest of world

Capital Reconciliation Account

6.5	Surplus brought forward (6.4)	6.9	Net lending to rest of world (7.3)
6.6	Net international transfers to domestic capital formation (3.7)		
6.7	Net international transfers to households (4.13)		
6.8	Net international transfers to general government (5.14)		
	24 Total above uses of funds		= 25 Total above sources of funds

ACCOUNT 7, FINANCIAL AND EXISTING ASSET TRANSACTIONS

7.1	Net loaned to domestic capital formation, etc. (3.8)	7.4	Net private noncorporate lending, etc. (4.15)
7.2	Net loaned to general government, etc. (5.15)		
7.3	Net loaned to rest of world (6.9)		
	26 Total net intersector borrowing, etc.		= 27 Total net intersector lending, etc.

a3. Total final product purchases (detailed by major buying sector and to some extent by object) are assumed equal to final sales and are therefore equated with proceeds charges (detailed by type and to some extent by sector of origin) to give a balancing account for the intermediate, or production, sector.

a4. Total final product purchases by the three domestic sectors can be analyzed to show: total domestic consumption plus final product military expenditures, domestic gross capital formation, domestic net capital formation (gross formation less systematic provisions for capital consumption other than depletion).

Thus these several systems of national accounts are in various important ways much alike. Nonetheless there have been substantial changes. The following deserve mention here.

b1. There is a definite shift of emphasis from one global product

total to another. In the League document net national product at factor cost (= national income) is played up rather more than gross national product at market prices. But no kind of national product account is included as a member of the system of interlocking accounts; all of these accounts are for institutional sectors. In the OEEC systems an account very like the gross domestic product account in Exhibit 1 becomes a member of the system of interlocking accounts, but the global product total it shows is gross national product. In the UN document gross domestic product is assigned this central role. In this series of documents taken as a whole there is a downward trend in emphasis on national income.

b2. In the League document the five types of debit entries just noted under item a2 are distinguished, and by setting up two or more accounts for each domestic institutional sector[8] correlative character distinctions are made in the credit entries. Because of the urge to simplify there has been a diminishing emphasis on character classifications in the transaction accounts. What is left of them in Exhibit 1 are the distinctions implicit in the national production, capital formation, and financial transaction accounts and the capital-current breaks in Accounts 4, 5, and 6. The fact that the UN document plays down the concept of total national saving raises a question as to whether a further simplification in this direction could not well be effected.

b3. In the appendix to the League document a good deal of attention is given to financial transactions by virtue of the fact that three main types of financial sector are distinguished.[9] In the OEEC documents there are no separate financial sectors, and financial transactions are slighted. In the UN document some attention is again paid to such transactions; Exhibit 1 emphasizes this point by bringing them together in a separate national account (Account 7).

While these notes on the evolution of the present standard social accounting core are by no means all that needs to be said about it, further comments can more conveniently be made in connection with the specific questions considered in sections II and III.

[8] Operating, revenue, appropriation, capital, and reserve accounts are distinguished. And in the appendix there are separate sectors for banking, for public and private insurance, and for other financial intermediaries.

[9] See footnote 8.

II. Problems Posed by Institutional Differences*

It has been noted that the standard system of national accounts proposed by the UN Committee is essentially a product of the study of highly industrialized economies. It is probably inevitable that a statistical-economic framework of this kind should be designed to apply primarily to nations or other societies in which pecuniary institutions have a prominent part in organizing economic activity, and that when such a framework is applied to a relatively nonpecuniary society, it must usually be on the assumption that the society is (and perhaps ought to be) in process of becoming more pecuniarized. Since social accounts by their nature report pecuniary values, actual or imputed, the situation could hardly be otherwise.

We may therefore rephrase our question about the feasibility of an international standard accounting system: Can a system be devised that will be adapted to the needs and capabilities of both the less and the more industrialized countries? This question has two main parts, one relating to informational needs, the other to the technical problems of statistical collection and compilation.

Some will object that this way of summarizing the problems posed by cultural differences is too restrictive. In particular it rules out a set of issues glossed over in the historical sketch of the standard system of income and product accounts in section I; no mention was there made of the types of countries not represented in the various negotiations. The standard system takes little or no account of the viewpoint of economic and statistical workers in the countries behind the Iron Curtain. It has not yet been possible to bring this viewpoint and the viewpoint embodied in the standard system into sufficiently close contact to produce anything that could be called an amalgamation. Probably there can be no amalgamation without such contact. We will pass by the issues between these two viewpoints, not because they are deemed unimportant—surely they are important—but because there seems no satisfactory way to deal with them here.

A. INFORMATIONAL NEEDS

The less industrialized countries were represented in the UN group of experts, and the preface to the group's report states that

* This section is in substantial part a revision and condensation of a paper entitled "Adapting Social Accounting to Mainly Nonmoney Econo-

"The standard accounts and tables presented in this report differ from earlier reports" in that "the needs of underdeveloped countries have been explicitly taken into account throughout the present document." We will take up first the question of the informational needs of these countries, then the technical statistical problems. For brevity we will confine the discussion of needs to two main points, the final product imputations rules and the proposed rural sector.

1. The Present Imputation Conventions. The treatment of final product imputations in the UN group report is a beautifully clear-cut formulation of the social accounting conventions in this area. However, since the report does not assemble these recommendations all in one place, it seems convenient to assemble them here. The basic rule proposed for imputed products has two parts: (a) "In the case of primary producers, that is those engaged in agriculture, forestry, hunting, fishing, mining and quarrying, all primary production" is included; (b) in the case of other producers imputations are confined to "the unexchanged part of their production in their own trade."[10] The first part of this rule calls for product imputations to cover all extractive commodity production. There is need to spell out the valuation rule—ordinarily what the producer or a somewhat similarly situated producer might have received for the product at current prices. There is some need too to specify how much processing and transportation a primary product (e.g. rice or paddy) includes. But this is a pretty definite rule, as it stands.

The second part of the rule really needs to be construed in terms of a listing of the principal products it covers. The UN document specifies the following:

bi. The rental value of farm and owner-occupied nonfarm dwellings ("Home ownership is regarded as a trade").[11]

bii. The imputed cost-value of new own-account construction[12] for which no accounting records of capital expenditures are maintained. This excludes small projects on farms that cannot be clearly said to involve capital expenditures.[13] (Apparently bii construction is regarded as a separate enterprise.)

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mies," which was presented before the International Association for Research in Income and Wealth, September 1953.

[10] *A System of National Accounts and Supporting Tables*, p. 5.

[11] *Ibid.* The language does not clearly cover the dwellings occupied by tenant farmers, but presumably the intent is to include them.

[12] *Ibid.*, p. 8.

[13] *Ibid.*, p. 30. I do not mean to suggest that all own account construction

biii. A value-product equal to the actual or imputed compensation of public and domestic servants.[14] (This "involves the setting up of a production account" for a hypothetical enterprise that pays the actual or imputed wage and makes an imputed final product sale to the government or household that is really the employer.)

biv. An imputed service charge on deposits in "banks and similar financial intermediaries . . . equal to the excess of investment income accruing to these institutions over deposit interest accruing to their depositors."[15]

All of principal product items bi, bii, and biii and the part of biv attributed to "the deposits of households, etc." are components of aggregate demand, or final product. And while primary products are by no means always final products, the definition of imputed primary products implies a definition of an equal amount of gross domestic product. To round out the imputations code there is need to supplement these product rules with rules regarding proceeds. The most important proceeds rule relates to pay in kind, and has implications that help to define the imputed cost of own-account construction and the imputed product equal to the compensation of public and domestic servants.

ci. On this point the UN document says that the cost, or imputed cost, of pay in kind "such as food, lodging and clothing provided by employers" should be included in compensation of employees. Presumably the words "such as" are intended to cover employment which works off a debt or a tax or rental obligation or for which the employee receives commodities in return. Pay in kind might well be confined to employment of members of the gainfully occupied labor force for these specified types of remuneration.

To this proceeds rule two others should be added; they are essentially corollaries of the product imputation rules.

cii. What the product rules add to the product side of the value added account for an enterprise (or a sector of the economy) must be added also to net business income, if it is not directly added to some other proceeds item as in ci or ciii or treated as an intermediate product purchase. Thus the UN document states that net farm income, a component of item 2.2 in Exhibit 1, "Consists

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is imputed production. But surely a good deal of own account construction in the less industrialized countries comes under this head.

[14] *Ibid.*, p. 5. [15] *Ibid.*, p. 32.

of income in cash or in kind"[16] and that "net income from the possession of land and buildings," a component of item 2.3, includes "imputed rents on owner-occupied dwellings."[17] In this latter case the excess of the imputed rent component of product item 1.4 over that in proceeds item 2.3 enters into the social accounts partly as other proceeds (depreciation, realty taxes, and mortgage interest) and partly as intermediate product expense (for insurance, repairs, etc.).

ciii. The corollary of the imputed financial service charge, item biv, should be an equal imputed interest payment by "banks and similar financial intermediaries." The two imputations together involve no change in the net income of either financial or nonfinancial enterprises; but the parts of these imputations treated as transactions between banks and other enterprises "result in a change in the industrial classification of domestic product (from other enterprises to banks)."[18]

2. *Should the Imputation Conventions be Liberalized?* If the imputed components of gross domestic product are confined in accordance with these rules—which summarize present conventions —a good deal of activity that can fairly be said to be productive will not be counted as contributing to gross domestic product. Moreover, the importance of what is excluded from the national output by these rules and of what might be added by liberalizing them is different for different countries. Among proposals for a broader definition of production are: (a) the proposal to extend rule bi to cover consumers' durable goods other than dwellings; (b) the proposal to revamp rule biv and apply it to all kinds of financial institutions; (c) the proposal to count various home processing and service activities, particularly the activities of the housewife, as productive; (d) the extremely vague proposal that all activities that sometimes command a price should be counted as productive. Proposals (a) and (b) would add chiefly to the product computations of the more industrialized nations. On almost any interpretation (c) and (d) would increase these national product compu-

[16] *Ibid.*, p. 35. [17] *Ibid.*

[18] *Ibid.*, p. 32. On p. 35 it is stated that interest includes "imputed interest receivable from life insurance, banks and similar financial intermediaries." I interpret this statement to mean that the word "imputation" is used in a sense wide enough to include interest accruals credited to insurance policy reserves, rather than that the UN document contemplates applying rules (biv) and (ciii) more broadly than to banks. But a strong case can be made for the broader application.

tations considerably, but presumably they would mean still greater percentage increases for the less industrialized countries.

The main arguments for a substantial addition to the list of product imputations are two: it is alleged that intercountry comparability would be promoted, and that historical comparability for each country would be improved. A third argument that claims minor conceptual improvements would be effected by less ambitious proposals, such as (a) and (b) above, will be bypassed here for the sake of brevity.

The main argument against a substantial addition to the list of product imputations is purely pragmatic. This argument maintains that even for the present closely restricted list it is sufficiently difficult to prescribe objective valuation procedures, and that any major extension of the list along the lines of proposal (d) or even proposal (c) would inevitably entail the use of highly subjective valuations. This statement seems to us conclusive by itself, but it can be bolstered by questioning the extent to which, even theoretically, intertemporal and interspatial comparability of national product computations could be achieved by liberalizing the imputations rules, and by citing an extenuating consideration.

We will skip the question regarding theoretical, potential comparability and take up briefly the extenuating consideration. The objective of the present rules is to contribute to making the definition of gross domestic product an empirically precise one and one conceptually appropriate for the central role assigned this global total in the interlocking system of national accounts; and certainly intertemporal and interspatial comparability is a part of this objective. Nonetheless these rules leave—and I suspect any conceivable set of rules would leave—what may be called a problem of unimputed nonpecuniary production. Unimputed nonpecuniary production (e.g., under present rules, the home preparation of meals) is important for some components of final product, of little or no consequence for others such as item 1.6, Gross domestic fixed capital formation. The problem centers on 1.4, Private consumption expenditure.

The extenuating consideration which helps the case for the present closely restricted imputations conventions is that, for at least one major component of item 1.4, it is possible to make a kind of intercountry and intertemporal comparison that largely avoids the difficulties posed by the problem of unimputed nonpecuniary production. This component is food consumption ex-

penditure. And in comparing the national products of a less and a more industrialized country the satisfactory handling of food consumption expenditure is outstandingly important.

The technique of this kind of intertemporal comparison and that of the interspatial comparison are closely analogous. Let us take the latter by way of illustration. This kind of comparison uses, instead of the final product expenditure aggregates for two countries, what we will call the embodied crude foodstuffs cost aggregates. In other words, we substitute input measurements for output measurements. When one compares the final output food expenditures of two countries by converting one country's outlay into the prices current in the other—either directly in the form of a physical volume index or indirectly through a roughly equivalent process of deflating the money volume total—the result will be a relative overstatement of food consumption in the more industrialized country. If such a comparison is carefully done, it will indeed allow for the fact that in the more industrialized country more of the final output valuations will be retail price valuations, while in the other country valuations at prices received by farmers will presumably be more extensively used, since under the conventional rules such valuations apply to the imputed portion of this final output. But no matter how careful such a comparison, it cannot avoid reflecting the fact that food processing (including the preparation of meals) is more fully counted as production in the more industrialized country, because a larger proportion of it goes on outside the home. This difficulty can be largely obviated (perhaps even overcorrected for) if we compare not the physical volumes of final outputs of food purchased by consumers, but rather the physical volumes of crude foodstuff inputs embodied in such consumption. And this crude foodstuff inputs kind of comparison is a good deal easier to make than a careful final output comparison.[19]

When the degree of industrialization in a country is changing markedly, one is led to look for measures of the rate of change. The ratio of imputed product to total gross domestic product is one possibility. But with imputations so narrowly defined such a

[19] The Food and Agriculture Organization of the UN computes annual per capita food production indexes covering 50-odd countries. The weights are 1934-1948 world average prices (average export values for exporting countries) expressed in gold francs. FAO also compiles the import and export data needed to compute crude foodstuffs consumption indexes using the production index figures as a starting point.

computation is likely to be disappointing. The analogous computation for food alone may give a more sensitive measure of what is taking place. Still another possible measure, and an extremely interesting one, is the spread between final-product food consumption expenditure and the cost of embodied crude foodstuffs (both at current prices). This spread directly reflects the process of change from home production to production for market.

The detour of the unimputed nonpecuniary production problem here suggested is specifically applicable to food consumption. There is perhaps no reason to suppose that anything like this could ever be done for the whole of private consumption expenditure. However, it might be worthwhile to explore the possibility of some wider use of this method of dealing with unmeasured production. Perhaps it could be applied to fuels and beverages, conceivably to some clothing and some household goods.

3. The Pre-industrial Sector. The main problems in regard to informational needs posed by institutional differences are those connected with the imputations code. However, one may well ask: Do not different types of economy need different social accounting information? And if so, what are the needs of the less industrialized countries that are not likely to be met by a plan of social accounts developed to meet the needs of highly industrialized countries?

The principal need of this sort is, I believe, for data relating to a special sector, a sector that remains relatively untouched by the process of industrialization. To meet this need the UN group of experts has proposed a table not suggested in the League or OEEC documents—supporting Table XII, Receipts and Disbursements of the Rural Sector.

The rural sector is characterized as one "which is largely self-contained and in which nonmonetary transactions play an important role."[20] It is defined as consisting of (a) "all households located . . . outside the limits of towns and cities of a size to be determined by reference to local conditions," and (b) all local unincorporated enterprises owned by such households with the possible exception of very large establishments and establishments with extensive mechanical equipment.[21]

There is a good deal of agreement in the less industrialized

[20] *A System of National Accounts and Supporting Tables*, p. 20.

[21] *Ibid.*, p. 21. By way of qualification it is said that cases may arise in which it will be expedient "to restrict the coverage of Table XII to farms and farm households."

countries on the desirability of identifying a sector in which nonmonetary transactions play a substantial role. But there are differences of opinion as to how this sector should be defined. The definition proposed raises two serious questions. First, should this sector include all farms except very large ones or only farms that operate largely on a nonmoney basis? And second, should this sector be so defined that the social accounting information relating to it articulates with that in the standard system of accounts?

In connection with the first question, I believe that three institutionally quite different types of farm should be distinguished: (a) farms in largely self-sufficient local communities whose product is mainly either consumed at the farm or given in payment of rent or other obligations in kind, (b) family farms producing for market, and (c) large-scale or industrialized farms. The UN document would evidently separately identify type (c) farms and exclude them from the rural sector. I urge the need to distinguish also types (a) and (b), wherever both types are found in substantial numbers. Certainly farms producing mainly for market and farms in largely self-sufficient local communities can have quite different problems.

The second question involves points to be considered shortly. But we may note here that Table XII, unlike the other supporting tables in the UN group report, does not articulate with the standard accounts, and that such articulation is desirable, if a way can be found to provide it.

Table XII is described as "a consolidation of the production, appropriation and capital reconciliation accounts" for the rural sector.[22] Since inside-the-sector transactions and external transactions are distinguished,[23] a sector balance of payments statement can be constructed from it. Among the items that can be separately identified for the sector are: gross domestic product, production for own use, capital formation, consumption expenditure, and net capital inflow from outside the sector. Table XII is ingeniously designed to meet most, if not all, reasonable needs for social accounting information in regard to *transactions* that can at present be anticipated. Of course, it does not include *balance sheet* items.

[22] *Ibid.*

[23] This split is made throughout except in the case of item 1, Sales and barter inside the sector and to other sectors and abroad. Presumably item 1 can be split residually.

B. PROPOSALS FOR STATISTICAL SIMPLIFICATION

To a number of the less industrialized countries Exhibit 1 undoubtedly looks like a discouragingly ambitious objective, even taken by itself. The twelve supporting tables together call for a very considerable number of additional distinctions and thereby add substantially to the difficulty of the objective. Furthermore, the proposed central system of interlocking accounts and supporting tables is but a part of a larger whole that includes the social as well as the economic statistics proposed by the UN and its specialized agencies. And to the extent that the remainder of this larger whole overlaps the periphery of social accounting—it does for example in the case of banking statistics—we must take account of it here.

The technical statistical problems of collection and compilation posed by the social accounting objective arise partly because less industrialized countries are likely to lack many of the basic data needed for constructing social accounts. In part, too, they arise because social accounting calls for construing somewhat nonpecuniary institutional arrangements in terms adapted to arrangements in societies where the role of pecuniary institutions looms large. But these problems may not be exclusively problems for the less industrialized countries. To some extent the difficulties in the social accounting objective are difficulties for the more industrialized countries as well.

Our concern with these difficulties is twofold. First, I will propose in the rest of this section a number of modifications in the system of social accounts of the UN group report. These modifications should serve to decrease the difficulties it entails and make the system a more acceptable objective—particularly to less industrialized countries. Second, since our purpose is to try to conceive or design a truly comprehensive social accounting objective, we must continually bear in mind the need to keep the design as simple as it can be and still be comprehensive.

No doubt a great deal of effort has already been devoted to eliminating unnecessary items and distinctions from the present somewhat limited social accounting objective. Still, Exhibit 1 is distinctly more complicated than a predecessor system of accounts that was regarded in India as extremely ambitious when I visited that country in 1951.[24] Certainly the present objective, including the

[24] This system appears in *The First Report of the National Income Committee*, Calcutta, 1951, p. 40.

twelve supporting tables, is sufficiently difficult to warrant further consideration of possible simplifications.

When we come to try to outline a possible comprehensive objective, we shall find it advisable to regard it in part at least as a somewhat distant goal, whereas the goal set forth in the UN group report is an immediate one. Hence, in proposing the dropping of distinctions or items from the present or immediate objective, we can examine the possibility that some of the simplifications proposed might be merely temporary expedients.

