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An Approach to the Integration of Income and Product and Flow-of-Funds National Accounting Systems: A Progress Report

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BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

THE field of national accounting has reached a stage where the question of the integration of the various existing (and potential) systems of national accounts cannot be ignored. Natural lines of development of the existing systems are increasingly bringing this question to the attention of both users and constructors of the systems. The recent attention paid to the issue of integration of the national accounts in this country and abroad reflects this.[1]

The present paper will focus on one aspect of this general problem: integration of the United States national income and product accounts and the United States flow-of-funds accounts. It is concerned with questions involved in trying to set forth a basic detailed structure of accounts that can be considered to underlie and encompass both the flow-of-funds accounts and the national income accounts. Such an underlying structure should contain all the elements of importance to both systems and should be organized in such a way that the separate, more specialized systems can be derived from it in a series of relatively few and simple operations. A basic underlying structure satisfying these conditions might very well be too complex and detailed for general presentation and use. More summary and simple forms of presentation suitable for regular publication would also have to be developed but this paper does not go beyond the problems involved in the basic detailed structure itself.

NOTE: The views expressed in this paper are those of the author and do not necessarily reflect those of the Board.

[1] Among the examples of this rising interest are the report of the National Accounts Review Committee; the papers prepared for the meetings of the Expert and Working Groups on Financial Assets and Liabilities of the Conference of European Statisticians, and the proceedings and reports of the meetings; the work of several international agencies—Organization for European Economic Co-operation (OEEC), International Monetary Fund (IMF), and the United Nations; and statistical and developmental programs in many countries.

As its title indicates, this paper is a progress report, prepared in the middle, not at the end, of developmental work and thinking on these problems. The paper does not present a full and final set of detailed proposals for an integrated structure of accounts. There are many aspects of the problem still to be explored, many avenues of experimentation with form and content still to be traveled, and many areas where further discussion, and even controversy, are needed before definitive solutions can be attempted. Exhaustive examination of proposals and discussions in other countries and in the international organizations has not been completed. Many specific areas, e.g. the exact contents of government capital accounts, are relatively untouched. And many times throughout the detailed discussion to follow, problems will be raised, alternative procedures or solutions discussed, but no final decision or choice made.

While the paper is a progress report, it is not a complete report of our work in this area; a more fitting title would have been "Some Aspects of a Progress Report, etc." We have explored many more aspects of the problems of constructing integrated accounts and in much more detail than can be discussed within the space limitations imposed on the paper.

To some extent, there is no need for this paper to be a full report on our progress, since some aspects of such a report have already been published. Much of the developmental work on, and changes in, the published versions of the flow-of-funds accounts over time has been a deliberate anticipation of the needs and characteristics of an integrated system. In its provision of a statistical framework within which integrated analysis could be undertaken in an internally consistent and controlled fashion, the flow-of-funds system of accounts has never been burdened with a doctrinaire, rigidly defined set of boundaries drawing an arbitrary line between what might and what might not properly be recorded in the system. Changes in the accounts have been frequent; in each set of changes a primary consideration has been improvement in the integration of the financial and nonfinancial perspectives of the economy, and we are by no means at the end of that road. The development of a detailed and completely satisfactory integration of the flow-of-funds accounts and the national income and product accounts is part of the continuing development of the flow-of-funds accounts. In each stage of development, we have endeavored to move toward the ultimate form that we conceived the integrated structure would have if it were ever achieved. This does not necessarily mean that we concluded that a single integrated structure was practicable or that we had firmly in mind all the characteristics of such a structure, but we have had in

mind the general form of an integrated structure, and our changes have been made in that direction.

The version of the flow-of-funds accounts presented and described in the August 1959 issue of the *Federal Reserve Bulletin* is an important step in this aspect of our work.[2] The sector structure, the financial transaction flows, and the form of sector capital accounts in this latest version of the flow-of-funds accounts are, with relatively minor exceptions, those proposed in this paper for an integrated structure.[3] These parts of the presentation in the *Bulletin* can thus be considered part of this progress report, and they are not repeated in detail here.