Simplification proposals for Exhibit 1 will be discussed under the following heads: (1) National income and personal income, (2) Saving and the distinction between the current and the capital reconciliation accounts, (3) The capital formation account, (4) The institutional sectors, and (5) Separating private noncorporate business accounts from household accounts.

In section III we will consider both a possible longer-run comprehensive objective and amendments to the more immediate objective that push forward in the long-run direction. The findings in section III tend in part to re-enforce some of the proposals I am about to advance in regard to the capital formation account, and to saving and the distinction between the current and the capital reconciliation accounts.

1. National Income and Personal Income. To determine national income as it is now defined, it is necessary on the proceeds side of enterprise value added accounts to distinguish between provisions for consumption of fixed capital and net business income after such provisions. A country that has a large rural sector much of which is largely outside the money economy is likely to find it difficult to draw such a distinction.

In its *First Report* the National Income Committee of India did not attempt to estimate gross domestic product, and the system of social accounts referred to above was seriously incomplete.[25] The only estimated item on the left-hand side of the private appropriation account[26] was direct taxes. The only estimated items in the savings and investment account were those for government and the rest of the world. In its *Final Report*[27] the Committee dropped the social accounting exhibit entirely.

[25] *Ibid.* The estimates are for fiscal 1948-1949.

[26] Approximately Current Account 4 of Exhibit 1. Presumably direct taxes included items 4.3 and 4.10.

[27] *Final Report of the National Income Committee*, New Delhi, 1954.

I am convinced the Committee could have produced a full set of estimates for a simplified system of interlocking accounts quite as easily as they were able to do what they did. This would have meant estimating business net income before capital consumption allowances instead of after such allowances. And to avoid giving separate figures for the allowances it would have meant omitting the estimate of national income. In effect, then, the Committee, true to the committee name, elected to estimate national income and get along without a system of social accounts.

Certainly, the UN group report does not suggest that it is more important to have figures on national income than to have figures for a simplified system of interlocking accounts. We think the spirit of the report suggests the contrary. The persisting emphasis on national income that is illustrated by the reports of the National Income Committee of India is presumably a historical carry-over. National income was formerly thought to be an ideal global total uniquely defined by a conceptually clean national product account in which the debit side was unambiguously restricted to distributive shares or factor costs and the credit side measured a product total free of any double counting—product being conceived as the gross production of all productive enterprises minus the cost of all intermediate products, including the services of government to business, minus the cost of national wealth used up in production plus net factor income from abroad. But on the present definition the debit total (the algebraic sum of items 2.1 through 2.8 in Exhibit 1) reflects a number of rather arbitrary social accounting conventions in regard to what is or is not a factor cost. And no one would seriously contend that the present net credit total even roughly approximates the former conceptually clean ideal of a net national product free of any double counting.

I doubt that there is a clear analytic need for the present conventionalized concept of national income. The chief use of this global total has been in aggregative economic analysis of cycles and trend and in aggregative economic planning. But gross domestic product, because of its central place in the scheme of interlocking social accounts and because it is far easier to analyze by object and by purchasing sector, has proven to be a much better concept for this purpose, and for most purposes there is no real need for both concepts; indeed, it is ordinarily unwise to try to use both concepts in the same aggregative analysis.

National income is a concept that might well be used chiefly

in special studies and omitted from regular annual and quarterly compilations. On the other hand, the proven analytical advantages of having figures for an interlocking system of accounts are substantial. I urge that the immediate social accounting objective be amended so that it is clear that the choice between estimates for the system and estimates of national income is strongly in favor of the system. And, specifically, I suggest omitting national income from the immediate standard objective.

Doubtless some will hesitate to omit national income from the standard objective even as a temporary expedient, and even though a good many countries would almost certainly continue to estimate this global total. An alternative would be to redefine national income so that it could be determined without estimating provisions for fixed capital consumption, where a separate estimate for such provisions is likely to be difficult. This would mean adding these provisions for some noncorporate enterprises to the present definition (items 2.1 through 2.8). We will be more specific about which noncorporate enterprises presently.

While national income can be regarded as a dispensable concept, some such concept as personal income is clearly needed. But two similar technical comments apply. The approximate equivalent of personal income in Exhibit 1 appears to be item 15, Total current sources, plus item 4.13 Net international transfers received. This total could not be determined if provisions for fixed capital consumption were not separately identified across the board. I would propose that a total—tentatively item 15 plus item 4.13 plus the capital consumption provisions that are not separately identified—be defined as household and institutional income.

2. *Saving and the Distinction between the Current and the Capital Reconciliation Accounts.* In Exhibit 1 each of three sector accounts, Accounts 4, 5, and 6, is split into two parts. The first part is confined to what are considered to be current items, and the balance on current account is carried forward to the capital reconciliation account. The purpose of this accounting split is to define net saving (= a credit balance on current account) or net dissaving (= a debit balance). It might seem that there is no question here of a gain through avoiding statistical difficulties. For this split the only distinction that must be drawn is that between current and capital transfers to general government in Account 4, and this is hardly a major statistical task. But defining net saving involves more than a split between the current and capital reconcilia-

tion accounts; like national income it requires a distinction in the national production account between provisions for the consumption of fixed capital and net business income after such provisions. Let us continue to assume for the immediate objective that for a class of enterprises to be specified presently—certain noncorporate enterprises—it is desirable because of technical statistical considerations to avoid drawing this distinction.

The concept of *net* saving was developed to enable us to say how net capital formation is financed. Some years ago the focus of the financing inquiry shifted from *net* to *gross*. Hence both the right-hand side of Account 3 and supporting Table V analyze the financing of *gross* domestic capital formation.

If we dispense with the distinction between (a) provisions for fixed capital consumption and (b) net business income for some noncorporate enterprises, we can conveniently combine (a) and (b) for all noncorporate enterprises in the system of interlocking accounts. Presumably such a combination would imply that (a) and (b) should be shown separately, so far as they are separately available, in one of the supporting tables. Changing Exhibit 1 to combine (a) and (b) for all noncorporate enterprises would mean adding part of (a) to item 4.7, Income from property; the rest of it to item 4.6, Income from unincorporated enterprises; and the whole of it to items 4.4 and 4.12, Net private saving n.e.c., and item 4.11, Net amount carried forward to capital formation account. In addition, (a) would be transferred from item 3.3, Provisions for consumption of fixed capital, to item 3.5, Net amount brought forward from Account 4. These changes would entail no obvious loss for the analysis of the financing of *gross* domestic capital formation given in Account 3; indeed, there would be a gain. The right-hand side of Account 3 would be one step closer to providing an analysis of sources of funds by institutional sectors. But, admittedly, item 4.12 (= 4.4) would no longer fit into the Table V analysis of capital formation financing.

Now suppose that in addition to combining (a) and (b) in Exhibit 1, the two-way splits in Accounts 4, 5, and 6 are dispensed with. With them will go items 4.4 (= 4.12), 5.4 (= 5.12), Saving of general government, and 6.4 (= 6.5), the debit balance in the so-called "current" account of the rest of the world; Table V (the savings side of the S and I account); and the distinction between items 4.3 and 4.10 (= 5.10 and 5.13), Current and capital transfers to general government n.e.c. As a consequence of these

changes some doubtful or controversial classifications would be avoided, for example, treating international transfers and inheritance taxes as capital items. In this connection, we note that the International Monetary Fund *Balance of Payments Manual* classifies donations as current transactions and that the UN document, *Budgetary Structure and Classification of Government Accounts*,[28] puts grants to foreign governments in the government current or revenue account.

But what of the items dispensed with? The surplus of the nation on so-called current account could still be computed, if desired, but it should be renamed to avoid confusion.[29] Since there is no real present consensus on the meaning of government saving, the loss of this item would probably not provoke much protest. The loss of item 4.4 might. However, what we are proposing to dispense with is not the concept, net saving of households and private nonprofit institutions,[30] but a somewhat more inclusive and less homogeneous item better called "net private saving n.e.c." The item in the United States accounts that most closely corresponds to item 4.4 is misleadingly called "personal saving."[31] If anyone tries to use personal saving to say what United States households and institutions have contributed to the financing of United States capital formation he gets into serious difficulties. I doubt the urgency of the analytical need for such a not-elsewhere-classified item in the immediate standard objective. However, some may wish to retain a current-capital split in Account 4 and compute gross private saving n.e.c. instead of item 4.4. As we will presently see, this would make it possible to set up a gross saving and investment account of sorts.

Even if we dispense with items 4.4 and 5.4 and the national gross S and I account, this does not mean dropping the analytical objective of saying how gross capital formation is financed. Quite the contrary. A change in the analytical approach to the financing of capital expenditures has been in process; emphasis has been shifting from analysis in terms of saving to analysis in terms of inside funds, outside funds, and the flows of funds through financial

[28] *Budgetary Structure and Classification of Government Accounts*, United Nations, Fiscal Division, ST/ECA/8, 1951.

[29] To emphasize this we have inserted "so-called" in the account caption.

[30] The captions in the UN document read "Account 4. Households and nonprofit institutions" and item "4.4 Saving (4.12)."

[31] Personal saving is approximately item 4.4 minus net personal remittances to abroad minus estate and gift taxes.

channels, shifting, too, from the national S = I account to a national account of financial transactions. By including item 3.8, Net corporate borrowing, etc., in Account 3 and relegating the analysis of financing in terms of saving to a mere supporting table, the UN group of experts has partially recognized this change. But Account 3 does not go far enough. Nor does Account 7. I contend that with a fuller development of the flow of funds approach along lines suggested below, the national gross S and I account might well be dispensed with. A part of what such a fuller development would mean is our next concern.

3. The Capital Formation Account. My proposal in regard to the capital formation account embraces four steps: (a) the omission of present Account 3 from the set of interlocking accounts and the inclusion of this national account as one of the supporting tables; (b) the substitution of a new Account 3 which consists of items 3.4, 3.7, and 3.8 and the corporate components of items 3.1, 3.2, and 3.3; (c) the transfer of the general government components of items 3.1, 3.2, and 3.3 to Account 5 and the omission of item 3.6, Net amount brought forward from general government account (= 5.11); (d) the transfer of the private noncorporate components of items 3.1 and 3.2 to Account 4 and the omission of item 3.5, Net amount brought forward from the private noncorporate account (= 4.11).[32] The new account would look like this:

This set of changes cannot be supported on the ground that by

EXHIBIT 2

Proposed Account 3

GROSS CAPITAL FORMATION BY THE CORPORATE SECTOR

(or by leading nonfinancial corporations)

3.1a Fixed capital formation	3.3a Provisions for consumption of fixed capital
3.2a Increase in stocks	3.4 Undistributed profits
	3.7 Net international transfers received
	3.8 Net borrowing (3.81) and net sales of existing assets (3.82)
12a Total gross capital formation	= 13a Total sources of funds

Note: a's have been added to the item numbers of several items to indicate that they differ from the items in Exhibit 1. It is proposed below that 3.81 and 3.82 be distinguished.

[32] Step (d) assumes that private noncorporate provisions for the consumption of fixed capital have already been excluded from item 3.3 and included in items 4.6 and 4.7.

itself it makes any additional concession toward simplifying the problems of statistical collection and compilation.[33] One reason for proposing it, however, is that it embodies a clear recognition of an urgent concession already made in the UN group report. This concession consists in avoiding any attempt to separate noncorporate business net income from household and institutional income or to separate noncorporate business borrowing and lending from such household and institutional transactions.[34] Step (d) means two new items in Account 4, Gross noncorporate fixed capital formation and Increase in noncorporate business stocks. With these items in the consolidated sector appropriation, capital reconciliation, and capital account, it would be quite obvious that the account makes no pretense of referring exclusively to households and institutions. If it is desired to retain a current-capital split in Account 4 so revised, the capital account could consist of the following items for all private transactors not included in the corporate sector:

Gross saving (= credit balance in all items other than those that follow)
Net sales of existing fixed assets[35]
Gross fixed capital formation
Increase in business stocks
Net lending[36]

A consolidation of this account, Account 7, and revised Account 3 would give a gross savings and investment account not very different from the present S and I account for the United States.

Alternatively, one might consolidate these three accounts and a government capital account consisting of a current balance carried forward, government capital formation, and government net borrowing and net transactions in existing assets. The result would be another form of S and I account, one that in some ways resembles the type of account proposed in the OEEC documents referred to in section I. Presumably, it is to be preferred to the form that does not include government investment.

The changes in the handling of capital items here proposed are

[33] In fact it requires a corporate-noncorporate split of private enterprise gross fixed capital formation and private enterprise increase in stocks not called for in present supporting Table VI.

[34] Hence the captions given items 15 and 4.15 in Exhibit 1. The corresponding captions in the UN document imply that these separations have been made.

[35] It is proposed below that this item and net lending be distinguished.

[36] See note 35.

primarily intended to contribute toward a fuller provision for the flow of funds type of analysis of the financing of capital formation. Exhibit 2 relates corporate inside funds and corporate borrowing directly to corporate capital expenditures. And with the proposed changes in Accounts 4 and 5, the analysis of the financing of capital expenditures by general government and by the noncorporate sector can be related to the respective net borrowings and other sources of funds of these two sectors.

In proposing this set of changes we assume that the quantitative differences between (a) items 4.6 and 4.7, Income from enterprises and from property, and item 4.15, Net lending and purchases of existing assets, as they appear in Account 4 of Exhibit 1 and (b) these items as they would appear in a clean-cut account exclusively for households and private nonprofit institutions are not so small as to be negligible. They are definitely not negligible in the United States. And presumably their importance should be greater for the social accounts of a less industrialized country somewhat in the proportion that the importance of its noncorporate business sector is greater.

If glossing over these not negligible differences has been regarded as a tolerable expedient in the United States and elsewhere to date, it is largely because analysis of the financing of capital formation has been so largely in terms of the S = I account. When one attempts an analysis in terms of the national financial transactions account, he cannot afford to gloss them over. Still less can he afford to do so, if he wishes to develop the balance sheet aspect of social accounting.

If one does not gloss over these differences, he must choose between two alternatives: first, he can estimate them so as to separate the noncorporate capital formation account from the account for households and institutions; and second, he can consolidate these two accounts. I have elected the second course as statistically much easier. The first would be particularly difficult for the less industrialized countries.[37]

4. The Institutional Sectors. I propose a separate capital formation account for a corporate sector, but not in general for noncorporate business, on the ground that a clean-cut separate account for a corporate sector is a reasonable standard objective. This comment suggests my first proposition about sectoring: in divid-

[37] But *A Study of Moneyflows in the United States* (National Bureau of Economic Research, 1952) follows this first course.

ing the economy into institutional sectors the main dividing line through the private part of the economy should be drawn on the basis of the feasibility of such a separate account; the sector covered by Proposed Account 3 should include as many nonfinancial enterprises as this consideration permits. If so, this sector's industrial composition would differ from country to country,[38] and its coverage might increase with the passage of time. Since it might not include all nonfinancial corporations (e.g. the post office in the case of the United States), it is referred to in the Exhibit 2 subhead as the "leading nonfinancial corporations" sector.

In view of the inevitable intercountry variations in the industrial composition of this sector, a supporting table giving some analysis of Proposed Account 3 by industrial subsectors should clearly be part of the standard objective. The subsectors should of course be defined in conformity with the *International Standard Industrial Classification.*[39] And as a minimum the items analyzed should include: total gross capital formation (item 12a) and inside funds (item 3.3a plus item 3.4)[40] It would be desirable also to analyze net borrowing.

If the industrial coverage of the corporate sector varies from country to country, the coverage of Account 4 must vary too. But the changes proposed for Account 4 should facilitate its analysis into two or more subsector accounts, because they afford a type of sectoring that does not call for the difficult separation of the capital accounts of noncorporate enterprises from the accounts of the households that own them. Thus if Account 4 is a consolidation of the appropriation and capital reconciliation accounts of all households and private nonprofit institutions and the capital formation accounts of all private noncorporate enterprises, it might well be analyzed into corresponding accounts for the following three sectors: (a) family farms producing mainly for market and the

[38] In the UN document the principal reason for distinguishing a corporate sector is to define items 3.4, 3.7, and 3.8: "Private corporations . . . include enterprises organized on a cooperative basis" and exclude "private nonprofit institutions serving households." Public corporations exclude "public enterprises which are financially integrated with general government and do not keep their own reserves apart from working balances" (p. 11). Evidently, the industrial composition of this sector would differ from country to country.

[39] *International Standard Industrial Classification*, UN, Statistical Office, Statistical Paper Series M, No. 4, 1949.

[40] The only sector or subsector for which both these items are called for in the UN document is Public corporations.

households that own them; (b) farms and other enterprises located in largely self-sufficient, mainly nonmoney rural communities together with the rest of such communities; and (c) the rest of the private noncorporate sector. We can assume the item proposed above, Net entrepreneurial and lessor income before provisions for fixed capital consumption, could be confined to (a) and (b).

In commenting above on supporting Table XII in the UN document, I suggested that it would be desirable to make the special information for the rural sector articulate with the central system of interlocking accounts. I now suggest that the articulation should be provided by a subsector analysis of the revised Account 4 along these lines. Thus for (b), the mainly nonmoney rural sector, Table XII might consist of three parts: (i) an account conforming to the revised Account 4 pattern, (ii) a production or value-added account, and (iii) a supplementary balancing account setting forth in broad categories the imputed debits and credits included in (i). Surely the supplementary imputations account would be much more useful analytically than the distinctions between inside-the-sector and outside-the-sector transactions called for in the present Table XII. Moreover, the imputations account should be a by-product of the preparation of the revised Account 4 for the subsector. But distinguishing outside-the-sector transactions might entail substantial statistical difficulties. I would dispense with the objective of a subsector balance of payments.

5. Separating Private Noncorporate Business Accounts from Household Accounts. That such a separation often involves serious problems of statistical collection and compilation needs no argument.[41] But the separation may be more or less complete, and it seems advisable to consider separately several of the kinds of distinction it may include. To begin with, it is necessary in the information for any institutional sector to distinguish a production account, an intermediate transactions account, and an all other transactions account; without these accounting distinctions, a system of interlocking accounts organized around the national production account would be impossible. The distinctions focus on the identification of two debit totals, total proceeds (in the sector production account), and total final product expenditures (in the all other transactions account).

I take these distinctions to constitute an essential minimum

[41] There is, of course, an analogous problem in connection with government accounts. For brevity it will not be discussed here.

social accounting requirement. But one can readily imagine circumstances, particularly in the case of a less industrialized country, in which they entail difficult and intricate problems. There may be need to analyze the compensation of farm employees (including imputations) into farm operating costs and costs of domestic service. Some persons may work partly as employees or servants, partly on their own account, so that it is necessary to treat work on own account as a productive enterprise. There may be need to analyze both the cost of purchased products and the imputed value of a farm's unsold primary products into intermediate product costs, pay-in-kind-to-employees costs, and final consumption expenditures. Further, to the extent that new farm own-account construction is to be estimated, the value of purchased products, own primary products, and employee and entrepreneurial labor used in such construction must be separately determined. And if any primary products are included in increase in stocks,[42] the value of this increment must be separated out. Again, it may be necessary to estimate an imputed rental value for a building partly on the basis of imputed construction costs, to determine what part of this rental value is dwelling rent and to apportion this part between final consumption expenditure on housing and imputed wages.

These comments are offered not as a systematic statement of what the imputations problem may involve, but in support of the proposition that in a country with a large, mainly nonmonetary, rural sector, the minimum of distinction between enterprise and household accounts may be so difficult that it is best not to go much beyond this minimum.