More serious than the referral to another publication for part of this progress report is the fact that many aspects of our work and thinking on the problems of integration are not fully discussed in either the present paper or the *Bulletin* article. Some of these problem areas receive only the most summary and cursory mention, and others will not be mentioned at all.

For example, an illustrative statistical implementation of the structure discussed here is not presented in this paper. The lack of a full statistical implementation could be a serious bar both to ease of communication with readers and to a definitive discussion and resolution of issues raised in the integrated accounts. Generalizations and abstract treatments in this area often founder on the hard rocks of actual treatment, institutional and economic reality, and statistical availability. The problems that will cause the most trouble and occasion the most argument in trying to achieve integration will, I suspect, turn out to be not the broad general outlines but the specific treatments of very detailed relationships. Without specifying the exact process of measurement—and often not even then—it is very difficult to describe (or even to specify) the detailed characteristics of a system. However, despite the absence from the paper of sets of tables with the cells filled in, the recommendations here are detailed and specific; with the exception of a few areas where the proposals go beyond present statistical availabilities (e.g. transactions in existing assets and government tangible capital expenditures and depreciation), the detailed treatments discussed in the paper are in terms of available or derivable series.

Among the other areas that will receive only passing mention are statistical conflicts remaining to be resolved, the role of discrepancies

[2] "A Quarterly Presentation of Flow of Funds, Saving, and Investment" and accompanying tables, *Federal Reserve Bulletin*, August 1959, pp. 828–859 and 1046–1062.

[3] On the other hand, several aspects of the present flow-of-funds treatments in the area of current nonfinancial flows represent interim treatments rather than final suggestions with respect to the basic integrated structure.

in the structure, problems and issues in valuation, balance sheets, and relations to input-output accounts. Space limitations also prevent any discussions of, or comparisons with, other work in this area in this country (e.g. the report of the National Accounts Review Committee), in other countries, and in the international agencies. Similarly, problems and issues in the international comparability of fully integrated systems will not be treated in this paper.

It is difficult for me to acknowledge at every relevant point all those who have influenced my thinking on these matters and all those who have reached similar, or different, positions. My interest in the subject of integration of the accounts goes back more than ten years, and I am not sure that I could separate out all the strands of influence without two major research projects—one economic and the other psychiatric. The following substitute for a more businesslike procedure cannot hope to be complete or adequate. Reference must be made to the influence of Richard Stone's Appendix to *Measurement of National Income and the Construction of Social Accounts.*[4] Morris Copeland must be mentioned not only for specific ideas but also for his vigorous advocacy of an integrated structure, which has tended to act as a counterweight to those who would keep flow-of-funds a "pure" system in some sense. The elaborate and detailed structural aspects of the national accounting work of the Netherlands has stimulated and encouraged fresh looks at structural problems. The papers submitted to the meetings of the Conference of European Statisticians' Expert and Working Groups on Financial Assets and Liabilities (which were concerned to a great extent with the question of integrated accounts) and the discussions during these meetings, which took place in Geneva in 1959 and 1960, have provided valuable insights. Discussions over the years with economists from many other countries have crystallized and clarified my own thinking on the subject; those with Dr. Gaathon of the Bank of Israel forced me to think through many things that are too easily left vague. The other members of the Flow of Funds and Savings Section at the Federal Reserve Board have contributed mightily not only to the published presentations of the flow-of-funds accounts but also to this longer-run, developmental part of the work. In particular, I want to mention Mr. Stephen Taylor; we have discussed and argued the problems in this area for so long a time and have switched positions so often that on many points it would not be easy for me to say whose original position was finally incorporated.

[4] "Definition and Measurement of the National Income and Related Totals," Studies and Reports on Statistical Methods, No. 7, United Nations, Geneva, 1947.

General Approach to Integration of Systems of Accounts

To put discussion of the detailed characteristics of an integrated structure into proper focus, several general observations about what is meant by integration of accounts and what is entailed in trying to achieve it are in order.

Despite the terminology used both here and in most of the discussion on this subject, the issue is not integration as such but rather the form of the integration. In general, integration between different systems can be achieved either by reconciliation or by synthesis into a single structure.[5] Thus, both the 1955 and 1959 versions of the flow-of-funds accounts are integrated in analytic use with the income and product accounts by means of reconciliation, or bridging, tables.[6] Integration is needed for effective analysis, but both integration by reconciliation and integration by synthesis can be used effectively. Integration in the form of a single system, while not absolutely necessary for effective analysis and while possibly involving certain complexities, does have certain advantages in pedagogy and in easing communication with the casual user; this is undoubtedly the direction in which developmental work in national accounting should move. It should always be kept in mind, however, that what we are after is a structure that can be effectively and flexibly used. Only through experience and experimentation in analytic use can we arrive at judgments as to the most useful form of integration. It is by no means a foregone conclusion that complete integration by synthesis is the most effective path. If it turns out to be easier in specific instances to integrate through reconciliation rather than through complete synthesis, pedagogical problems and abstract notions of neatness should not be allowed to operate as absolute bars to operational solutions, although they should be given appropriate weight.

Moreover, reconciliation and synthesis should not be treated as mutually exclusive principles of integration. The operational question

[5] By neglecting this distinction between the fact and the form of integration, the report of the National Accounts Review Committee missed an opportunity to clarify the situation facing the social accountant.

[6] The bridging, or reconciliation, tables were published as part of the 1955 version of the flow-of-funds accounts (see *Flow of Funds in the United States, 1939–1953*, Board of Governors of the Federal Reserve System, Washington, 1955, Tables 2–9, 12, 14, 15, 18, 19, 24, 25, 65–68, 70, 72, and 84–87). Text explaining these reconciliation tables and elaborating the relationships between that version of the flow-of-funds accounts and the income and product accounts occurs throughout the volume. The reconciliation tables for the 1959 version of the flow-of-funds accounts were not published with the original presentation in the August 1959 *Bulletin* but were presented in the *Flow-of-Funds Saving Supplement* #6, 1961.

is not necessarily whether to integrate one way or the other but rather in what combinations. Thus, integration by complete synthesis with no use of reconciliation may be an extreme case. While more synthesis, and less reconciliation, is unquestionably desirable, and development at the present time should be in this direction, we must also be prepared to find that, even with a decision to create a single system through synthesis, there may be a few specific transactions or relations that are better handled through reconciliation. Indeed, even if a single synthetic integrated structure is created as the underlying conceptual base of published accounts, the form of publication may be such that separate flow-of-funds and national income tables, both derived from the underlying structure, are linked in publication format through reconciliation tables.[7]

In any case, an essential step in determining how much effective integration can be accomplished through synthesis and how much through reconciliation is the setting down in detail of a completely integrated single system, including all the entries and constructions, no matter how complex or cumbersome, necessary to accomplish this. It is this step that is the specific subject of this paper.

Another important general aspect of the approach to the construction of an integrated system of accounts used here is the relation of the broader integrated system to the presently existing systems. In the construction of the integrated system, we should be concerned with determining the proper characteristics of a system that incorporates both national income and flow-of-funds perspective and flows. We cannot effectively approach the setting up of an integrated system in terms of tacking financial flows on to the existing national income system or of tacking on or identifying national income flows in a flow-of-funds system. Such approaches may constitute interesting exercises in national accounting techniques, and they may contribute a specious feeling of comfortable continuity to those understandably reluctant to have part of their intellectual capital rendered obsolete, but they are not conducive to systematic investigation and are unlikely either to offer the most efficient path to the desired synthesis or to be productive of an optimum solution to the problem of integration.

A corollary of the broader approach is that it cannot be specifically dedicated to the preservation at all costs of the present structures of, or detailed treatments in, the national income or the flow-of-funds accounts as these systems are now presented or have been presented in earlier versions. The scope and weight of this statement should

[7] Such reconciliation tables would, of course, be simpler than those involved in integrating through reconciliation two systems not deliberately taken from a specifically constructed common underlying structure.

not be exaggerated; it does not imply wholesale abandonment of features of the predecessor systems. But it should not be a great surprise, nor should it be considered in any way a reflection on the developers of the separate systems, if the task of creating an integrated system should bring to light some details of the separate systems that are incompatible with, or create unreasonable complexities for, the broader system. In fact, it may even be that constructing the integrated system brings to light errors or inconsistencies within the earlier systems.