Before attempting to say how much beyond, let us consider what going a good deal farther might involve. Suppose that instead of electing to consolidate the noncorporate capital formation account with Account 4 in Exhibit 1, we had followed the other alternative. What additional detail would this require? To get a noncorporate enterprise item corresponding to item 3.8, we would need to distinguish, among other things, between farm enterprise debt and the personal debt of farm households,[43] and the farm enterprise cash balance and the farm household cash balance. Thus the difficulties of estimating noncorporate enterprise net borrowing are likely to be substantial. But there are likely to be still greater

[42] I.e. item 3.2 in Exhibit 1.

[43] Item 2.8 in Exhibit 1 seems to call for making such a distinction on the worksheets.

difficulties in connection with the noncorporate business income items 2.2 and 2.3 of Exhibit 1. We would need to divide item 2.2 into (a) noncorporate retained income plus new proprietorship investments and (b) entrepreneurial withdrawals minus new proprietorship investments, and we would need a similar division of the (cash and imputed) net rental income component of item 2.3. Let us use the term "net owner takeouts" to cover the (b) components of both 2.2 and 2.3. To make (unamended) Account 4 a clean-cut account for households and private nonprofit institutions, net owner takeouts should be substituted for items 4.6 and 4.7, and item 4.15, Net lending less net existing asset sales, should be confined to nonenterprise transactions. The difficulties of providing a good, objective estimate of net owner takeouts need no elaboration.[44] I consider these difficulties the main reason for proposing a consolidation of the household and institutions account and the noncorporate capital formation account.

If this consolidation be agreed to, how far beyond the essential minimum should one go in distinguishing family enterprise from household accounts? Where the mainly nonmoney rural sector is large, there are three distinctions drawn in the UN document that could advantageously be omitted: (a) the distinction between (noncorporate) net rental income (as a component of item 2.3) and other noncorporate net business income (such net rental income is likely to be a small item); (b) the distinction between noncorporate net business income of both types and noncorporate provisions for fixed capital consumption (presumably no such provisions are specifically made, for the most part); (c) the distinction between interest on personal debt and interest on enterprise debt. Dropping this last distinction would presumably mean overstating the distributive share, interest, for this sector and understating business net income (before deducting depreciation) by the same amount. Dispensing with these three types of distinction in the case of the rural mainly nonmonetary sector should mean, for the less industrialized countries, a substantial decrease in the statistical problems of constructing social accounts. But it is

[44] But it should be noted that the problem of making the translation from personal consumption expenditure and personal taxes in the United States accounts into the household nonfinancial expenditure total used in the Federal Reserve moneyflows accounts, and the correlative problem of making the translation from personal income into household nonfinancial receipts are vastly more complicated than these comments suggest.

probably fair to remark that the difficulties that would be avoided are not primarily a matter of the money cost of statistical work; rather, the most important statistical gain would be one of avoiding the subdivision of total proceeds for this sector along lines for which there is no objective and defensible basis.

The UN document quite naturally calls for a threefold division of private final product expenditures into consumption expenditures, gross fixed capital formation, and increase in enterprise stocks. The mainly nonmoney rural sector presents three problems in this connection for which special provisions might well be made. First, the classification of the increment in carry-over of primary products for a food producing farm might be ambiguously considered either increase in enterprise stocks or consumption expenditure. A list of the products to be treated as enterprise stocks might then be desirable. Presumably this list should be short and confined to commodities produced exclusively or primarily for market. Second, there are various products which serve partly as household equipment and partly as enterprise equipment, e.g. lanterns, pans. The decision should probably go against classifying part of the purchase cost of any such joint item as capital formation, unless it is a large item (like farmers' autos or bullock carts). Instead, all expenditures on all durables except a limited list of large ones might be treated as consumption expenditures. Third, there is the problem of estimating the own-account construction component of gross fixed capital formation, and these estimates may be largely imputations. We have noted that the UN document excludes small farm construction projects that are not clearly capital expenditures. I think there is need for specifying what should be included in the case of the rural mainly nonmoney sector and that the category of included items should be a narrowly restricted one.

These proposals regarding consumption and capital expenditures and the proposals for a combined interest item and a business-and-net-rental-income-plus-provisions-for-capital-consumption item are made specifically for the mainly nonmoney subsector. Possibly they should apply also to the other family farms subsector. Certainly they should if it would help materially to make the standard objective acceptable to the less industrialized countries.

Quite possibly the simplifications proposed do not go far enough to accomplish this result. If they do not, I would propose at least one further concession. Even a somewhat industrialized country may find it difficult to make direct estimates of private consump-

tion and noncorporate capital expenditures, except for selected items. If it would assure a general support for the standard objective not otherwise forthcoming, I would favor combining the consumption and capital expenditures of the mainly nonmoney subsector in a single final product expenditure item, with the thought that, if necessary, this item might be estimated residually. And subject to the same proviso, I would favor a single final product expenditure item for the other family farms subsector.

III. Problems of the Periphery

The analogy between social accounting and private business accounting suggests two major directions in which the periphery extends. The present core of social accounting outlined in Exhibit 1 has this in common with a business income statement: it is a summary report of all the transactions during a given fiscal period as they affect a selected measure of performance, gross domestic product in the one case, net profit in the other. For private business the usual complement of the income statement is the balance sheet, and in social accounting the balance sheet aspect of things is one part of what we have called the periphery.

While in private business the income statement and balance sheet are the two universally recognized and most widely used end-products of accounting, they do not reflect the whole of the accounting process. They are end-products of general financial accounting. An increasing number of enterprises have felt the need to supplement general financial accounting with a type of accounting that takes a more detailed approach—cost accounting. The social accounting periphery extends in a direction analogous to cost accounting. At present this extension consists primarily of interindustry studies.

But there is more to the periphery than social balance sheet accounts and social cost accounting. For one thing, there are component analyses of the main accounting items. We have already commented on two of the supporting tables with which the UN document proposes to cover details that could not be given as part of the interlocking system of accounts "without burdening it unduly." We will shortly consider some of the other tables. In section II, we also touched on another aspect of the periphery, intertemporal and interspatial comparisons that are adjusted to a common valuation basis. Such comparisons are properly a part of our subject, but to

keep this paper within manageable limits, I propose to exclude any attempt to consider them systematically.

A. INTERNATIONAL SOCIAL ACCOUNTING

Exhibit 1 gives social accounting a national—or possibly regional—focus. One may wish, however, to use a set of interlocking social accounts to analyze intercountry (or interregional) relationships from a world economy viewpoint. Such a set of accounts takes countries or groups of countries as economic sectors. It differs from Exhibit 1 in that there is only one type of sector (the country or region) and in that a standard account is presented for all sectors. It may resemble Exhibit 1 in including a rest-of-the-world sector; in any case, the several sectors must add up to the whole world. This international phase of social accounting is still in an exploratory stage. The explorations, like the further advanced work on the national accounts phase, have thus far largely concentrated on transactions statements. The standard sector transactions account may be the sector's balance of international or external payments or an elaboration of it. If so, it will presumably identify the four main types of transaction emphasized in Account 6—product transactions (items 6.1 and 6.3), distributive share payments (item 6.2), transfer payments (items 6.6, 6.7, and 6.8), and capital movements (item 6.9), but the debits and credits of Account 6 will be reversed.[45] Alternatively, the standard account may be basically the sector's product supply and demand equation—gross domestic product + imports = exports + aggregate domestic demand. The logical complement of a set of interlocking national or regional transaction accounts is a set of interlocking balance sheets for the same sectors. The obvious exhibit of this type has a special relation to capital movement transactions; in it the standard account is the balance sheet of external claims.

Probably a fully comprehensive standard system of social accounts should include, for the international phase, at least three standard accounts, one for each of the three interlocking sets just mentioned—the balance of payments set, the product supply-and-demand set, and the balance of external claims set. However, I will not attempt any specific proposals for such standard accounts. International social accounting requires more than agreement on

[45] A more conventional statement would be that in Account 6 the debits and credits in a balance of international payments are reversed.

minimum specifications for these three account forms. It also involves the problem of putting interspatial comparisons of national accounts on a common valuation basis, and I have stated my decision to delimit the inquiry by excluding systematic consideration of this problem.

But one brief comment seems advisable here. Intertemporal comparisons of national product adjusted for price changes are much easier in general than interspatial comparisons adjusted for price differences. Hence, if one wishes to compare changes in product in two countries, he can use price change adjustments in lieu of price difference adjustments. And despite the fact that a framework along the lines of Exhibit 1 emphasizes a nationalistic viewpoint, it has proven useful in conjunction with price change adjustments—and usually with Accounts 3, 4, and 5 consolidated—for exploring various questions in international economics.

B. THE PRESENT SUPPORTING TABLES

Let us revert to the standard supporting tables for the system of interlocking transaction accounts. The tables in the UN document are designed both to give additional details and to present convenient and useful rearrangements of the standard account items. For the most part, the additional details relate to the items in the national production account. The main exceptions are Tables IX and XI, and neither of these goes very far beyond the account to which it corresponds, Accounts 5 and 6 respectively.[46] But one naturally looks to other documents to spell out the details for the balance of international payments and the government account, e.g. the IMF *Balance of Payments Manual*, the *Standard International Trade Classification*,[47] and *Budgetary Structure and the Classification of Government Accounts*.[48] Still, as part of a standard social accounting objective, something else is needed in support of these two standard accounts—translations from the published balance of payments to Account 6 and from published government financial statements to Account 5.

Surely, too, there is need for a subsector analysis of Account 4. Proposals on this point were made in section II.

[46] Additional detail for government appears in other tables (see the discussion of Tables III and X below).

[47] *Standard International Trade Classification*, UN, Statistical Office, Statistical Paper Series M, No. 10, 1951.

[48] As cited.

Supporting Tables II and III elaborate proceeds items in the national product account. Table II analyzes gross domestic product at factor cost (national income less net factor income from abroad) by sectors of industrial origin. Presumably, analyses of the several component proceeds items by these sectors would underlie this table. Presumably, too, the UN group of experts believed that a number of countries would regard such an analysis of items 2.11, 1.2, and 1.3, Provisions for capital consumption and indirect taxes less subsidies, as unduly difficult. If so, and if, as proposed in section II, business net income of the pre-industrial or mainly non-money sector and of family farms n.e.c. is to be shown before provisions for fixed capital consumption, this grosser net income would have to be included in Table II for these two sectors. However, an interindustry study requires that the entire gross domestic product (at market prices), including items 2.11, 1.2, and 1.3, be detailed by sector of industrial origin. Consequently, a number of countries might be able to make Table II cover all proceeds items.

Table III in the UN group report analyzes national income by type of organization. Three main public and three main private domestic sectors are distinguished; for each of these both total income originating and compensation of employees are to be shown.[49] In the case of two private sectors, agriculture and livestock production and other private enterprises, the table calls for a corporate-noncorporate break of nonemployee income. Information conforming to these specifications for a number of countries would bring out significant structural differences, and, similarly, time series information along these lines would reveal significant structural changes. But probably the main analytical value of social accounting data on a type-of-organization basis can only be realized when such data are presented in the form of sector accounts. We will revert to this point shortly, but we may note here that it would seem desirable to have for government enterprises and for public corporations both a production account and a capital formation account.[50]

A large part of the additional detail called for in the supporting tables of the UN group report appears in Tables VI, VIII, and X, which analyze aggregate domestic demand. Table VI gives a three-

[49] The two items coincide for two of the sectors.

[50] Table VI calls for fixed capital formation and for increase in stocks for these two organizational sectors. "*Public corporations* include . . . private corporations . . . considered to be controlled by public authorities" (p. 11).

way analysis of gross fixed capital formation—by type of capital good, by industrial use, and by type of purchasing organization (not crossed); it also analyzes increase in stocks by industrial use and by type of purchaser. Table VIII outlines a classification of private consumption expenditure under thirty-odd headings. The main headings in Table X, which deals with public consumption expenditure, are: "A. By types of expenditure, B. By purpose, and C. By type of authority" (central, state, local, social security funds).

Table X A distinguishes pay and allowance of members of the armed forces and purchases for military purposes. These represent a large part—but not all—of public final product expenditures for military purposes,[51] and undoubtedly great interest attaches to a total for such expenditures. I would therefore propose identifying a third main component, compensation of civilian employees of the military establishment.

Appendix 2 of the UN group report relates Table VIII in detail to the commodity code numbers of the *Standard International Trade Classification*. This appendix constitutes a major first step forward toward the development of a standard object classification for final product expenditures. Experience with this classification is likely to result in minor amendments. But, amendments or no amendments, it should presently have the result of greatly facilitating work on the adjustment of intercountry—and intertemporal—comparisons of private consumption expenditures for valuation differences.

On a number of points, further study is needed to determine what if anything should follow this first major step. Thus, while the present coding is largely confined to private consumption expenditures on commodities, there is the possibility of a wider use of the commodity (*S.I.T.C.*) code, and there is the possibility of moving toward something analogous to the commodity code for noncommodity objects of expenditure.[52] As to the first, the object categories identified in Tables VI and X are so broad that a full

[51] "Purchases" are defined (p. 28) so as to include expenditures for major military equipment items and for military construction as government consumption expenditures.

[52] These comments are confined to the classification of expenditures on an object basis. The object basis applies also to receipts, but if expenditure distinctions are drawn in terms of objects of expenditure wherever they appropriately can be, presumably sharp receipt distinctions will follow as a by-product.

commodity coding would be of no value. Possibly, however, distinctions such as that between civil and military procurement, or between construction and equipment installations, could be sharpened by a coding of main doubtful items. And such a procedure might help, too, to sharpen the distinctions between consumption expenditures, capital expenditures, and intermediate product expenditures. The UN group report does a good deal, both within the private consumption area and more broadly, to draw sharply those distinctions that run in terms of noncommodity objects of expenditure. But the gain from using the commodity code on the private consumption categories to which it applies suggests that some extension of this code to noncommodity items might prove helpful.

C. SOCIAL COST ACCOUNTING AND INTERINDUSTRY ELABORATIONS

Two broad aspects of the social accounting periphery remain to be considered, the balance sheet aspect and the social cost accounting aspect. Thus far we have been concerned with possible detailed amendments of an international standard objective already spelled out for a field of social accounting that has been somewhat intensively cultivated, an objective developed over a period of years through study of, and consultation on, the experience gained in cultivation. In dealing with the cost accounting and balance sheet aspects of social accounting, we must consider the standard objective on a somewhat different level from that assumed in previous comments. It will be necessary to imagine what kind of a standard objective might be set up and to be far more tentative and much less specific about its details, and any judgments as to its feasibility will inevitably refer to a more distant future.

Reference was made at the outset to two opposing peripheral tendencies. One of these seems inherent in the balance sheet aspect of social accounting; the other characterizes the current approach to social cost accounting, i.e. the interindustry studies. They are tendencies to sector the economy in two different ways.

An interindustry study is a social accounting study and something more besides. As a social accounting study, it deals in social accounting equations of debits and credits; this part of it can be summarized in one or two input-output tables. The something more involves behavioristic equations and is of concern to us here mainly as it throws light on the sectoring tendency that characterizes input-

output tables. Present studies may employ two types of input-output table, one for current, the other for capital, inputs. Let us consider a current input-output table that reports *inter alia* for each industry sector total value of intermediate product bought from (or sold to) each other industry sector, total value of final product, and total value of labor input.[53] In this table let us focus our attention on a manufacturing sector that produces a single fairly homogeneous product. Most of the value of the labor and intermediate product inputs will consist of what the cost accountant calls direct labor and direct materials costs. The assumption that the behavioristic equations for input-output relations at constant prices (i.e. the production function) can be expressed in terms of fixed coefficients is in this case a natural one; and it is exactly the same as the cost accountant's assumption about direct costs. This type of case seems to have suggested an ideal for the sectoring of the economy that the interindustry studies have sought to approximate. The ideal sector is not necessarily one that turns out a single product for which the production function can be expressed in fixed input coefficients. But it is one consisting of a number of like productive units, each unit employing the same current inputs, performing the same operations in a physical sense, and turning out the same product-mix, a product-mix that is invariant to variations in total output; it is also one for which the behavioristic input-output equations can be assumed to be stable. When I speak of the sectoring tendency that characterizes interindustry studies, I mean the tendency to divide the productive part of the economy into sectors in such a way that each will approximate this ideal as closely as possible.

During the pre-statistical period, social accounting not only emphasized the condition statement rather than the income statement, it focused emphasis on the consolidated national balance sheet. Current work gives a good deal of attention to sector balance sheets. And if we try to visualize a development of the balance sheet aspect of the present periphery into a system paralleling the present core, presumably we look forward to a set of balance sheets, a national sheet, and sector sheets that interlock with it somewhat as Accounts 3 to 6 do with the national production account in Exhibit 1. Clearly such a development would require dividing the economy into sectors for which sector balance sheets are feasible. When I speak of the sectoring tendency inherent in the balance sheet aspect

[53] We assume here an interindustry study that employs an "open" model.

of social accounting, I mean the tendency to sector the economy in such a way.

In a paper he presented before this Conference in 1952,[54] Wassily Leontief apparently envisioned a comprehensive economic model in which the input-output aspect of social accounting and the balance sheet aspect[55] would be integrated into "the common theoretical framework . . . of a general all-purpose analysis . . . based on as complete and as detailed a set of empirical data as can possibly be obtained." Presumably, he was thinking of the common features of the interlocking set of social accounts in an interindustry study[56] and in the Federal Reserve moneyflows study; both include in the account for each industrial or business sector its expenditures on intermediate products, capital formation, and compensation of employees, and its receipts from sales to purchasers on capital account, from other final product sales, and from intermediate product sales. Presumably, too, he was thinking of differences between the two sets of accounts. The interindustry study set gives to-whom-from-whom detail for intermediate product and capital formation transactions; the moneyflows accounts do not. But they include transfer payments and a type of item that has been largely ignored in interindustry studies—financial transactions, of changes in claims held and outstanding before valuation adjustments. Leontief was not specific as to the form his all-purpose social accounting synthesis might take. He may have had in mind an interlocking system of a hundred or more social accounts that would give to-whom-from-whom detail for intermediate product and capital formation transactions, and include both financial and transfer transactions. Perhaps he intended to imply more than this—such a system plus a complementary system of interlocking balance sheets using the same scheme of sectoring for the economy. Whether he did or not, this is one possible meaning for "a comprehensive system of social accounts."

The specification, 100 or more accounts, is included for this system, because Leontief emphasized the need for a minute sectoring of

[54] Wassily Leontief, "Some Basic Problems of Empirical Input-Output Analysis," *Input-Output Analysis: An Appraisal*, Studies in Income and Wealth, Volume Eighteen, Princeton University Press for National Bureau of Economic Research, 1955, sec. D.

[55] Or at least as much of this as is involved in a moneyflows study. In section E he said, "The moneyflows study by the Board of Governors of the Federal Reserve System should contribute much to the development of realistic price analysis within the framework of the input-output approach."