With respect to the national income accounts, there should in general be no important changes required in the broad concepts and definitions—gross national product and national income;[8] but changes in the structure of the accounts may be indicated. With respect to the flow-of-funds accounts, many of the changes in the latest version of that system, referred to above, already reflect an anticipation of the needs and characteristics of an integrated system; but there are undoubtedly some changes required that were not foreseen, just as there are some that were realized but not made for one reason or another; and there may turn out to be some changes that went in the wrong direction and will have to be reversed.

The important point is that the creation of an integrated system is likely to require changes in the pre-existing systems if the latter are to become integral parts of the basic system. It would, of course, be possible to maintain the present systems in all their present details, in addition to the integrated system, but this would be self-defeating in terms of the drive for integration through synthesis, for such maintenance would then require two more sets of reconciliation tables.

It is essential to stress the possibility of change in the present systems arising in the process of creating an integrated system because it is at this point that some of the discussion of integrating the accounts has gone aground. For example, the National Accounts Review Committee sets forth as part of the recommended procedure for integration that the present structure of the national income accounts be taken as the necessary framework on which to construct the integrated system. It is, of course, always possible that, after investigation is made into all aspects of integration, this will turn out to be the conclusion, but to make this the necessary starting point is to prevent an efficient and imaginative examination into the desirable characteristics of an integrated system.

Another reason for stressing the possibility of change in the specialized systems relates to the users of the accounts. A basic

[8] However, as will be indicated later, a few minor changes may be indicated in the detailed implementation of these concepts.

element of the interest in synthetic integration of the accounts, and the rejection of integration through reconciliation, is the understandable unwillingness of the users of the national accounting structures to pay the cost of learning and becoming facile in two structures and in the relations and differences between them.[9] But integration through synthesis is not costless. Aside from the possible cost in increased complexity, there is also the cost of relearning changed constituent systems, of adjusting to new tables, etc. The fairly general affirmative response to the query, "Are you in favor of a simple, unified integration of the systems of national accounts?" presupposes, I am sure, that such integration is costless with respect to new learning and the obsolescence of old intellectual capital. With a more realistic comparison of costs it may turn out that integration through reconciliation (at least for some of the transaction complexes) has more adherents than appear on the surface.

Some of the problems that arise in constructing integrated accounts stem from estimating differences (as opposed to conceptual differences) between the flow-of-funds and the national income accounts. These differences relate to sources of data, interpretation of data, manipulation of data, and treatment of discrepancies. In principle, it is easy to solve these problems by choosing one or the other estimate. This can be done, of course, to some extent. Thus, in the latest version of the flow-of-funds accounts, in anticipation of integrated accounts and in recognition of the advantages of division of labor, most of the statistical differences from the national income accounts in the nonfinancial flows have been eliminated in those cases where this did not involve financial flows or sectoring concepts. But things are not always that simple. It is often difficult to distinguish between conceptual and statistical differences. For example, household saving through private life insurance in the income accounts is equal to the change in total assets of the insurance funds; in the flow-of-funds accounts, it is equal to the change in policy reserves. This difference might be interpreted as either conceptual or statistical.[10]

Furthermore, there are many cases where the choice of statistical procedure is not independent of the form of the accounting structure.

[9] Our experience in providing integration through reconciliation has brought to light that the cost in some cases is not only the effort of learning the flow-of-funds system and the reconciliations but also of learning the national income accounts. Many users of the income accounts do not know the characteristics and contents of that system and hence find it paralyzing to use the reconciliation tables, since these imply features of the income accounts that these users are not aware of.

[10] Gilbert, Jaszi, Denison, and Schwartz have indicated the difficulties of distinguishing between conceptual and statistical differences in the field of national accounting in one section (pp. 193 ff.) of their article "Objectives of National Income Measurement: A Reply to Professor Kuznets," *Review of Economics and Statistics*, August 1948, p. 179.

An estimating procedure that seems to work within one accounting structure may appear seriously deficient when brought into the context of a broader structure. For example, in the national income accounts, the entry for net foreign investment in the saving and investment account is estimated from the current account side of the balance of payments rather than from the capital account side, by definition the appropriate side from which to make the estimate. This method of estimating the entry creates no problems until a broader accounting structure that incorporates financial flows is used. As soon as this happens, estimating the capital account entry by the current account highlights certain problems that were always there but that could be more easily suppressed in the more specialized accounting structure.

Since no statistical implementation of the proposed structure is presented in this paper, the problems created by statistical differences do not have to be faced here, and no further mention will be made in this paper of the choices and changes that must be made in the existing systems with respect to statistical differences.

There are some differences between the existing systems of accounts that must lead to changes in one or the other and that cannot be ignored here. These are the cases where differences in the two systems are, in effect, alternative treatments and the integrated system could with equal structural logic adopt either, but not both, of the competing treatments.[11] There are several instances of such differences, but one example will illustrate the problem: In the flow-of-funds accounts, purchases of consumer durable goods are included among consumer investment expenditures, whereas they are treated as consumption, or current, expenditures in the income accounts; the adoption of the former treatment in the integrated system would result in measures of GNP, consumption expenditures, consumer saving, total saving, total investment, capital consumption, and possibly personal income and national income that differ from those in the present national income accounts.[12] Only one of these competing treatments can be adopted for the integrated accounts. In

[11] It must be emphasized that the important decisions as to concept and definition are not determined by the accounting structure. On the contrary, the accounting structure is influenced and determined by the concepts and definitions adopted on substantive grounds. The structure may highlight the meaning or implications of the concepts and definitions adopted and reveal inconsistencies among them, but it should not be the decisive element in definitional decisions.

[12] The extent of the differences would depend upon what value was placed on the current services of the durables "purchased" by consumers from themselves. In the description of the integrated accounts presented later in the paper, the value of the services is taken as equal to estimated depreciation on the consumer durables, and no allowance is made for "net imputed rental income" on the durables.

most such cases of conflict, the treatments recommended here for the integrated accounts are those adopted in the flow-of-funds/saving presentation. The arguments favoring one choice over another in these cases are discussed in the *Bulletin* article referred to above and will not be repeated here.

There are, incidentally, some types of difference between the two systems for which the construction of the integrated system requires no change in either system. In cases of differences in coverage, the integrated system simply includes the widest coverage. For example, the national income accounts include, and the present flow-of-funds accounts exclude, in-kind or barter transactions—the integrated system would include them; the flow-of-funds accounts include, and the income accounts exclude, financial flows—the integrated accounts would include them. In such cases, appropriate subtotaling and labeling permit both specialized systems to be contained and identified without change within the broader system.

Elements of the Basic Structure

The structure of the integrated system must contain all the transactions and transfers of value needed for the flow-of-funds accounts and the national income accounts. It must contain them in a form such that specialized accounts or presentations now available in the existing systems can be derived in fairly simple fashion from the detailed integrated system.

The characteristics of the system will be by combinations of, or compromises among, characteristics of the existing types of systems and characteristics arising from the purposes and inner logic of an integrated system. Since the integrated system should be a major expression of development and improvement in the field of national accounting, it may have features not now available in either of the specialized systems.

The basic characteristics of the system can be described in terms of the coverage and classification of transaction entries, the grouping of transactors into sectors and of their transactions into sector accounts, and the nature of "activity" subaccounts provided for each sector.

In the integrated structure, the coverage and classification of nonfinancial transaction entries should generally resemble those of the present national income accounts, except that there should be more grossing, explicit recording of transactions in existing assets, and more explicit identification of the "market" and the "nonmarket" (i.e. imputed and in-kind) elements of the nonfinancial transaction entries. On the other hand, in its sectoring, its focus on

institutional sector accounts, and its recording of financial flows, the integrated structure should resemble the flow-of-funds accounts. The sector subaccounts, recording different "activities" within each sector account, stem from both systems. The production subaccounts, for example, are determined by the need to arrive at national income and product totals; and the sector capital accounts (including financial flows) resemble those of the flow-of-funds accounts.