[56] We here assume an interindustry study that includes a capital input grid.

the economy in interindustry studies. But we do not wish to prejudice the issue in regard to feasibility by so doing; conceivably, a much smaller number of sectors would be better for a standard international objective. The main feasibility question probably turns not on the number of sectors—be that large or small—but on the kind of sectors; the main question relates to the two sectoring tendencies distinguished above. The productive part of the economy can be divided into industry sectors, either by classifying establishments or by classifying ownership units. Only an establishment sectoring is suitable for purposes of interindustry studies.[57] Only an ownership sectoring can be used in moneyflows studies and in the balance sheet aspect of social accounting generally. For a minute ownership industrial classification, there may be difficulty in deciding where to put a highly integrated enterprise like General Motors, but when it comes to balance sheet data, the whole corporation[58] must be put in some one sector. Interindustry studies necessarily sector the economy industrially in one way, balance sheet studies in another. If by a standard comprehensive system of social accounts we mean one in which a single set of interlocking transaction accounts reports sector debt and credit transactions and details intermediate product and capital formation transactions in a fashion suitable for input-output analysis, no such comprehensive system is possible. A single set of accounts would necessarily mean a single scheme of sectoring, and the two conflicting sectoring requirements cannot be reconciled in a single scheme.

But we might mean by a standard comprehensive system of accounts something less ambitious. The UN group of national income experts appears to have thought that a standard income and product system should be designed to serve not all analytical uses but rather uses of a macro-economic character. However, they aimed at a system which would lend itself to various types of micro-economic elaboration.[59] The design of a more comprehensive standard system may well be guided by these same considerations. Any set of interlocking social accounts that is really useful on a macro-economic level has a slightly micro-economic taint, because it distinguishes different sectors and different types of transaction. But surely both the number of sectors and the number of transac-

[57] See, for example, Jack Alterman and Morris R. Goldman, "Manufacturing" in *Input-Output Analysis*, Technical Supplement to Volume Eighteen, National Bureau of Economic Research, 1954, especially pp. 6-13.

[58] Not necessarily including its subsidiaries.

[59] See Chapter I of their report.

tion types in a standard comprehensive system should be small. However, each account item and each sector should be such as to lend itself to analysis by subdivision. And the device of putting into supporting tables detail that could not be incorporated in the system itself without overburdening it provides a place in the standard objective for some micro-economic elaborations. In section IV I give a very tentative sketch of a comprehensive system along these lines.

To provide a current input-output table I propose that supporting Table II of the UN group report apply unconditionally to the entire proceeds side of the national production account analyzing proceeds by a standard list of fifty-odd industry sectors and that each proceeds item be detailed by the same *establishment* industry sectors.[60] Probably this expanded Table II should also attempt to portray entrepreneurial labor input costs by industry. Such an attempt would presumably require a subdivision of item 2.2 of Exhibit 1 into imputed labor compensation and non-labor-income, but for purposes of this table the non-labor-income component of item 2.2 might be lumped with items 2.3 and 2.4. Perhaps adding industry detail for imputed entrepreneurial income to the objective makes it sound forbiddingly difficult. But we are here concerned with a more distant kind of feasibility than that considered in section II. And even for the immediate objective the fifty-odd-sector detail contemplated might well be thought of as a quinquennial or decennial rather than an annual table. For annual or more frequent compilations a condensed Table II giving an analysis of item 10 and two or three of its main components by a few broad industrial sectors might suffice.

Regarding amended uncondensed Table II as a less than annual, somewhat distant standard objective, I suggest elaborating it into a fullfledged current input-output table and adding a companion capital input-output table for the same establishment industry sectors. Probably for this more ambitious purpose the standard list of industry sectors should be thoroughly reconsidered.

One may speculate about the possibility of going still further. Balance sheet data and lending and borrowing transactions cannot be meaningfully detailed by establishment industry sectors. But, theoretically at least, it should be possible to compile an input-output table according to an ownership sectoring of the economy. It

[60] In the supporting tables for the United States accounts, interest and the corporate profit items are detailed on an ownership basis.

is the need to disclose somewhat stable input-output patterns, not any difficulty of statistical collection or compilation, that dictates the requirement for an establishment classification. This suggests the possibility of cross-classifying input-output data, so that the establishment behavior-pattern technique could be used to predict or explain input purchases by ownership sectors. The cross-classification would inevitably be an exceedingly complicated one; among other things it would be necessary to distinguish interplant transfers from interenterprise transactions. It would hardly be feasible to include such a detailed tabulation as part of a standard objective, even a very distant one.

Our consideration of the cost accounting aspect of the periphery has thus far been confined to interindustry studies. This is a part of the field of social cost accounting that seems particularly suited to incorporation in an international standard objective. Since it deals with the physical structure of a nation's industry, it avoids many of the problems of institutional differences. It seems as applicable in a collectivist as in a competitive economy. Indeed, like the general financial accounting aspects of social accounting it has something of a collectivist slant. Marczewski, for example, finds that social accounting as it is practiced in economies like that of Russia resembles interindustry studies.[61]

But interindustry studies are not logically the whole of social cost accounting. Far from it. There is another part that emphasizes institutional facts such as the ownership structure of industry. Not much attention has been paid to this part of the subject during the past 20 years, but it is the part to which the term "social accounting" was first applied.[62] It consists of investigations of differences between what is profitable on the basis of private accounting determinations and what is in the public interest on the basis of social or broadly consolidated accounting determinations. I do not now propose that this field of social accounting should be represented in the standard objective. But clearly it merits further cultivation and the possibility of its representation should be kept open.

[61] J. Marczewski, *Le rôle des comptes nationaux dans les économies planifiées du type soviétique*, *Income and Wealth*, *Series IV*, Cambridge, Eng., Bowes and Bowes for International Association for Research in Income and Wealth, 1955. On page 188 he tells us that "Les balance-matières . . . constituent donc l'équivalent soviétique des 'input-output tables' de Leontief."

[62] J. M. Clark, "Soundings in Non-Euclidean Economics," *American Economic Review Supplement*, March 1921, Proposition 5.

D. SOCIAL BALANCE SHEET ACCOUNTS AND MONEYFLOWS ELABORATIONS

Our remaining topic is moneyflows studies and the balance sheet aspect of social accounting; I think these two parts of the periphery are so interrelated that they can be treated together.

In *A Study of Moneyflows in the United States*,[63] I drew a contrast between the accrual and imputation perspective of the national income and product accounts and the moneyflows perspective. It seemed to me at the time that here, too, there was a case of conflicting inherent tendencies, although the United States national income and product accounts had not yet crystallized into their present form. That crystallization and the progress of the work on moneyflows have certainly not eliminated the conflict; but somehow they have made it seem no longer inherent.[64] In the first place, the distinction between reporting transactions on an accrual basis and reporting them on a cash basis is one of degree, and there has been a tendency toward moving moneyflows accounts further in the accrual direction. Changes of this sort do not seem to hamper a moneyflows analysis. In the second and third places, rather similar comments apply to imputed items and to mere book-entry items like the entries made to carry inside funds forward from an institutional sector's production account to its capital formation account. Including these nonmoney "transactions" in a set of moneyflows tables does not really interfere with a moneyflows analysis, and it facilitates relating institutional sector components of total final product expenditures and total proceeds received to the sector financial and transfer transactions. Such changes in the moneyflows approach can help materially to lessen the disparity between the two perspectives, and the fact that they are possible suggests that perhaps a synthesis can be constructed. However, we shall have to consider several specific types of transaction that present special problems and to inquire into the amendments in the central system of interlocking transaction accounts needed to cope with them.

But even if most types of transaction problems can be resolved,

[63] As cited.

[64] The study recently published by the Board of Governors of the Federal Reserve System (November 1955) is entitled *Flow of Funds in the United States, 1939-53*. No doubt a major consideration leading to the terminological change from "moneyflows" to "flow of funds" was the fact that the accounts are now rather further from a cash basis than those I presented in *A Study of Moneyflows*.

a stubborn disparity between the two perspectives may still stand in the way of a synthesis. Indeed, it is hardly too much to say that the basic difficulty may still remain. That difficulty is due mainly to a difference in the methods of sectoring the economy.

In a paper presented before this conference in 1952, Stanley J. Sigel emphasized the necessity for devising elaborate translation or reconciliation formulas for relating items in the Federal Reserve sector moneyflows (flow of funds) accounts for this country to the most closely corresponding items in the United States national income and product accounts.[65] The latter in their present form simply do not lend themselves to elaboration in a moneyflows direction. Yet the UN group report adopts essentially the same method of sectoring as that used in the United States accounts. And unless the Exhibit 1 set of accounts can be so amended as to avoid the necessity for elaborate translation formulas, we must conclude that no standard comprehensive system of social accounts is feasible.

This last statement has an affirmative corollary, a specification to which a standard comprehensive system ought to conform. Let us state it as it applies to the two perspectives here under consideration. If the conflict between them is to be fully resolved, it should be possible to elaborate the standard system of transaction accounts (an amended Exhibit 1) into a moneyflows system by sector and item subdivisions and recombinations, and by additions of items called for by deconsolidation or by item eliminations through consolidation. Further, translation formulas should in general be reduced to direct identifications of items disclosed in the accounts or of simple item combinations.

In section II I stressed the need for changing the sectoring of Exhibit 1 and proposed amending the exhibit by limiting Account 3 to a leading nonfinancial corporations sector and by transferring the other capital formation debits and capital consumption credits, now in Account 3, to the institutional sector accounts to which they belong. These changes were proposed mainly to help provide for the flow of funds type of analysis of capital formation financing. They do this because they sector the economy in such a way that the social accounts lend themselves to a moneyflows elaboration.

The difficulty with the sectoring in unamended Exhibit 1 will be

[65] Stanley J. Sigel, "A Comparison of the Structures of Three Social Accounting Systems," in *Input-Output Analysis: An Appraisal*, Studies in Income and Wealth, Volume Eighteen, Princeton University Press for National Bureau of Economic Research, 1955.

clearer if we first note one of the essential features of a system of moneyflows accounts and then examine Account 4. In a moneyflows system there must be for each of a number of sectors a balancing account of moneyflows transactions—i.e. all transactions to which there are two quite separate parties. In Account 4 most of the two-party transaction items refer to households and institutions. But item 4.15, Net lending, etc., refers to a more inclusive group of transactors, households, institutions, and noncorporate businesses. Further, the business net income items, 4.6 and 4.7, have the effect of introducing other two-party transactions of this more inclusive group into Account 4. In effect, this account is derived by consolidating the appropriation and capital reconciliation accounts for households and institutions and an n.e.c. account for noncorporate business. By this n.e.c. account is meant one which will consolidate with the private noncorporate components of Accounts 1, 2, and 3 to give an account of all two-party transactions for noncorporate businesses. The personal account in the United States national income and product system involves much this type of mixing of sector accounts, too, but the mixture is less complex because the personal account roughly corresponds only to Current Account 4.

A flow of funds analysis relates the nonfinancial sources and uses of funds of a group of transactors to the financial sources and uses of funds of those same transactors. And in the case of business capital formation the analysis is likely to focus on relations between the capital expenditures of the transactors on the one hand and their inside funds, funds obtained through financial channels, and existing asset transactions on the other. The reason for insisting on a set of sector accounts in each of which all items refer to the same transactors is this: the analysis aims to illuminate transactor decisions and the moneyflows factors influencing them, particularly decisions to spend.

Something in the nature of a flow of funds analysis can certainly be carried out in terms of the United States national income and product system of accounts,[66] although decision-making processes are inevitably obscured. Something could probably be done, too, with a system like that outlined in Exhibit 1, but the difficulties would be greater. However, such awkward applications of the source and use technique are at best a poor substitute for a true

[66] For example, see Edward F. Denison, "Saving in the National Economy," *Survey of Current Business*, January 1955, pp. 8 ff.

flow of funds, or moneyflows, analysis, and there is currently no clear need to retain the shifty sector definitions that lead to them. Presumably, the shifty definitions were adopted originally at a time when analyses of capital formation financing centered on a form of net S and I account that seemed to require a noncorporate net saving figure and when a separate estimate of corporate capital formation seemed a more ambitious objective than it does today. But we have seen that the proposed changes in Accounts 3, 4, and 5 require only separate corporate capital formation figures and permit the construction of a gross S and I account, if one seems advisable.[67]

The changes in Exhibit 1 so far proposed eliminate the shiftiness in sector definition that is responsible for the most serious translation difficulties.[68] But further steps are needed to synthesize the two perspectives. Four institutional sectors are represented in Exhibit 1. To get balancing moneyflows accounts for the three domestic sectors we must first identify final product sales and proceeds charges for each, and then combine these items with the items in the sector's other transactions account: Account 3 as in Exhibit 2 for the corporate sector, an amended Account 4 for private transactors n.e.c., and an amended Account 5 for government.[69] Accordingly, I propose a further sectoring amendment to Exhibit 1—subdivision of consolidated Accounts 1 and 2 into three product or value added accounts, one for each of these institutional sectors.

If a synthesis of the two perspectives can be achieved, the further steps now called for relate primarily to individual transaction items. Let us take up in sequence the problems four individual items entail.

1. Transactions in Existing Fixed Capital Assets. No specific provision for dealing with such transactions seems to have been made in the UN group report, despite the fact that a companion document recommends that where data permit they should be included

[67] They would also permit the construction of a net S and I account, if business net income and provisions for fixed capital consumption are estimated separately for all enterprises.

[68] In section II we distinguished two ways to accomplish this, (a) combine family and family enterprise accounts, and (b) separate them cleanly. My *A Study of Moneyflows in the United States* and the Federal Reserve study take the second alternative.

[69] This means that we leave in the corporate sector government transport and utility corporations, etc., whose accounts can be separated from those of general government.

in capital formation estimates and shown separately from new capital formation for both the acquiring and the disposing sector.[70] Presumably in Exhibit 1 existing asset transactions must be components either of capital items 3.5, 3.6, and 5.13 or of net borrowing or lending items 3.8, 4.15, and 5.15. Since the capital transfer items are explained in terms of a component description,[71] and the net borrowing or lending items are treated as residuals,[72] we may infer that the UN group intended existing asset transactions to be treated as subheads under items 3.8, 4.15, and 5.15. In Exhibit 1 these items have been captioned accordingly.

The important point in the present connection is that existing asset transactions should be excluded from items 3.8, 4.15, and 5.15 and that these items and item 6.9, net international capital movement, should be defined affirmatively as consisting solely of financial transactions, i.e. net changes in claims held and claims outstanding before making valuation adjustments. Since there is no other appropriate place to put them,[73] I propose that a new existing asset transactions item be added to each of the domestic institutional sector accounts.

2. *Financial Transactions.* I propose that these be defined in terms of the following claims held and the obligor claims outstanding that are their counterparts: cash balances (currency and deposits), accounts receivable, portfolios, and the monetary gold stock.[74] And I propose a new supporting table that would detail

[70] *Concepts and Definitions of Capital Formation*, UN Statistical Office, Studies in Methods Series F, No. 3, July 1953, pars. 35, 36, and 37. The Statistical Commission has, in very general terms, endorsed the recommendations in this document.

[71] *A System of National Accounts and Supporting Tables*, p. 38.

[72] "The balancing items on the capital reconciliation accounts after saving, capital formation, and capital transfers have been taken into account." *Ibid.*, p. 39.

[73] In amended Exhibit 1, items 3.5 and 3.6 have been consolidated out.

[74] The concept "financial transactions" is somewhat more inclusive than this listing suggests. For a fully spelled out statement of the objective, each type of claim that gives rise to financial transactions should be separately listed and described, and there are quite a lot of them. Moreover, the exact number depends on how far accrual reckonings are reflected in some of the nonfinancial transactions. To try to take separate account of each special type of claim would substantially complicate the statements that follow and would clutter up the tentative balance sheet exhibit presented in section IV. Instead, we can extend the meaning of one of the four just listed claims.

Let us, then, use the term "accounts receivable" here to cover a variety of items. Among them are trade receivables, customers' debit balances, prepayments to vendors, accrued taxes receivable, Treasury currency, bene-

financial transactions on a five-sector basis. This table should show separately for each sector the net change in each of the four types of financial asset and in each of the four corresponding types of financial obligation (wherever such a showing is applicable).

We assume the corporate sector of amended Exhibit 1 will, subject to minor technical exceptions, include the transactions of the banking and monetary system. In the new supplementary table the financial transactions of this system should be separated out and presented in a separate sector account. For the United States this sector account can be constructed by converting the consolidated condition statement for banks and the monetary system[75] to an incremental basis and correcting some of the incremental computations to exclude the effects of asset valuation adjustments.

As a not too immediate standard objective, this proposal should surely be considered feasible. Indeed, many countries could probably provide the estimates for four of the five accounts in the fairly near future, i.e. for all except private transactors n.e.c.[76] To prevent national social accounting systems from getting set in a mold that will hamper elaboration in a moneyflows direction, it seems urgent that the new table and the segregation of existing asset transactions should be incorporated in the more immediate standard objective.

3. Insurance Premiums. In the United States national income and product accounts[77] gross contributions for social insurance are excluded from personal income and treated as receipts of social insurance funds, which in turn are treated as part of the general government sector; social insurance benefits appear as fund expenditures and a component of personal income. To private insurance premiums and benefits a quite different procedure applies. An imputed component of premiums is treated as a personal consumption expenditure; benefits are in effect netted against a com-

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ficiaries' equities in insurance policies, and military pay due from and left on deposit with the government. Of course, we must extend the meaning of accounts payable correspondingly.

Admittedly, this is a makeshift. But our purpose is only to illustrate the possibility of constructing a comprehensive objective, and for this purpose the makeshift seems appropriate.

[75] See, for example, the June 1954 *Federal Reserve Bulletin*, p. 606.

[76] A consolidation of the other four accounts would give indirect net estimates for this sector.

[77] The UN group report appears on the whole to endorse United States practices in regard to insurance. Since treatment of insurance in the group report is brief, it is convenient at this point to discuss United States practices.

ponent of premiums and are excluded from personal income. In moneyflows studies, private insurance premiums as well as contributions for social insurance are shown gross, and benefits from private funds are shown as receipts in the recipient sector accounts.

For the more distant comprehensive objective I would propose a supplementary table that could be combined with amended Exhibit 1 in such a way as to put all insurance premiums on a gross basis. We need not attempt to set this proposal out in detail. But let us note how its application to life insurance policies might affect Account 4. Benefits received by households would presumably be classed as a transfer receipt, and a portion of premiums equal thereto as a transfer expenditure. The imputed consumption expenditure component of premiums would continue to be included in item 4.1, Private consumption expenditures. And the third component of premiums, increase in policy reserves, would appear in, or at least be reflected in, the supplementary table proposed above to detail financial transactions.[78]

With all premiums on a gross basis and all benefits included in the central system of accounts, elaboration in a moneyflows direction would be significantly facilitated and translation formulas would conform to the canon of simplicity proposed above. Possibly, however, a fuller treatment of insurance transactions should be made a part of the more distant comprehensive objective by adding two new supporting tables, one detailing transactions of social, the other of the main private insurance, funds.

4. Imputed Rent. We can reasonably assume that the central system of social accounts should treat home ownership as a productive enterprise and should count imputed rent as consumption expenditure. Also, that in the moneyflows account for private transactors n.e.c., the accounting balance will reflect only out-of-pocket and into-pocket transactions; if other transactions are included, they should be included on both sides of the account. Let us imagine ourselves combining the value added account for private transactors n.e.c. with amended Account 4 in the process of constructing a moneyflows account for the sector. Owner-occupant transactions would not be a problem, for imputed rent, imputed net rental income, and depreciation would be on both sides, so that in presenting a moneyflows table they could, if we like, be consolidated out. In theory, then, imputed and accrual owner-occupant transactions

[78] Unless shown separately it would be part of the catch-all category, increase in household accounts receivable, suggested in footnote 74.

present no difficulty if we wish to elaborate an amended Exhibit 1 into a system of moneyflows accounts. In practice, however, it would be very advantageous to have Exhibit 1 supported by a table giving a full and separate value added account for the imputed owner-occupant enterprises. I propose that such a table be included in the standard comprehensive objective.

In considering how the standard objective set forth in the UN group report might need to be amended and expanded to make it comprehensive enough to provide a basis for elaboration in a moneyflows direction, we have perforce dealt with only a selected list of problems and treated them sketchily. But I think we have gone far enough to give grounds for a reasonable hope that such a feasible comprehensive objective can some day be formulated, and to enable us to visualize something of its outline.

Various specifications for the balance sheet complement of amended Exhibit 1 are implicit in what has been said about the moneyflows aspect of social accounting. We can expect the comprehensive objective to include a summary system of interlocking balance sheets that articulates with the central summary system of interlocking transaction accounts and that will lend itself to elaboration by sector subdivision and item analysis.

The articulation of the two systems is a must of the first order. They ought to fit together so nicely that they constitute a single system. This is, in fact, an essential part of what we mean by a comprehensive system of social accounts. If amended Exhibit 1 lends itself to a moneyflows elaboration, what is probably the main problem of such articulation will automatically have been solved.

Presumably, articulation means that, in addition to a national balance sheet, there will be sector sheets that use the same sectoring as in amended Exhibit 1. There will be sheets for the corporate sector, for general government, for private transactors n.e.c., and for the rest of the world. Or, alternatively, if any of these sectors is subdivided for purposes of the balance sheet exhibit, the subsector sheets should readily consolidate into the sector sheet.

Presumably, articulation means, too, that balance sheet items and transaction statement items should be defined according to some consistent scheme. It is convenient to illustrate what this involves by reference to Exhibit 2. Subtracting the opening balance sheet from the closing balance sheet for the corporate sector should give us a kind of Exhibit 2 statement, though one in which item 3.1a, Fixed capital formation; item 3.3a, Provisions for consump-

tion of fixed capital; and the existing asset component of 3.8 are lumped together, and in which financial transactions are subdivided into several components.

One reason why the balance sheet aspect of social accounting has been slow in developing is that the valuation problems in this area loom so large. To spell out the specifications for the balance sheet complement of amended Exhibit 1 properly, we would have to face them. But our present purpose is much more limited.

Even with this limited objective there are two problems we cannot avoid. One is illustrated by what has just been said about the balance sheets and capital formation account for the corporate sector. Item 3.1a minus item 3.3a minus the existing asset component of item 3.8 gives the net fixed capital formation of the corporate sector. The increment in the balance sheet item, fixed capital assets, reflects this plus and minus the adjustments in fixed asset valuations made during the fiscal period. Similarly, item 3.8, Net borrowing,[79] plus items 3.4 and 3.7, Profits retained and transfers received, gives the net increment in claims outstanding minus the net increment in claims held, computed from the balance sheets, minus the net upward valuation adjustments made in these claims items. And, of course, the increment in the balance sheet item, Inventories, minus net inventory write-ups equals item 3.2a. Opening and closing balance sheets should articulate with the transaction statement for the fiscal period; but to make the articulation perfect the valuation adjustments of the period must be excluded from the closing balance sheet.

We can assume that the main interlocking set of balance sheets should be supplemented by supporting tables detailing various balance sheet items, much as the twelve tables in the UN group report supplement Exhibit 1. I will not try to propose a full list of these tables, but it is clear that one table should detail the valuation adjustments.

The comments on the relation between Exhibit 2 and the form of the corporate sector's balance sheet imply most of the main items of the sector balance sheets I would propose. They are fixed capital assets, inventories, and the types of claim specified above in discussing financial transactions. In addition, there is need to identify for transactors whose residual equity is not included in this list of claims a positive or negative net worth item and a miscel-

[79] We intend "net borrowing" to mean here all financial transactions specified under (2) above.

laneous tangibles item. Balance sheets commonly include other items. Possibly some of them should be recognized in the central balance sheet exhibit. But our purpose is only to illustrate the way the central balance sheet exhibit and the transactions statement exhibit might be fitted together into a comprehensive system of social accounts. For that purpose it seems simpler to assume all these other items are consolidated in the residual equity.

Many of the valuation problems encountered in the balance sheet aspect of social accounting relate to the tangible assets. Our present purpose permits us to dodge these.

The second problem that cannot well be dodged arises partly because holder and obligor often value the same claim differently, and partly because they may not record asset and liability transactions at the same time. The rule I tentatively propose for such discrepancies is: either adjust the holder's statement to agree with that of the obligor, or adjust the obligor's statement to agree with that of the holder. This is a rather ambiguous rule, but there is no need to be more definite here.

Despite the limited nature of our present purpose, further specification of the balance sheet part of the proposed comprehensive system of social accounts is necessary. But that can most conveniently be given in commenting on the tentative exhibit presented in section IV.

IV. A Highly Tentative Sketch

The question we set out to answer is: can a general purpose comprehensive social accounting system be devised, a system that will give adequate emphasis to the balance sheet aspect of social accounting, harmonize what currently appear as conflicting tendencies, and be an acceptable standard for all countries?

In investigating this question we have had to consider at some length the form such a comprehensive standard objective should take. It seems clear it should consist of two standard interlocking sets of accounts, a balance sheet set and a transactions statement set articulating with each other, together with a standard set of supplementary tables that analyze or detail selected items in the interlocking accounts. In regard to the interlocking set of transaction accounts and the supplementary transaction tables, most of my proposals have been specific and have been advanced with conviction. My proposals for the rest of the standard objective have inevitably been of a general and provisional character. But our

exploration of the form a comprehensive social accounting system should take has gone far enough to warrant my offering in this section a highly tentative sketch of it and expressing the hope that something like this sketch may some day prove acceptable as a standard international objective.

A. THE QUALIFIED AFFIRMATIVE

It may be objected that the affirmative answer that has been given to the question we have been investigating is subject to serious qualifications, since what we here call a comprehensive social accounting system is not truly comprehensive. Certainly, its comprehensiveness is restricted in various ways.

In the first place, the term "social accounting system" properly applies only to the two interlocking sets of accounts. When we speak of the supplementary tables as part of the system, we are stretching the word. But this stretching does not seem unreasonable, provided the tables are confined to analyses of interlocking account items.

While confining the supplementary tables in this way assures their articulation with the two standard sets of interlocking accounts, it does not provide for their articulation with each other. Quite the contrary. One type of supplementary table here proposed is an elaboration by sector subdivision and item analysis. We think the standard sets of accounts should lend themselves to being so elaborated in different and perhaps irreconcilable directions. They do. Supplementary tables have been proposed that would provide both a not very detailed input-output elaboration and a rather truncated moneyflows elaboration. But I reject as not feasible the idea that the standard objective could include a single interlocking system of transaction accounts that would synthesize the input-output elaboration and the moneyflows elaboration.

In section III we noted that some work has been done on constructing international systems of interlocking sector accounts in which the sectors are all countries or regions. Since these systems presuppose the adjustment of the sector accounts to a common valuation basis, we have not explored them. Consequently, my proposals for a comprehensive system of national accounts do not specifically include this part of the periphery, although the sector accounts used in any such international system might well be derivable by condensation or elaboration from the national accounts proposed below.

In proposing that the standard comprehensive objective consist of two standard sets of interlocking accounts and a standard set of supplementary tables, I mean to imply that there must be standard specifications. Among the necessary specifications are the rules governing the imputations to be included in the national product account. On the rules proposed in the UN group report (in which I concur), perhaps on any set of rules, gross domestic product is a concept that takes on significantly different meanings in different countries. It does not seem feasible to have a definition of gross domestic product that is perfectly standard.

This is because there are marked intercountry institutional differences. Also, because of such differences, there are other respects in which the proposed comprehensive objective is not perfectly standard. The three institutional sectors, (1) general government, (2) corporate enterprises, and (3) other resident transactors, are bound to be defined somewhat differently in different countries. It is even possible that the definition of (2) might in a given country be broadened with the passage of time. Further, (3) would presumably be subdivided differently in different countries. And if there is no escape from some intercountry differences in sectoring, equally unavoidable are some differences in definitions of account items. Let us mean by "standard" only that these differences are minimized and that the specifications for the comprehensive objective should aim to include, so far as possible, provisions for making legitimate intercountry comparisons despite any difficulties the minimal differences may entail.

My proposals for a standard comprehensive objective do not pretend to take account of the work on social accounting that has been going on behind the Iron Curtain. Taking account of that work might well require various further restrictions on its comprehensiveness or on the extent to which it can be considered an appropriate standard objective. For these several reasons, the affirmative response given to the question we set out to answer is a somewhat qualified one.

B. THE TWO TRANSACTION ACCOUNT OBJECTIVES

It has seemed necessary to distinguish between a more immediate and a more distant standard objective. Several of the proposals for the former give special consideration to economies in which there is a major sector consisting of small, rural, largely self-sufficient, largely nonmoney communities. On the other hand the pro-

posals for the more distant objective are based on a prediction. I assume, perhaps inadvisedly, that nonmoney communities will presently cease to exist and that the problem for a standard social accounting objective posed by institutional differences will in the course of time be somewhat lessened.

The standard set of transaction accounts I propose is outlined in Exhibit 3. Since two objectives are distinguished, possibly there should be two exhibits. But most of the proposals for the more distant objective relate to the balance sheet accounts and the supplementary tables, and the differences the two objectives involve for the central standard set of transaction accounts are noted in the discussion of Exhibit 3. Moreover, our chief concern at this point is to outline the more distant comprehensive objective. In some concluding comments I summarize the main changes proposed for the more immediate objective.

Because we have arrived at Exhibit 3 by a process of amending Exhibit 1, it will be convenient to recapitulate the amendments approximately in the order in which they were introduced.

1. Account 3 refers only to the corporate sector. For purposes of the more immediate objective it might not include all corporate enterprises.

2. Account 4 covers all private enterprises except those in the corporate sector, and includes for these enterprises items 4.4, 4.5, and 4.12. In the more immediate objective I have proposed lumping 4.12, 4.13, and 4.14 in one item, although this assumes a supplementary table that will detail the account by subsectors and retain these distinctions as far as feasible. I would define household and institutional income as item 108 minus item 4.19 minus as much of item 4.12 as could be separately identified.

3. Item 4.3 replaces items 4.3 and 4.10 of Exhibit 1. The appropriation, capital, and capital reconciliation accounts of private transactors n.e.c. have been consolidated.

4. Account 5 is a consolidation of the current, capital, and capital reconciliation accounts of general government (including public enterprises for which separate accounts are not available). Hence it includes items 5.4, 5.5, 5.6, and 5.18, and item 5.16 replaces items 5.10 and 5.13 of Exhibit 1.

5. In Account 6 the two subaccounts of Exhibit 1 are consolidated.

6. In these account consolidations items 4.4, 4.11, 5.4, 5.11, and 6.4 of Exhibit 1 and their offsets drop out.

EXHIBIT 3

Proposed Standard System of National Transaction Accounts

ACCOUNT 1, GROSS DOMESTIC PRODUCT

1.1	Indirect taxes (5.13)	1.11	Private consumption expenditure (4.1)
1.2	Less: Subsidies (−5.2)	1.12	Public consumption expenditure (5.1)
1.3	Compensation of employees (4.11)	1.13	Corporate gross fixed capital formation (3.1)
1.4	Net noncorporate rental income (4.13)	1.14	Public gross fixed capital formation n.e.c. (5.4)
1.5	Other noncorporate business net income (4.14)	1.15	Private gross fixed capital formation n.e.c. (4.4)
1.6	Interest and dividends (4.15)	1.16	Increase in stocks, corporate enterprises (3.2)
1.7	Undistributed corporate profits (3.12)	1.17	Increase in stocks, public enterprises n.e.c. (5.5)
1.8	General government property and net business income (5.11)	1.18	Increase in stocks, private enterprises n.e.c. (4.5)
1.9	Direct corporate taxes (5.14)	1.19	Exports of goods and services (6.1)
1.01	Less: Interest on public debt (5.12)	1.21	Less: Imports of goods and services (−6.11)
1.02	Less: Interest on consumer debts (4.16)		
1.03	Less: Net factor income from rest of world (−6.2)		
1.04	Corporate provisions for fixed capital consumption (3.11)		
1.05	Public provisions for fixed capital consumption n.e.c. (5.18)		
1.06	Private provision for fixed capital consumption n.e.c. (4.12)		
	101 Total domestic proceeds		= 102 Total gross domestic products

ACCOUNT 2, FINANCIAL TRANSACTIONS

2.1	Net corporate borrowing (3.14)	2.11	Net lending, private transactors n.e.c. (4.6)
2.2	Net borrowing by general government (5.19)		
2.3	Net borrowing by rest of world (6.12)		
	103 Total debits		= 104 Total credits

ACCOUNT 3, CORPORATE CAPITAL TRANSACTIONS

3.1	Gross fixed capital formation (1.13)	3.11	Provision for fixed capital consumption (1.04)
3.2	Increase in stocks (1.16)	3.12	Undistributed profits (1.7)
3.3	Net purchase of existing assets (7.11)	3.13	Net international capital transfers received (6.3)
		3.14	Net borrowing (2.1)
	105 Total gross capital formation		= 106 Total sources of capital funds

(*continued on next page*)

EXHIBIT 3 (continued)

ACCOUNT 4, PRIVATE TRANSACTORS N.E.C.

4.1	Private consumption expenditures	(1.11)	4.11	Compensation of employees	(1.3)
4.2	Direct taxes	(5.15)	4.12	Provision for consumption of fixed capital	(1.06)
4.3	Other transfers to general government	(5.16)	4.13	Net rental income	(1.4)
4.4	Gross fixed capital formation	(1.15)	4.14	Other business net income	(1.5)
4.5	Increase in business stocks	(1.18)	4.15	Interest and dividends received	(1.6)
4.6	Net lending	(2.11)	4.16	Less: Interest on consumer debts	(1.02)
			4.17	Transfers from government	(5.3)
			4.18	Net international transfers received	(6.4)
			4.19	Net sales of existing fixed assets	(7.1)
	107 Total expenditures above			= 108 Total sources of funds above	

ACCOUNT 5, GENERAL GOVERNMENT

5.1	Public consumption expenditures	(1.12)	5.11	Income from property and business	(1.8)
5.2	Subsidies	(−1.2)	5.12	Less: Interest on public debt	(1.01)
5.3	Transfers to private transactors n.e.c.	(4.17)	5.13	Indirect taxes	(1.1)
5.4	Gross fixed capital formation	(1.14)	5.14	Direct corporate taxes	(1.9)
5.5	Increase in enterprise stocks	(1.17)	5.15	Direct personal taxes	(4.2)
5.6	Net purchases of existing fixed assets	(7.12)	5.16	Transfers from households n.e.c.	(4.3)
			5.17	Net international transfers received	(6.5)
			5.18	Provision for enterprise fixed capital consumption	(1.05)
			5.19	Net borrowing	(2.2)
	109 Total expenditures above			= 110 Total sources of funds above	

ACCOUNT 6, THE REST OF THE WORLD

6.1	Exports of goods and services	(1.19)	6.11	Imports of goods and services	(−1.21)
6.2	Net factor income from rest of world	(−1.03)	6.12	Net borrowing by rest of world	(2.3)
6.3	Net international transfers to corporations	(3.13)			
6.4	Net international transfers to households	(4.18)			
6.5	Net international transfers to general government	(5.17)			
	111 Total expenditures above			= 112 Total sources of funds above	

ACCOUNT 7, EXISTING FIXED ASSET TRANSACTIONS

7.1	Net sales by private transactors n.e.c.	(4.19)	7.11	Net corporate purchases	(3.3)
			7.12	Net government purchases n.e.c.	(5.6)
	113 Total debits			= 114 Total credits	

7. Items 4.6 and 4.19 replace the hybrid residual item in Account 4; items 5.6 and 5.19 replace the hybrid residual in Account 5. This change implies that the specifications for the transaction tables should include an affirmative (instead of a residual) definition of financial transactions, as transactions in specified types of claim.[80] Such a definition would presumably consist mainly of descriptions of the pertinent types of claim together with rules for distinguishing between financial transaction entries in the accounting records of the claims and valuation adjustment entries and for making the adjustment entries.

8. Account 2 replaces Account 7 of Exhibit 1 and is now confined to financial transactions. A new Account 7, a clearing account for transactions in existing fixed capital assets, is added.

It will be observed that while the break between current and capital reconciliation accounts of Exhibit 1 is dropped, the possibility of a different but perhaps equally significant current-capital break remains. Items 4.4, 4.5, 4.6, and 4.19 could be pulled out of Account 4 to form a capital account for this sector; and the balance in the remainder of Account 4 might be termed "gross private saving n.e.c."[81] Similarly, items 5.4, 5.5, 5.6, and 5.19 could be taken out of Account 5 to make a separate capital account for general government, the balance in the other items being termed "gross government saving." Moreover, a consolidation of the first of these two capital accounts with Accounts 2 and 3 would give one form of national savings and investment account (rather like the account for the United States). A consolidation of both with Accounts 2 and 3 would give another—and presumably a preferable—form of S and I account.[82]

It seems best not to deal systematically with the supplementary transaction tables that might constitute a part of the standard objective, but to confine comment here to the input-output and money-flows tables.

I have proposed supplementary current and capital input-output tables. The current table would show, for each *establishment* industry sector, intermediate product purchases and sales on a to-whom-from-whom basis, and would itemize for each such sector the various proceeds charges, import purchases, and export and

[80] Standard specifications for existing fixed asset transactions are outlined in *Concepts and Definitions of Capital Formation.*

[81] Net saving would presumably equal this balance minus item 4.12.

[82] This form would not draw the line between private and government saving in quite the way the UN group report does.

final product sales. Final product sales would presumably be subdivided to distinguish at least public military "consumption," other public consumption, private consumption, fixed capital formation, and increase in stocks, plus or minus. And as a minimum I suggest the details for proceeds might be compensation of employees, imputed compensation of entrepreneurial labor, fixed capital consumption, and other.[83] The capital table taken in conjunction with the current table would presumably provide a to-whom-from-whom industry sector analysis of fixed capital formation. Doubtless, the input-output investigator would wish to push in the direction of adjusting these supplementary tables for price changes, but our present concern is merely a summary statement of transactions at current prices. In section III we referred to the current table as an extension of supporting Table II of the UN group report; the standard list of industrial sectors there proposed would, of course, need to be reviewed in the light of the much more ambitious purpose contemplated for it here. For the standard objective, the two tables might be thought of as a quinquennial or decennial compilation.

To provide a somewhat truncated set of moneyflows tables, three supplements to Exhibit 3 are proposed. The first would subdivide Account 1 into three value added accounts, one for each of the three domestic institutional (*ownership*) sectors—the corporate sector, general government, and private transactors n.e.c. The second supplement would be a set of balancing accounts of financial transactions, one account for each of five sectors—the two domestic sectors last named, the rest of the world, the banking and monetary system, and the rest of the corporate sector. The sector accounts would show the following items:

a. Net increment in cash balance, ±. (In the account for the banking and monetary system, the item net increment in currency and deposit liabilities, ±, would be substituted here.)
b. Net increment in accounts receivable, ±.[84]
c. Net increment in accounts payable, ±.[85]
d. Purchases minus sales of portfolio items.
e. Issues minus retirements of portfolio type obligations. (This includes short-term borrowings and debt repayments.)

[83] Both economic theory and the cost accounting analogy would suggest two other items, imputed interest on tangible assets and depletion.
[84] See footnote 74. [85] See footnote 74.

f. For the banking and monetary system, net increment in the monetary gold stock, ±; and for the rest of the world, net imports into the country of monetary gold. (On the definition in the IMF *Balance of Payments Manual*, these two items are equal and of opposite sign.)
g. The balance in the account.