The next three sections take up in detail the sectoring structure, the transaction category structure, and the activity-subaccount structure of the basic integrated system of accounts.

SECTOR STRUCTURE

The sectors in the accounts are groups of transactors. The general intent is that the transactors (and thus the sectors) be institutionally defined, though this is not always possible to carry out. That is, the account for any transactor (or sector) is conceived of as covering all transactions in which the transactor (or sector) engages, regardless of the type of activity represented by the transactions. Transactions of a given sector are not excluded from the institutional sector account because of the nature of the activity represented by those transactions; this does not mean that various activities are not separately identified within the sector account but only that they are not excluded. Grouping of similar activities to provide national totals is provided by summary tables rather than by distorting the basic structure of the accounts.

Thus, in grouping transactors into sectors for the integrated accounts, the boundaries for the sectors are determined along institutional and functional lines, but the sector accounts (with a few exceptions) include and record all the transactions of the members of the sector, not just those transactions relating to the main function or institutional characteristic that defines the major boundary lines. Thus, there are private business sectors whose main distinguishing characteristic is production, but there is no production "sector"—the "nonproduction" activities of the business sectors are recorded in the business-sector accounts, and the production activities of other institutional groups are recorded in their own sector accounts.

Since the basic underlying system covers the whole range of transaction flows in the economy, financial as well as nonfinancial, the grouping of transactors into sectors must take into account both the role of transactors in the production, distribution, and consumption of goods and their role in the financing process. Governments are distinguished from the private part of the economy; households are

distinguished from private business enterprises; within the area of private business enterprises, institutions whose primary function is financial are distinguished from institutions whose primary function is production and trade. And within both the financial and non-financial private business groups, further breaks are made on the basis of type of production, financing patterns, or role in the network of financial flows.

The specific sector structure proposed for the integrated system is that used in the latest version of the flow-of-funds accounts. The sectoring requirements of a fully integrated system are very little different from those of the flow-of-funds accounts.

This sector structure, with indication of the subsectors for which complete accounts are kept, is as follows:[13]

1. Consumer and nonprofit organizations
2. Farm business
3. Nonfarm noncorporate nonfinancial business
4. Corporate nonfinancial business
5. Federal government
6. State and local governments
7. Commercial banking and monetary authorities
   - A. Monetary authorities subsector
     - (1) Federal Reserve banks
     - (2) Treasury monetary funds—gold account, silver account, Exchange Stabilization Fund, other Treasury monetary accounts
   - B. Commercial banks in the United States
8. Savings institutions
   - A. Mutual savings banks
   - B. Savings and loan associations
   - C. Credit unions
9. Insurance
   - A. Life insurance companies
   - B. Private noninsured pension funds
   - C. Other insurance companies
     - (1) Fire and casualty insurance companies
     - (2) Life insurance plans of fraternal orders
     - (3) Nonprofit hospital and medical insurance plans

[13] Because of space limitations there is some grouping of financial sectors in some of the time series tables of the accounts as published in the *Federal Reserve Bulletin*. Tables 1, 5, 6, and 8 (pages 1046, 1054, 1055, and 1057–1062 of the August 1959 *Bulletin*) use the full sector structure, but do not, in general, present the subsector accounts. The financial sector and subsector accounts that are not presented in the *Bulletin* are published in supplementary distributions (see *Flow-of-Funds Saving Supplements* #3 and #5, 1961).