The three value added accounts can be substituted for Account 1 in Exhibit 3, and the five financial transactions accounts for Account 2. It will be observed that the algebraic sum of the balancing items in the financial transactions accounts for the monetary and banking system and for the rest of the corporate sector should equal item 2.1 in Exhibit 3. Similarly, the balancing items in the other three financial transactions accounts should be equal, respectively, to items 2.11, 2.2, and 2.3. With these substitutions Exhibit 3 becomes a truncated system of moneyflows accounts on a somewhat net basis.

The third supplement should provide for a grosser presentation. In the national income and product accounts a good many debit and credit items are offset against each other. Thus, as noted in section III, life insurance benefits are netted against a part of life insurance premiums; hence the benefits are omitted from item 108 and the corresponding part of the premiums from item 107. And, of course, intermediate sales are omitted from item 102 and intermediate purchases from the left-hand side of Account 1. Also, there is netting in proceeds items 1.6 and 1.03 and in some of the tax items. The third supplementary table should show separately the amount that needs to be added to both sides of each affected sector account to eliminate each of these nettings. And where an item like life insurance premiums has been, in effect, resolved into three components, only one of which is netted, it would be desirable to show the two non-netted components separately as well.

C. THE LONG-RUN SOCIAL BALANCE SHEET OBJECTIVE

My proposed balance sheet complement for Exhibit 3 must be a highly tentative one for a number of reasons. Even with the limitations proposed above, it might take a great variety of forms; I have had to make rather arbitrary decisions in regard to sectoring, account items, the extent of consolidation or netting, etc. Considerations of analytical usefulness and of ease or difficulty of statistical collection and compilation ought to have first priority in making these decisions, if and when the careful formulation of

a standard system of balance sheet accounts is undertaken. But, for the present purpose, it has seemed wise to permit another type of consideration to some extent to override them. Exhibit 4, which sets forth my tentative proposal, has been designed in part to avoid complicating the comments on it that follow.

Although, in general, I attempt to make Exhibit 4 parallel Exhibit 3, it seems wise to distinguish seven institutional sectors. The monetary and banking system and private insurance carriers are pulled out of the corporate sector, and social insurance funds out of the general government sector. These segregations make it possible to show financial relationships that are particularly important in a balance sheet exhibit.

For simplicity the sector accounts have in general been put on a consolidated basis. And, despite the statistical problems entailed, corporate shares owned are treated as a separate sector asset item. But to avoid cluttering up the exhibit with too many details other portfolio-type items held and outstanding and the various types of accounts receivable and payable have been lumped together. The resulting somewhat conglomerate net item is called net IOU's owned (when an asset) or net IOU's outstanding (when a liability).

One arbitrary decision has been to adopt the continental convention familiar in the United States and show assets on the left in the national and sector balance sheets.

In section III, a somewhat ambiguous valuation rule for claims was offered: if holder and obligor records disagree, adjust one or the other to bring them into agreement. Since Exhibit 4 assumes all such adjustments have been made, total holdings and total outstandings of each type of claim can be summarized in a balancing clearing account.

Exhibit 4 consists of eleven accounts, a national balance sheet, Accounts 2-8 (the seven sector balance sheets), and three clearing accounts (Nos. 9, 10, and 11). In each sector account net worth is the residual or balancing item, although it is for the most part not so called. In Account 2 the caption for the residual item is Balance carried forward; in Account 3, Net corporate shares outstanding. In Accounts 5 and 8 it is assumed, for illustration, to be negative and is captioned, respectively, Cumulative net public consumption borrowing and The nation's net external credit. Account 7 covers both mutual insurance companies in which the residual equity belongs to policy holders and carriers whose balance sheets

EXHIBIT 4

A Set of Interlocking Balance Sheets

(tentatively proposed to illustrate the possibility of a standard comprehensive system of accounts)

ACCOUNT 1, NATIONAL WEALTH

1.1	Corporate inventories (3.2)	1.11	Private transactors n.e.c., net worth (4.11)
1.2	Private insurance carriers' inventories (7.3)	1.12	Social insurance funds, net worth (6.11)
1.3	Other private business inventories (4.1)	1.13	Private insurance carriers, individual policy holders' equity (7.12—3.5)
1.4	Other government enterprise inventories (5.1)	1.14	Less: Cumulative net public consumption borrowing (—5.6)
1.5	Fixed capital assets, corporate (3.3)		
1.6	Fixed capital assets, private insurance carriers (7.4)		
1.7	Fixed capital assets, other private (4.2)		
1.8	Fixed capital assets, other public (5.2)		
1.9	Miscellaneous tangibles, other private (4.3)		
1.01	Miscellaneous tangibles, held by social insurance funds (6.3)		
1.02	Miscellaneous tangibles, other public (5.3)		
1.03	Less: Value of above assets located abroad (—8.12)		
1.04	Foreign-owned tangibles located in the country (8.2)		
1.05	The nation's net external credit (8.5)		
	101 National wealth		= 102 Net claims owned in the country

ACCOUNT 2, THE BANKING AND MONETARY SYSTEM

2.1	Monetary gold stock (8.15)	2.11	Currency and deposit liabilities (9.1)
2.2	Corporate shares owned (10.11)	2.12	Balance carried forward to Account 3 (3.1)
2.3	Net IOU's owned (11.11)		
	103 Total assets above		= 104 Total outstandings above

ACCOUNT 3, THE MAIN CORPORATE SECTOR

3.1	Balance brought forward from Account 2 (2.12)	3.11	Net IOU's outstanding (11.1)
3.2	Inventories (1.1)	3.12	Net corporate shares outstanding (10.1)
3.3	Fixed capital assets (1.5)		
3.4	Cash balances (9.11)		
3.5	Insurance policies held (7.12—1.13)		
	105 Total assets above		= 106 Total outstanding above

(continued on next page)

EXHIBIT 4 (continued)

ACCOUNT 4, PRIVATE TRANSACTORS N.E.C.

4.1	Business inventories	(1.3)	4.11 Net worth	(1.11)
4.2	Fixed capital assets	(1.7)		
4.3	Chattels owned by households and institutions	(1.9)		
4.4	Cash balances	(9.12)		
4.5	Corporate shares owned	(10.12)		
4.6	Net IOU's owned	(11.12)		
	107 Total assets above		= 108 Net worth	

ACCOUNT 5, GENERAL GOVERNMENT
(*excluding social insurance funds*)

5.1	Enterprise inventories	(1.4)	5.11 Net IOU's outstanding	(11.2)
5.2	Fixed capital assets	(1.8)		
5.3	Government owned tangibles n.e.c.	(1.02)		
5.4	Cash balances	(9.13)		
5.5	Corporate shares owned	(10.13)		
5.6	Cumulative net public consumption borrowing	(1.14)		
	109 Total debits above		= 110 Net IOU's outstanding	

ACCOUNT 6, SOCIAL INSURANCE FUNDS

6.1	Cash balances	(9.14)	6.11 Net worth	(1.12)
6.2	Net IOU's owned	(11.13)		
6.3	Tangible assets	(1.01)		
	111 Total assets above		= 112 Net worth	

ACCOUNT 7, PRIVATE INSURANCE CARRIERS

7.1	Cash balances	(9.15)	7.11 Net corporate shares outstanding	(10.2)
7.2	Net IOU's owned	(11.14)		
7.3	Inventories	(1.2)	7.12 Policy holders equity	(3.5 + 1.13)
7.4	Fixed capital assets	(1.6)		
	113 Total assets above		= 114 Total credits above	

ACCOUNT 8, THE REST OF THE WORLD

8.1	Domestic currency and deposits held by foreigners	(9.16)	8.11 Foreign currencies and bank deposits held by residents of the country	(9.2)
8.2	Foreign owned tangibles located in the country	(1.04)	8.12 Domestically owned tangibles located abroad	(1.03)
8.3	Domestic corporate shares held abroad	(10.14)	8.13 Foreign corporate shares held by residents	(10.3)
8.4	Domestic IOU's held abroad	(11.15)	8.14 Foreign IOU's held by residents	(11.3)
8.5	The nation's net external credit	(1.05)	8.15 Cumulative net imports of monetary gold	(2.1)
	115 Total debits above		= 116 Gross external credits	

(*continued on next page*)

EXHIBIT 4 (continued)

ACCOUNT 9, CURRENCY AND DEPOSITS

9.1	Liabilities of banking and monetary system (2.11)	9.11	Held by corporate enterprise n.e.c. (3.4)
9.2	Liabilities of rest of world (8.11)	9.12	Held by private transactors n.e.c. (4.4)
		9.13	Held by general government (5.4)
		9.14	Held by social insurance funds (6.1)
		9.15	Held by private insurance carriers (7.1)
		9.16	Domestic currency and deposits held by rest of world (8.1)
	117 Total debits		= 118 Total credits

ACCOUNT 10, CORPORATE SHARES

10.1	Net obligation of corporate enterprises n.e.c. (3.12)	10.11	Held by banking and monetary system (2.2)
10.2	Net obligation of private insurance carriers (7.11)	10.12	Held by private transactors n.e.c. (4.5)
10.3	Foreign shares (8.13)	10.13	Held by general government (5.5)
		10.14	Domestic shares held abroad (8.3)
	119 Total debits		= 120 Total credits

ACCOUNT 11, IOU'S

11.1	Net debt of corporate enterprises n.e.c. (3.11)	11.11	Held by banking and monetary system (2.3)
11.2	Net debt of general government (5.11)	11.12	Held by private transactors n.e.c. (4.6)
11.3	Foreign IOU's (8.14)	11.13	Held by social insurance funds (6.2)
		11.14	Held by private insurance carriers (7.2)
		11.15	Domestic IOU's held abroad (8.4)
	121 Total debits		= 122 Total credits

show policy reserves as a liability and a separately held residual proprietorship equity here called Net corporate shares outstanding. Item 7.12 equals the policy reserves of both types of carrier plus the residual equities of the mutuals.

Account 1, the national balance sheet, is a consolidation of the other ten accounts. The algebraic sum of items 1.1 through 1.04 gives total wealth located in the country. National wealth is the sum of this and the net external credit. Total private wealth is the sum of items 1.11, 1.12, and 1.13.

In Exhibit 3, if we consolidate any six of the seven accounts, the

result will be the remaining account with debits and credits reversed. This is what we mean by an interlocking system of transaction accounts. In Exhibit 4, a slightly extended meaning for "interlocking" seems permissible. If the debits and credits in Account 1 are first reversed, and we then consolidate any ten of the accounts in Exhibit 4, we will get the other account in reverse.

For a fully spelled out comprehensive objective, Exhibit 4 would doubtless have to be extensively amended. It would also have to be accompanied by a set of standard specifications. I make no bones about the fact that in skipping over the specifications we have dodged a host of extremely difficult questions.

Only one supplementary table will be proposed here for Exhibit 4, and it really applies to both exhibits. In section III we noted that if we computed balance sheet increments for the corporate sector, the result would be a kind of sector capital account,[86] but that this would not be Account 3 of Exhibit 3. To bridge the gap between the incremental computation and Account 3 there would be need for a reconciliation statement that would detail the valuation adjustments entered in the records of the balance sheet items during the year. Corresponding comments apply in the cases of the other sectors. Capital accounts somewhat like Account 3 can be separated out in transaction Accounts 4 and 5 and compared respectively with an incremental computation based on Account 4 of Exhibit 4 and a consolidated incremental computation based on balance sheets 5 and 6. Item 6.12 can be compared with an incremental computation based on balance sheet 8. In all three cases there would be need for a reconciliation statement of valuation adjustments. I propose a supplementary table to present the needed reconciliation statements. Possibly, for a standard objective the set of balance sheet accounts illustrated in Exhibit 4 should be thought of as on a quinquennial or less frequent basis. The supporting reconciliation table would necessarily refer to the inter-balance-sheet period. On its period, as on its details, it is necessary to be vague.

When allowance is made for valuation adjustments, the articulation of Exhibits 3 and 4 ought to be so perfect that they constitute a single system of accounts. But at least two faults can be found with the articulation of these exhibits.

The first can be called a semantic fault. The term "valuation

[86] In terms of Exhibit 4 this would mean computing a consolidated incremental account from Accounts 2, 3, and 7.

adjustments" might mean *ad hoc* changes in the value of a balance sheet item, not systematic changes like annual credits to a depreciation reserve. On this reasonable meaning of the term, the articulation is definitely imperfect. However, implicitly—and in a way arbitrarily—we have taken valuation adjustments to exclude systematic depreciation writeoffs but to include systematic asset writeoffs to cover depletion or to provide against anticipated bad debts.

The second fault is deeper seated. For perfect articulation the items in the two exhibits must be defined according to a consistent scheme. And a consistent scheme would require that corporate capital account transactions be defined as transactions in the items on the corporate balance sheet. Item 3.13, Net international capital transfers received, does not conform to this requirement. Neither does it belong in the corporate value added account as that is currently conceived; it is not a current subsidy. Presumably, this is why the UN group of experts put it in Account 3. I did not incorporate my tentative solution of the problem posed by items like 3.13 in Exhibits 3 and 4. Although it would not greatly complicate either, it would complicate discussion of them. But a fully worked out comprehensive objective would have to include a consistent handling of such noncurrent transactions.

D. CONCLUDING COMMENTS

Originally, in the prestatistical stage of social accounting, the fundamental theoretical purpose of the accounts stood out clearly and unmistakably—to provide a framework for economic analysis in the form of social accounting definitions of a number of basic economic concepts. The modern social accounting conception of the economy, with its recognition of institutional as well as functional sectors and of nonproduct, nonproceeds transactions, is far more complex than its predecessor. Hence there is danger today that the fundamental purpose—the measurement-definition of production and of various related basic economic aggregates—may be lost sight of. In fact, a good many economists seem to have adopted an eclectic rather than a logically coherent theoretical position, clinging to a prestatistical definition of production and regarding the system of social accounts as a mere set of statistical tables that present a somewhat arbitrary selection of measures of general economic activity.

I hope that by outlining a comprehensive system of social accounts that might be made a standard objective I have helped

toward a wider and fuller acceptance of a social accounting framework for aggregative economic analysis.

The modern type of theoretical framework has much in common with its prestatistical predecessor, but it also has significant advantages. As already suggested, one of these advantages relates to the concept of production. We need not stop here for a critique of the prestatistical way of defining production except to say that Davenport long ago painstakingly pointed out a major, inherent difficulty in such a concept—one cannot get a public policy value judgment out of individual wants alone.[87] But production is inescapably a material welfare concept that requires such a judgment. This difficulty in the prestatistical definition has not diminished with the passing years, but apparently the appreciation of it has.

I hold that the system of social accounts here outlined provides a tenable, objective way of defining production as well as a substantial number of related basic economic concepts. For production it meets the value judgment requirement precisely because it gives a *social* accounting definition in terms of a *consolidated* income and product account for the whole productive sector viewed as if it were "a single giant Firm."[88] So defined, production tells us something important about material welfare, but of course welfare—even material welfare—is a rather more comprehensive concept than production.

A social accounting definition of a basic economic concept like production can be objective because it is operational. In adopting an operational definition for his quantitative concepts the economist is following the example of the physicist—defining quantities by telling how he measures them.

One may regard an operational definition of this sort as a tentatively proposed standard set of instructions to which it is hoped the compilers and publishers of the measurements in various coun-

[87] Herbert J. Davenport, *Economics of Enterprise*, Macmillan, 1913, Chap. IX. Davenport attempted to avoid the welfare connotation of product by redefining it as factor renumeration—"Product is proceeds." But on page 490 we find him telling us that one way to get proceeds is by "contributing to the aggregate social product." Having discarded product in a value judgment sense in Chapter IX, he found it necessary later to bring this concept back into the picture under a slightly different name.

Others have sought to purge the term "production" of any ethical meaning by emphasizing that it can be measured in physical units. But no one has been able to make the purge stick.

[88] Cf. J. R. Hicks, *The Social Framework*, 2nd ed., Oxford, 1952, p. 113.

tries will undertake to conform as far as and as fast as their several circumstances permit. Of course, in framing any such definition there is need to resolve a host of detailed questions. Thus the specific meaning given the concept production (gross domestic product) will depend on just how the economy is divided into the two functional sectors and on the exact list of transactions identified as final purchases. In settling all the questions this entails, two types of consideration inevitably command attention, theoretical considerations and considerations of statistical expediency. An operational social accounting definition becomes objective only to the extent that there is a consensus among social accountants as to how to settle these questions of theory and expediency, only to the extent that a rounded set of social accounting conventions is developed. It seems fair to say that today we are not far from having a rounded set of conventions defining production. It also seems a reasonable hope that we will be able during the next decade or so to develop a more inclusive set of conventions covering much of what is now the periphery of social accounting as well as the present core.

In speaking of theoretical considerations I have in mind not a finished theoretical structure but a bare framework. Social accounting gives us a set of basic concepts in terms of which to do our theorizing; the theoretical considerations regarding operational definitions require that the concepts be good concepts for purposes of aggregative economic analysis. If they are good, the concepts should permit us to explore various alternative hypotheses.

Interindustry studies carry the theoretical structure somewhat beyond the framework stage. They include behavioristic as well as social accounting equations and so a specific hypothesis. Our present concern with these studies has been largely confined to the framework within which the behavioristic equations operate. The framework has been conceived as an elaboration of supporting Table II of the UN group report. More broadly, we may note that the concept "production" is a logical precondition to any interindustry study; and I urge an operational social accounting definition for this material welfare concept.[89]

[89] It seems wise to emphasize the welfare implications of the concept of production here, because Leontief, in commenting on an earlier form of this paper, assumed I would deny them. As a matter of fact, I have repeatedly asserted these welfare implications, e.g. in "National Wealth and Income—an Interpretation," *Journal of the American Statistical Association*, June 1935, pp. 379-381 (for national income and wealth); in *A Study of Moneyflows*, p. 61 (for the gross national product account).

It may be objected that the theoretical framework here proposed makes too many concessions to statistical expediency, and in particular that the concept "gross domestic product" that has been assigned such a central role in this framework is a short-run concept, not suitable for long-run analysis. If this objection means that national income should have been given the role here assigned to gross domestic product, my answer is that no one since the prestatistical era has constructed a feasible system of social accounts around national income as the central concept. If this objection means it would be better, for most long-run analytical purposes, to have estimates of national income (items 2.1-2.8 of Exhibit 1) than estimates for a streamlined Exhibit 3, the contrary seems clearly the case. Certainly, the concessions suggested above in section II to make the transactions accounts system a more acceptable objective for the less industrialized countries involve omitting items that might be extremely useful for long-run analyses. But the standard objective must serve short-run purposes too, and the main tables it includes must be appropriate for annual compilations. Various further changes in the immediate standard objective may well be needed to make it a truly general purpose objective; there is no occasion for a change that would jettison the interlocking system of transaction accounts, even for the long-run purpose alone.

Again it may be objected that the concessions suggested in section II do not add up to much. A recapitulation may help to determine what they do amount to. These concessions relate to two subsectors, (1) family farms producing mainly for market and the households that own them and (2) farms and other enterprises in largely self-sufficient, mainly nonmoney, rural communities together with the rest of such communities. The concessions affect the subsector components of Accounts 1 and 4 of Exhibit 3. The case for them seems clear for the nonmoney subsector; if applying them also to the other family farms subsector would materially help to sell the standard objective to less industrialized countries, I would urge such application. Most of the concessions can be stated in terms of Account 4. They call for combining item 4.12, Provisions for consumption of fixed capital; item 4.13, Net rental income; and item 4.14, Other business net income; also, for combining item 4.15, Interest and dividends received, and item 4.16, Less: Interest on consumer debts. And they mean defining item 4.1, Private consumption expenditures, to include (1) all pur-

chases of durable goods except for a limited list of large items, and (2) all accumulations of stocks of primary products except for a limited list of commodities produced exclusively or primarily for market. These changes would eliminate various distinctions very difficult to make on any objective basis. Further, they would restrict the construction estimates included in items 4.4 and 1.6 (and, by implication, in the composite business income items in Accounts 1 and 4) to cash outlays plus imputations for a short list of specified major project types. And instead of supporting Table XII of the UN group report, with its subsector balance of payments requirement for the nonmoney subsector, they would substitute streamlined Accounts 1 and 4 and an account of the imputations included in Account 4. If these concessions are not enough to make the immediate standard objective acceptable to the less industrialized countries, I think further concessions should be made. Perhaps the most important possible additional step would be the combination of items 4.1, 4.4, and 4.5 into a single subsector final product expenditure total which, if need be, could be estimated residually.

My proposals for the immediate standard objective include additions as well as concessions. The chief additions are: (1) a separate estimate of net intersector sales of existing fixed assets for each of the three main domestic institutional sectors for which it is likely to be significant (as we noted in subsection III D 1 the UN document, *Concepts and Definitions of Capital Formation*, calls for such estimates); (2) a separate item, compensation of civilian employees of the military establishment; (3) separate estimates of fixed capital consumption for the corporate sector; (4) translations connecting Accounts 5 and 6 with the published government financial statements and published balance of payments statement, respectively; (5) the institutional sector and subsector analysis of Account 1 and subsector analysis of Account 4. I also propose a new supporting table that would detail financial transactions on an eight-item, five-sector basis. The items are increments in claims held—cash, receivables n.e.c., portfolios, and the monetary gold stock—and in their obligations-outstanding counterparts. The sectors are corporations n.e.c., governments, the banking and monetary system, private transactors n.e.c., and the rest of the world.

The concessions suggested in section II mean dropping the concepts national income and household and institutional saving and the national S and I account—at least as they are defined in the UN group report—out of the more immediate standard objec-

tive. Exhibit 3, when it does not make these concessions, permits the computation of national income as defined in the UN report and of net saving of private transactors n.e.c. This latter concept is a firmer one than item 4.4 of Exhibit 1, in that it obviates the need for some doubtful distinctions. And in the context of the sectoring used in Exhibit 3 the misleading connotations which attach to item 4.4 in the UN group report and to "personal saving" in the United States accounts would be avoided. I would retain national income and net saving of private transactors n.e.c. as concepts in the longer-run objective but urge that they be given a subordinate place. The S and I account has already been relegated to the supporting tables part of the objective; national income and saving of private transactors n.e.c. might well be accorded the same treatment.

My reasons for proposing the temporary omission of national income and the S and I account from the standard objective, and their subsequent subordination, are pragmatic. Otherwise there is danger the prestige attaching to national income may in the more immediate future encourage various countries to confine their efforts to estimating distributive shares and private consumption instead of developing a full set of national accounts along the lines of Exhibit 1. There is danger also that too much attention to national income and the S and I account may lead some countries to develop systems of national income and product accounts in a mold that will lump financial and existing asset transactions in residual items for sectors so awkwardly defined institutionally that work on the moneyflows and balance sheet aspects of social accounting will be hampered. If the international standard pattern were to crystallize in such a mold, it would be extremely difficult to change.

Affirmatively, I am convinced that a set of transactions accounts along the lines of Exhibit 3, with the concessions to the mainly nonmoney sector, is a more feasible present objective for a number of the less industrialized countries than is one along the lines of Exhibit 1. Moreover, we should consider that there are very great advantages both for economic analysis and for policy formulation in setting the system of national transaction accounts up so that such information on intersector debts as is available can be related to the gross domestic product account and the distribution and redistribution of its proceeds among institutional sectors.

One reason for the prestige that currently attaches to the S and I account is the place Keynes gave it in a theory of general un-

employment. This theory assumes that decisions to save or consume and decisions to invest are made by different sets of people and for different reasons. In proposing changes in social accounting that would give the financial transactions account much of the emphasis that Keynes gave the S and I account, I have had in mind the desirability of dividing the economy into sectors according to the way the process of aggregate demand decision making is divided. This means an institutional, rather than a functional, sectoring. And to bring out the nonfinal expenditures for loans, transfers, etc., as well as the total receipts that condition the aggregate demand decisions of an institutional sector, the prime need is for an account that balances its proceeds receipts; financial, transfer, and existing asset transactions; and final product expenditures. Exhibit 3 provides such an account for each of three main institutional sectors. Emphasizing the financial transactions account (instead of the S and I account) is the logical corollary of the effort to bring out the institutional divisions in the decision-making process.

A number of qualifications have been attached to my affirmative answer to the question with which we started: is a standard comprehensive social accounting objective feasible? But one more qualification should be added. The objective here tentatively sketched and proposed aims to reconcile, so far as may be, what we have called the "conflicting tendencies of the periphery." Sigel attributed these conflicting tendencies in part to the propensity of a social accounting structure like the input-output, or the money-flow, or the national income and product accounts "to lead a life of its own."[90] The somewhat qualified comprehensiveness of the type of social accounting system suggested by Exhibits 3 and 4 is a theoretical comprehensiveness. If several phases of social accounting continue to be cultivated by different staffs, it is unlikely that the degree of articulation of these phases that is theoretically possible will be achieved in practice.

Appendix

A Note on the Terms "Sector" and "Account"

Richard Ruggles calls attention to the fact that there is, at present, confusion as to the meanings of the terms "sector" and "account," and in particular that it is questionable whether one should

[90] *Op. cit.*

call the present "gross savings and investment account" in the United States income and product system a sector.[1]

The UN group report is careful to distinguish "sector" from "account"; a sector is defined as a group of transactors and for each of the three main domestic sectors four types of account are proposed.[2] There is no confusion here. But despite the fact that the National Income Division of the Department of Commerce uses the two terms in substantially this same way, four of the five articulating Roman numeral accounts in the Division's system are quite naturally regarded as sector accounts,[3] and it is therefore tempting to think of the S and I account in this way, too.

Probably, I have helped the confusion by following not the usage of the group report, but rather an older and an exceedingly strong precedent—I have retained the prestatistical social accounting conception of two functional sectors, the producing sector and the ultimate sector. Account 1 in Exhibit 3 reports the external transactions of the producing sector. If we consolidate Accounts 2-7 we get the external transactions of the ultimate sector.

In the prestatistical view of an economy, these two sectors were separate transactor groups—producing, factor-hiring enterprises on the one hand, and final purchaser, factor-lessor households on the other. Of course, this view requires the separation of a sole proprietorship enterprise and the sole proprietor's household into two distinct transactors, and a similar separation of government enterprises from "general" government. Also, if the present imputation convention for public and domestic servants is incorporated in this view, it requires hypothecating separate employing and service selling enterprises for these servants.

In these several respects the prestatistical concepts of enterprise, household, and general government and the concepts employed in the UN group report may be said to coincide. But the prestatistical view identified the transactor group enterprises with the producing sector; the UN report does not. The prestatistical view was able to make this identification because of a kind of fiction it adopted. It regarded households not only as ultimate owners of wealth but as direct owners leasing their land and capital goods

[1] For an illustration of this usage, see Theodore Morgan, *Income and Employment*, 2d ed., Prentice-Hall, 1952, p. 5.

[2] *A System of National Accounts and Supporting Tables*, pp. 11-12.

[3] Accounts I, III, IV, and V, *National Income Supplement, 1954, Survey of Current Business*, Dept. of Commerce, pp. 160-161.

to the enterprises sector and receiving in return factor hires that neoclassical distribution theory could accord a treatment parallel to that which it has accorded wages. Granting this fiction, all enterprise transactions are Account 1 transactions.

But if one does not adopt this fiction one necessarily recognizes enterprise transactions that do not belong in Account 1, notably final product purchases and lending or borrowing. In the UN group report three types of enterprise account are distinguished—the production and appropriation accounts in which Account 1 items appear (they consolidate into what is here called the "value added" account) and the capital reconciliation account that covers all other enterprise transactions together with the inside funds items carried forward from the appropriation account. Hence, in the terminology of the group report the gross domestic product account and Account 3 of Exhibit 1 are accounts but not sector accounts; Accounts 4, 5, and 6 are sector accounts.

Where the group report says sector, I would say institutional sector. This is because I have in effect assumed each enterprise to be subdivided into two transactors, an operating enterprise and a capital-forming and -financing transactor. This subdivision is made along the line between the value added account and the capital formation (or enterprise capital reconciliation) account. Operating enterprises constitute the producing functional sector; capital forming transactors, households, general government, and the rest of the world make up the ultimate functional sector.[4] Retaining the prestatistical view that the consolidated national value added account is a sector account helps to bring out the public policy implications of social accounting. We can think of the ultimate-sector-producing-sector relation as a kind of master-servant relation.

The distinction between an enterprise's value added account and its capital account is, in the terminology here employed, a functional sector distinction. Other account distinctions drawn in the group report, e.g. between the current and capital reconciliation accounts of households and institutions and of general government, are here treated as mere account distinctions.

The group report uses the term "account" in the first place for any of the several types of account for any one institutional sector. It also applies the term to a consolidation of one or more types of account for all sectors. And I apply it as well to a

[4] A slightly technical construction of this statement is needed to make it apply to the rest of the world.

statement that covers all the transactions of some one type by all transactors in the economy. The group report does not illustrate this last type of account directly, but Account 7 of Exhibit 1 does.

The national S and I account can be regarded as an account in the second sense, a consolidation of Account 3 and Capital Reconciliation Accounts 4, 5, and 6 of Exhibit 1. As noted in section III, one can obtain an account more like the S and I account of the United States national income and product system in another way. Assume a capital account for private transactors n.e.c. in Exhibit 3, consisting of items 4.4, 4.5, 4.6, 4.12, 4.19, and the net of all the other items in Account 4. Consolidate this and Accounts 2 and 3. This way of looking at the S and I equation has the great advantage of bringing out the fact that the balance in the S and I account reflects an adjustment of supply and demand in the loan and security markets.[5]

COMMENT

WASSILY LEONTIEF, Harvard University

The following comments on Morris A. Copeland's stimulating paper are concerned more with the general methodological basis of his recommendations than with the specific contents of the new standard system of social accounts which he describes in such complete detail. In the presence of so many prominent practitioners of the high art of national bookkeeping, it would be presumptuous of me to take a firm stand on the inclusion or noninclusion of specific items in this or that particular account. If pressed for a vote, I nearly always would recommend inclusion rather than omission, allowing at the same time considerable latitude in the selection of the account in which the entry is to be made.

The criterion of choice between alternative systems of social accounts must depend upon the uses to which they are expected to be put.

A system of social accounts can be considered to be not more than a set of statistical tables, a receptacle of generally useful primary quantitative information. From this point of view, a system designed to hold a larger amount of information, if actually filled with figures, is clearly to be preferred to any less compre-

[5] The subject of sectoring, transactor accounts, and type of transaction accounts is discussed more fully in *A Study of Moneyflows*, especially Chapters 3 to 7.

hensive system. Two systems of accounts containing the same primary data—even if in quite different tabular arrangements—could be said to be equivalent.

Furthermore, if the provision of factual data were the main purpose of compiling national accounts, any manipulation of the originally collected figures—for example, aggregation or deflation—should be considered with great suspicion, since it necessarily involves some loss of potentially useful information. The final products of such processing—the principal accounts of any existing or proposed standard system—would have to be relegated to the status of optional auxiliary compilations, while the supplementary tables and the detailed worksheets would instead become objects of our principal concern.

But social accounting can, and mostly has been, approached from a diametrically opposite point of view. It can be thought of as a theoretical tool, an analytical device designed for the solution of well-defined specific scientific problems. Two or more dissimilar accounting schemes would vie with each other—as conventional economic "models" do—in terms of their respective explicatory efficiency. A system of accounts which contains less factual information but presents analytically more relevant relationships would have to be preferred to another which holds a larger amount of information but does not bring out any significant relationships between the observed economic magnitudes.

The original national income computations specifically aiming at measurement, in some sense, of the actual or potential level of the economic welfare, were clearly meant to play the role of numerically implemented analytical constructs. The fact that the underlying criteria of analytical truth were normative and, one might add, had all the tell-tale marks of typical index number problems cannot in any way obscure the explicitly theoretical orientation of these earlier national income statistics. What sense could one otherwise make of the drawn-out controversies about "double counting," productive and nonproductive services, or "social" and "private" needs and satisfaction?

The old-fashioned national income measurements, however, are now being rapidly superseded by the elaborate schemes of modern social accounting. Since the specific analytical objective of the former—as Copeland approvingly observes—has not been taken over by the new approach, the question of the basic scientific orientation of social accounting seems still to be quite open. Cope-

land's references to "the principles," "the nature," and "the analytical usefulness" of social accounting suggest that he still sees in it a refined analytical tool. A tool to be used, however, not primarily for normative evaluation of the performance of an economic system, but rather in positive explanation of its observed operation.

What these theoretical principles and analytical applications actually are he does not explain any more than do the authors of alternative accounting schemes to the detailed criticism of which a large part of Copeland's interesting paper is devoted. *De facto*—if not *de jure*—he seems to be prepared to settle for a set of reasonably workable instructions for collectors, compilers, and publishers of detailed quantitative information pertaining to production, consumption, and accumulation, as well as to the flow of payments and the ownership and indebtedness structure of different national economies and their sundry subdivisions.

Being interested in the analysis of financial transactions, Copeland would like to see more information collected on this particular aspect of the advanced and even of the less developed economies. With generous impartiality he also recognizes the legitimate interests of the input-output students and recommends a "from-whom-to-whom" description of interindustrial transactions. It is true that the moneyflow figures are to be imbedded in the principal standard accounts as well as elaborated in the balance sheet accounts, while the input-output figures are relegated to auxiliary tables; but figures are figures under whatever heading they may be found.

Having proclaimed independence from an exclusive allegiance to the national income approach, Copeland nevertheless designed his proposed standard system in such a way as to satisfy all reasonable informational requirements originating in these particular quarters. Such a conciliatory attitude is the more commendable that, while including in his accounts some rather tenuous imputations, Copeland clearly explains to the welfare economist that he will have to use such figures entirely at his own risk.

If one thus returns to the position that alternative systems of social accounts must be judged mainly by their over-all empirical contents rather than in the light of the principles of some more or less esoteric general theory of social accounting, the question of establishing a standard system of accounts is reduced to the problem of anticipating and evaluating the specific data requirements of actual or potential outside users.

Still, the conventions of the past clearly dominate the procedures

of the social accounting of today. Otherwise, why should the value figures, i.e. quantities expressed in monetary units, be the only ones qualified for inclusion in modern national accounts? To arrive at a single figure called the net or the gross national income, it is necessary to aggregate in one way or another many separate measures of the physical amounts of different commodities and services. So long as the originally collected primary data are to be used only for computation of such an index, it seems reasonable to refuse admittance, even in the preliminary accounting lineup, to all figures which cannot ultimately be fitted into the grand final aggregate.

But why should such an entrance requirement still be maintained when other uses, not involving radical across-the-board aggregation, have been explicitly acknowledged? It is true that one of these other uses—the moneyflow analysis—does also happen to require only primary data of an essentially monetary kind. But others do not.

The exclusive use of monetary measurements has proven to be most obviously embarrassing in the construction of the national accounts of undeveloped economies, large sectors of which lie outside the pale of the monetary mechanism. I submit that this is not a sufficient reason for keeping out of the comprehensive quantitative description of the operation of these economies—which the national accounts are supposed to give—such basic figures as the supply and allocation of unpaid farm labor or the production, consumption, and accumulation of unmarketed agricultural commodities. Some of these relevant data actually find their way into the national accounts through the back door of indirect imputations. The very fact that no generally acceptable procedure for this kind of imputation has been—and, by the very nature of the analytical problem involved, could possibly be—found should lead to open and unqualified admission of nonmonetary magnitudes into the principal tables of standard transaction and capital accounts. With the basic unadulterated data at their disposal the final users will be free to apply to them whatever analytical manipulations—and indirect value imputations among them—they see fit to perform.

Analogous considerations also apply, however, to accounts describing economies or sectors of economies operating under conditions of a fully developed market mechanism. Information on the physical amounts of various goods and services, their mutual interrelationships, and their changes—as distinguished from the interrelations and changes of the corresponding value figures—is

indispensable for the formulation of a great many, not to say most, important economic problems. That is why users of the national account type of data so often find it necessary to develop more or less elaborate sets of price indexes with which they then deflate the original accounting entries.

Moreover, while the importance of the primitive nonmarket type of transaction diminishes as an economy develops, at the other end of the institutional spectrum government and other public activities, which are equally exempted from the monetary value yardstick, steadily grow in relative importance.

In response to such obvious and urgent needs, would it not be reasonable to give up the monetary orientation which still so persistently dominates all work on social accounts and to design the new standard system so that it would supply the fullest possible physical quantitative description of all not purely monetary entries? For all marketed commodities and services this objective would be at least partially achieved if the conventional value figures were systematically supplemented by detailed and comprehensive information on the corresponding prices or price indexes.

The foregoing observations have direct bearing on the problems of international comparability—the only other aspect of Copeland's concrete proposal which I will take up.

International standardization of compilation and presentation of the social accounts can serve at least three distinct, although partly interrelated, purposes: (1) national income comparisons, (2) other less comprehensive, i.e. partial, comparisons of the performance or of the structural characteristics of different economies, (3) study of the actual economic interrelations among such different economies.

Interest in comparing the national income of different countries provided the original impetus toward establishment of common conceptual standards for their social accounts. Without entering upon a full discussion of this controversial subject, we will all agree that some degree of similarity in the material structure of the economies concerned constitutes a necessary, if not sufficient, condition for possible comparison of their national incomes. To discover whether such similarity actually exists, and, if it does, to provide a statistical basis for the subsequent computation of comparable national income figures, the social accounts of the respective countries must be based on identical sectioning and similar commodity classifications. This Copeland repeatedly and

clearly states. But that is not enough. All the similarly classified entries must be expressed in identical or, what is practically the same, comparable physical units. Value figures alone will not do at all.

After two or more economies have been described in terms of identical sector definitions, similar commodity classifications, and identical (for each kind of good and service) physical units, it still, of course, remains to be seen whether their national incomes, or at least the contents of some of their separate social accounts, can actually be compared. The accounting boxes filled in one country might turn out to be empty in the other and vice versa, so that despite (or, possibly, because!) of the strict application of identical standards of social accounts, the two sets of accounts will prove to have no, or only very few, comparable entries. Copeland's standard corporate accounts will, for example, contain large figures for the United States, but very small ones, if any, for the economy of Afghanistan. On the other hand, consumers' purchases of manioc root will be very important in Brazil but nil in the United States.

By speaking of "farms" rather than "corporations" and of "legumes and other vegetables" rather than "manioc root"—i.e. through adoption of less special, more aggregative commodity classification—the *apparent* comparability of the two economies, as it is reflected in their respective national accounts, can obviously be increased. But is the attainment of greater comparability by means of deliberately diminished descriptive articulation a proper function of a social accountant? The opposite would be more nearly true.

Depending on the specific purpose of the particular comparisons, the selection of proper methods of dealing with the inherent variety of economic phenomena should be made by the users, not the collectors and primary organizers, of the basic facts and figures. A standard comprehensive system of social accounts should promote and facilitate, rather than impede, the introduction of the greatest possible (or practicable) detail in the primary systematic description of individual national economies and of their separate sectors.

While total or even partial quantitative comparison of different national economies will very often run up against the insurmountable barrier of structural dissimilarity, the study of the actual economic relation between such—in that sense—incomparable areas is always analytically possible; it also is of great practical im-

portance. That is why I cannot abstain from commenting on Copeland's reluctance to provide an adequate description of international economic transactions by means of detailed interlocking of separate national accounts. Contrary to what he has to say in this connection about the difficulties of finding a proper valuation basis, it would seem that in the description of actual international transactions—as contrasted with idealized comparisons of, in fact, completely unrelated and independent national accounts—no fundamental difficulties of measurement and of classification can possibly arise. After what has been said above about the problem of valuation and imputation, it hardly need be explained why the difficulty of international currency comparisons should, in no case, be allowed to bar the way toward a detailed and comprehensive description of international transactions through a system of interlocking social accounts.

Let me close these remarks by admitting that without having studied Copeland's stimulating paper, I might not have seen clearly some aspects of the fundamental problems on the solution of which I find myself unable to agree with him.

RICHARD RUGGLES, Yale University

The focus of Copeland's paper is excellent, both insofar as it pertains to comprehensive systems in general and insofar as it examines the present UN system in some detail. The easy way for Copeland to have approached this subject would have been to set forth his own ideas about a comprehensive system without relating them to any existing system. However, if there is to be a cumulative build-up in this field, and if the different existing systems are to be integrated, writers must do more than merely present their own new systems; careful analysis of existing or proposed systems is necessary.

Before going into an examination of Copeland's evaluation and recommendations, I would like to raise one terminological question. The term "social accounting" has been used by economists to indicate accounts for a nation or region which are primarily economic in nature and are expressed in monetary units. But it is quite conceivable that other systems of accounting could be drawn up which would be stated in terms of physical expenditure of effort in hours and numbers of individuals, or in terms of an inventory of the assets of an economy in physical terms. I would question the

use of the term "social" by economists to designate what are primarily economic accounts, and I would ask whether the term "economic accounting" might not be used instead, so that social accounting could be reserved for the broader area of social statistics which might be used by psychologists, sociologists, public health workers, etc.

In developing any system of economic accounts, the question of sectoring arises. In input-output accounting, the economy is classified on the basis of industries defined in terms of the similarity of their production functions. In contrast, moneyflows accounting employs a more institutional method of sectoring; for instance, corporate and noncorporate sectors are distinguished from each other, and federal and state and local governments may also be distinguished. In national income accounting, there is no hard and fast rule as to what concept of sectoring is to be followed. The UN system in theory distinguishes three institutional sectors—business, government, and households—each with four accounts; but in practice this system seems to treat foreign trade as a sector and to distinguish four functional sectors—producers, consumers, government, and foreign trade—each with a current account and a capital reconciliation account. The problem of defining sectors in terms of either transactors (institutional) or transactions (functional) is complicated by the ambiguity of all of these terms. Thus, for example, it would be possible to set up a consuming sector based on the inclusion of all transac*tions* of a consumption nature, whether they arose in a household, in business, or in government. On the other hand, it would also be possible to set up a sector based on the inclusion of all consumers as the transac*tors*, with the proviso that individuals might act in the role of consumers and/or producers. Stated in this manner, the classification system based on transactions and that based on transactors could come out to be the same thing. The greatest practical differences in sectoring systems in fact arise in the determination of whether the activities of individuals who embody different functions in one entity (i.e. farmers, who are both producers and consumers) are broken up into separate accounts for each function or are treated in a single account.

I am in very strong agreement with Copeland's suggestion that national income as a concept be omitted from the system of accounts. It is not an aggregate that flows easily from a gross set of accounts, and as an economic construct it can more conveniently

be derived by selecting various components of the accounts as a separate exercise. In addition to the reason given by Copeland for omitting national income as a concept, I would underscore the lack of meaning of capital consumption allowances as a macro-concept in almost all the economic accounts that I have examined. Obsolescence due to technological advance must be a charge against capital for the individual firm, but for society as a whole such obsolescence results from uncounted capital gains, perhaps due to past research and development, rather than a using up of capital. The income of a nation measured after allowance for the amount necessary to keep capital intact would not require an adjustment for this obsolescence. If the capital equipment of an economy becomes technically obsolete before it wears out, gross national product is a better measure of the true national income than is net national product. It may perhaps be argued that the fact that capital consumption allowances containing obsolescence charges cannot be made conceptually correct (because of the impossibility of measuring and including the capital gain due to technological advance) is no reason for abandoning them as a correction altogether. Such an argument, however, is similar to one that might be made by a population estimator who knows the death rate in a society but does not know the birth rate. Applying the correction for the death rate without any correction for the birth rate would be more misleading than applying no correction whatsoever.

I would also agree with Copeland that the current S and I account is misfocused and contains hodgepodge concepts. His money-flows work has pointed the way to making this general area more meaningful. The incorporation of financial transactions and corporate capital transactions seems a useful extension. Copeland's tentative sketch is very suggestive and corrects many of the difficulties in the UN system without becoming unduly complex.

One qualification which I would make in Copeland's system is his use of net concepts, for example net sales of existing assets and net transfers. Net concepts are very difficult to handle, both statistically and analytically. If the net flow is the result of two gross flows which behave quite systematically but quite differently, an understanding of the behavior of the net flow is impossible without going back to the gross flows.

The problem of imputations raised by Copeland presents a great many difficulties, some of which I personally would feel to be insurmountable. This is especially true of imputations for certain of

the personal services, leisure, and transportation services. If one were to go as far as Copeland suggests, perhaps the term "social accounting" should be kept, since the result has very little to do with a meaningful evaluation in monetary terms. In other words, I am quite bearish with respect to extensive imputations but would not object to others making them, as long as they are both explicit and separable in the accounts, so that they can be omitted easily if desired.

The articulated balance sheets presented by Copeland are a natural counterpart to the articulated national income accounting system, and he is to be congratulated on presenting such a useful set of accounts. The valuation problem on the balance sheets is similar to that raised in national income accounting, and as in the case of national income accounting it should be remembered that not all areas of the articulated balance sheet will be affected by the arbitrariness and difficulty of evaluation to the same extent. The usefulness of the system as a whole should not be judged purely on the basis of the significance of the totals at the bottom of each account.

Copeland's suggestion that the national income accounting system serves the function of a core in relating the various other systems of economic accounting is extremely interesting. National income accounting, in contrast with the more detailed systems of input-output and moneyflows accounting, is basically a summary statement of the operation of the system. As such it is well adapted to serve as the common core to which both moneyflows and input-output can be tied. The usefulness of national income accounting, furthermore, is largely restricted to this aggregative summary function; when greater detail is desired, it seems natural that the analyst would wish to go in the direction of either input-output or moneyflows. If the three systems were interrelated in this manner, it would make comparability among them much simpler without contravening the necessity for different classification systems in different uses.

GEORGE JASZI, Department of Commerce

As one of the authors of the UN document which Copeland subjects to such searching criticism, I should like to congratulate him for having written a highly original and constructive paper. It blends to an unusual extent a broad vision of the subject matter

with a patient elaboration of its concrete detail. It goes far toward outlining a comprehensive system of social accounts concrete enough for statistical implementation—including not only the conventional national income and product accounts, but also the related input-output, moneyflow, and balance-sheet accounts. Although some of the propositions which Copeland advances appear doubtful to me, I am certain that his paper will become a basic document to be taken into account in any further work that is done in this field.

It is not easy to comment briefly on this paper, partly because of the multiplicity of issues it covers and partly because often somewhat intricate points of accounting are involved that cannot be conveyed effectively without pencil and paper. I shall select a few basic issues and try to deal with them as clearly as I can in the absence of these aids.

Imputations.[1] The treatment of imputation in the UN document is one of the features with which Copeland appears to be most satisfied. I believe that what we propose makes sense pragmatically, thinking in terms of the type of tool (or toy) that we are asked to furnish to the major users of the data. But more work on the broad rationale underlying imputations is in order, in my opinion. I hope that something new may develop out of the experience of underdeveloped countries, where the practical importance of imputations should encourage a fresh approach. I have nothing concrete to offer here except a suspicion that conventional interpretation of imputation in terms of a "welfare" objective is, if not wrong, certainly too broad. Is it not more realistic to say that we impute, or

[1] I should like to point first to what may be a misunderstanding. It concerns the unexchanged part of the primary production of nonprimary producers. The UN document intends to include this production in national output under the phrase, "their own trade." It is not clear from Copeland's summary whether he recognizes this or implies the contrary.

Incidentally, some doubt appears to have arisen as to the meaning of the phrase "their own trade" in the sentence where imputation of the nonprimary production of nonprimary producers is confined to the products of "their own trade" in the UN document (see especially the paper by Irving B. Kravis). I should like to say what I think we meant. An illustration will serve: if the trade of an artisan is that of a shoemaker, we intended to include in output not only the shoes he exchanged, but also those he made for his own use and that of his family. But if, in addition, he made toys for his children, we intended to exclude them as not being a product of his trade. To the best of my understanding, we did not intend to put any broader construction on the meaning of the phrase "their own trade."

should impute, whenever it is necessary to throw light on problems that require economic decisions?

I should like, however, to comment specifically on the more narrow effort made in the UN document to "formalize" the proposed imputations by stating general rules under which specific imputations can be subsumed. These rules are stated in paragraph 5, page 5. But, as Copeland puts it, they must be "construed" before they can be seen to apply to individual cases. For instance, to make the rental imputation conform to the "principal products" rule, owner-occupancy of houses must be set up as a separate business. When we are through "construing" the general rule, we have in fact an enumeration of each separate type of imputation to which the general rule does not add a great deal. Hence, I cannot see that the aim of "formalization" has met with signal success.

If it is desired to do further work along these lines, one should consider the possibility that there is some ambiguity in the concept of imputation which ought to be cleared up first. Perhaps we are dealing with several heterogeneous procedures rather than one which we can hope to cover by a general formula. Let me illustrate by reference to the imputations that are conventionally made.

To start with the simplest case, all of us would agree that the accounting for wages and salaries furnished in kind is a clear-cut case of imputation. Similarly, there would be general agreement that the accounting for the home consumption of farmers and for the services rendered by owner-occupied houses represent instances of imputation. To go one step further, the accounting for the services rendered by banks and similar financial intermediaries also appears to represent a clear-cut case of imputation. But the interpretation of related treatment of life insurance is not so simple. It is possible to regard this treatment also as a type of imputation. (It is so regarded, for instance, in the National Income Supplement to the *Survey of Current Business*.) It is equally possible—and in some ways more straightforward—to regard mutual life insurance companies as associations of individuals. Exactly the same output totals are obtained; but if this interpretation is adopted, it is by no means obvious that an imputation is involved.

Let us proceed to the *cash* wages of domestics. This is a clear-cut monetary transaction, and there does not seem to be a compelling reason to regard it as an instance of imputation. But in his discussion of the UN document Copeland so regards it, and proba-

bly with a good deal of justification, taking the accounting design of that document into consideration. Similar comments apply to the cash wages of employees of nonprofit institutions and of the government and, more broadly, to the entire nonprofit institution and government component of the national product. Again it is not clear whether we are dealing here with imputations or not.

Copeland enumerates force-account construction as an instance of imputation. But he adds the qualifying phrase, "for which no accounting records of capital expenditures are maintained" (page 31). How much weight should we give to this qualifying clause? If it is given sufficient weight, the conclusion is suggested that anything recorded in national income and product for which no accounting records are actually kept represents "imputation." Surely we do not want to go that far. But if the qualifying phrase is disregarded, should not, by analogy, inventory change and also depreciation be subsumed under the general heading of imputation, on the ground that they, too, reflect internal bookkeeping entries rather than explicit monetary transactions?

These illustrations will be sufficient to support my point: an analysis of what we mean by "imputation" should precede an attempt to arrive at a "formalization" of imputation procedures.

Sectoring the Economy. Copeland proposes to substitute for the domestic capital formation account of the UN document a capital transaction account confined to corporations and to leave noncorporate private and government capital formation in the accounts for the respective sectors. I fully approve of this change. It will eliminate an artificial item, devoid of economic reality, which had to be entered in the UN accounts to transfer the capital formation of unincorporated enterprises and of government from their respective accounts to the domestic capital formation account. This item is excess baggage and should be dropped.

A minor point should be noted in this connection. In addition to the items just referred to, the "capital transfers" in the UN accounts include some genuine transactions, such as capital subsidies. These would not drop out as a consequence of the resectoring proposed by Copeland and would have to be accommodated in some manner.

While the proposed resectoring represents a welcome simplification, I believe that Copeland somewhat overstates his case. He states (pages 46 and 64) that the proposed change is needed primarily to make the accounting framework a better medium for

the introduction of moneyflow analysis. In a similar vein, he says that a basic conflict exists between national income analysis and moneyflow analysis with respect to sectoring (page 64) and, by way of an example, that the United States accounts do not lend themselves to elaboration in the moneyflow direction because of different sectoring (page 64). I regret that I do not understand the explanation of this point that Copeland provides (page 65), nor do I follow the reasoning of others who have advanced similar views. It seems to me that the essence of the matter is that moneyflows can be introduced into the national income and product accounts by an appropriate deconsolidation of the consolidated S and I account. There are problems involved in determining the most advantageous sectoring of the consolidated S and I account—I think that Copeland is right that the UN document did not follow the simplest and most natural plan—but in the case of the United States consolidated S and I account, wrong sectoring cannot have occurred for the reason that this account has not yet been sectored.

With further reference to the UN document, I shall assume, at the risk of misinterpreting Copeland, that he means to say that as a consequence of wrong sectoring the residual entries for "lending" and "borrowing" in the UN capital reconciliation accounts are misleading and scrambled, unfit to serve as summaries for supporting statements detailing the genuine lending and borrowing transactions which occur in the economy. This, emphatically, is not the case. The artificial entries referred to earlier, which transfer capital formation from the private noncorporate and government to the domestic capital formation account, were introduced with the very aim of making the residually defined lending and borrowing transactions clean items that conceptually equal actual lending and borrowing. The only scrambling that appears to have occurred was with respect to transactions in secondhand assets. I think that Copeland is correct with respect to this minor point. But aside from this correction, which should be made in the manner suggested by him, the UN entries for lending and borrowing are exactly what they are labeled to be.

Current and Capital Reconciliation Accounts. Copeland proposes combining the current and capital reconciliation accounts given in the UN document for the noncorporate private, government, and external accounts. The chief effect of this combination would be to eliminate from the accounting system any entry for

domestic saving, with the exception of undistributed corporate profits.

The main reason for Copeland's proposition is, I believe, his dislike of the personal saving concept. Additional reasons are, first, his desire to get rid of the distinctions between current and capital transfers made in the UN document, some of which he regards as dubious, and, second, I assume, his desire to simplify the accounts. He also mentions as a reason the difficulty of calculating capital consumption allowances for noncorporate enterprise (page 42), but this is not a valid point, as he notes later (pages 43 and 78). In the absence of capital consumption estimates, it would still be possible to present current and capital reconciliation accounts separately, with gross saving substituted for net.

I agree with Copeland that some of the distinctions drawn between current and capital transfers in the UN document are tenuous. But these matters could be adjusted without dropping the distinction between current and capital reconciliation accounts. In any event, as he himself notes, this is not a major point. That the gain in simplicity is not really significant is shown in a later portion of his paper when Copeland indicates the rather elementary manipulations necessary to reconvert his combined accounts into separate current and capital reconciliation accounts (page 78).

We are thus left with his dislike of the personal saving concept as the main argument. What is the basis of his aversion? I take it, first of all, that he does not object to it because it combines the saving of widely different types of entity—families of wage earners, families of farm entrepreneurs, families of nonfarm entrepreneurs, families of rentiers, etc. Otherwise, he would have to object to consumer expenditures also, since they combine the current expenditures of the same heterogeneous entities. Nor can he object to personal saving because, when analyzed into its forms of disposal, it is seen to consist not only of financial items but of tangibles as well. Otherwise, he would have to object also to the undistributed profits of corporations, which have exactly the same characteristics when similarly analyzed.

His basic objection to personal saving is, I believe, the circumstance that for entrepreneurs it combines saving made in some sense in a business capacity with saving made in some sense in a consumer capacity (pages 47 and 49). Copeland now seems to have come to the conclusion that even though the distinction is an important and real one, it cannot realistically be made in practice

(he drew an opposite conclusion in his *A Study of Moneyflows*, where the distinction is carried through). The best way out of this dilemma appears to him to be to drop the concept altogether. This may be a somewhat drastic solution, reminding one of the proverbial baby and the bath, but it has consistency if one stops right here.

But let us go one step further. In Copeland's accounting system the place of personal saving is taken by an item of lending (item 4.6 in Account 4 of Exhibit 3). Closer examination of this item reveals that it is just as much of a mixture as the saving item that has been dropped, and for exactly the same reason: it combines lending (and borrowing) made in a business capacity with lending (and borrowing) made in a consumer capacity. But for some reason Copeland does not seem to mind this, and he does not publicize unduly the fact that the lending item is really a first cousin of the less fortunate personal saving item which has been thrown overboard.

In the light of all this, I do not see sufficient reason for dropping the distinction between current and capital reconciliation accounts. After all, this distinction (like the distinction between gross and net with reference to depreciation) is in the direction of sounder accounting, and it should be encouraged as far as possible. I note comments qualifying Copeland's main position at various stages of his argument (e.g. pages 46, 78, and 90) and am hopeful that a meeting of minds on this point is possible.

Miscellaneous Points. A few subsidiary points remain to be made.

1. With respect to the integration of input-output and moneyflows into the comprehensive accounting system, I think that Copeland has found the right solution by relating each of the two to the national income and product accounts but not relating them directly to each other, mainly because of the establishment-versus-firm classification difficulty.

I have one query in this connection. In his earlier paper on a similar subject (presented last year to the International Association) he included in the standard set of accounts a separate account for the banking sector. This seemed to me to be a desirable feature, because the analysis of financial flows is made infinitely more revealing if the transactions of this sector are shown separately. In the present paper such a separate statement is offered only in the supporting tables. This seems to me a genuine loss.

2. I am not satisfied with Copeland's discussion of the output aggregates. With respect to gross domestic product, I think he gives a statement as to the "objectivity" of its definition (page 22) which will unnecessarily antagonize those who regard this aggregate as arbitrary and conventional, although they might not object to it in many of the uses that Copeland has in mind. With respect to the national income concept, I believe that he gives it less than the credit due to it, criticizing it on the twin grounds that it is the reflection of a product aggregate that contains "duplication," and that it represents an arbitrary allocation between so-called "factor returns" and so-called "nonfactor charges" (page 40). In my comments on Gerhard Colm's paper I have tried to indicate how the concept of national income may be explained without any reference to the duplication controversy, and why I believe that a distinction between factor returns and nonfactor charges such as is conventionally made is of some usefulness.

3. Finally, a word about conceptual and statistical complexity. One of the considerations in the preparation of a standardized system designed for international use is that it should be comparatively simple in definition and also in statistical implementation. It may be argued that the UN document has failed to some extent in this respect, and that it would have been wiser to draw up a much simpler system which would have had a better chance to be implemented forthwith by countries underdeveloped in national income theory and in primary statistical information. It appears to me, although this is a tentative conclusion which I am prepared to revise, that Copeland's system has no overwhelming advantage over the UN system on this score. If a really simple system is the requirement, it has not yet been produced, although we have one (Richard Ruggles' system) that is considerably simpler than either of the two which we are discussing here.