10. Finance n.e.c.
    A. Security and commodity-exchange brokers and dealers
    B. Finance companies—sales finance companies, industrial and personal finance companies, mortgage companies, short-term business finance companies (factors, etc.)
    C. Open-end investment companies
    D. Other—banks in U.S. possessions; agencies of foreign banks in U.S.
11. Rest-of-the-world

The description of the contents of these sector groupings is given on pages 846–848 of the August 1959 *Federal Reserve Bulletin* and need not be repeated here.[14]

There are several areas where the development of statistical resources, systematic expansion of detail, and reconsideration of sectoring decisions may lead to a sector and subsector structure for the integrated accounts somewhat different from that presented above. There are also many areas where further detail can be provided within the present sector structure without setting up complete sector accounts. Such contemplated changes, however, do not arise uniquely from the requirements of the integrated structure. They would be equally valid for the flow-of-funds accounts as such.

The following remarks indicate very briefly the areas where both the need for, and the possibility of, improvements in the sectoring structure are seen. In addition, there are any number of hypothetical improvements for which hope of achievement is either too slight or too far off in the future to occupy us at this point.

Consumer Sector

The present consumer sector contains two major elements—nonprofit organizations and personal trusts—that should be broken out into separate sectors or subsectors and would be so broken out if the data were available to do so. The breaking out of personal trusts would require the addition of (1) another type of financial claim—investment or equity in personal trusts—that would be an asset of consumers and a liability of the new sector; and (2) the income flows from trusts to persons, including imputation of investment income not distributed. The breaking out of nonprofit

[14] In subsequent sections of this paper, a more summary list of sectors is used for illustrative purposes in indicating the kinds of entries in the various sector accounts and in illustrating the structure of the integrated system.

organizations would require a grossing of the transfer transactions between consumers and the organizations and might raise the question of the introduction of capital transfers in the structure.

Proprietor-Noncorporate Business Sectoring

It is very unlikely that there will be in the foreseeable future a solution of the sectoring problems raised by the existence of noncorporate businesses and their proprietors that will be completely satisfactory both statistically and conceptually. At one time or another, practically everyone interested in the subject indulges in the luxury of dreaming up whole families of separate sectors, each expressing a different institutional and decision pattern, that it would be desirable to have if there were no data problems and if we were really sure that proprietors and partners acted in the ways that they were assumed to act in. Set against such a hypothetical "ideal" as a standard, any sectoring structure actually adopted and implemented must look unsatisfactory. But it would be unfortunate if failure to measure up to unreasonable standards should lead to the conclusion that nothing short of the "ideal" could be accepted and that, therefore, every group in which proprietors participate in any guise must be lumped together into a single sector. Any practicable solution is bound to be a compromise and is going to depend on the adoption of certain conventions. It is true that the user who does not bother to learn the conventions may be misled by the structure and the statistics, but this is also the case for a wide range of practices in national accounting. The solution is not to abandon compromise and convention because they are not "true" or may be misunderstood but to adopt conventions that maximize the use of the information we do have, that can absorb new data as they become available, that are readily communicable, and that are reasonably useful in analysis. It is in this pragmatic spirit that the flow-of-funds sectoring and transaction treatment of the consumer-proprietor-noncorporate jumble was adopted. This treatment has consumer activities of proprietors in the consumer sector, their business activities in business sectors, and income and investment flows between the two sectors; where possible it identifies noncorporate-business financial assets and liabilities, but allows the investment relation between proprietors and the businesses to absorb both errors in allocation of financial flows and conceptually inallocable financial flows.[15] The same treatment is strongly recommended for the integrated structure.[16]

[15] See *Federal Reserve Bulletin*, August 1959, pp. 838–839.

[16] There is no space in this paper for a detailed presentation of all the considerations leading to this choice.

Nonfinancial Nonfarm Business

The basic sectoring in this area in both the flow-of-funds accounts and the proposed structure is in terms of a separation of corporate and noncorporate elements. This division has many statistical and analytic advantages, but it is not the only significant division possible. There are at least two other dimensions that might be used to advantage: size and major industry group. The relative advantages of these three criteria as the determinants of sectors, subsectors, and additional detail, and the data requirements and availability for each are fit subjects for study before the final determination of the sectoring of the integrated structure.[17]

Insurance Sector

There is a good deal to be said for making the insurance companies other than life insurance companies a subsector of the finance n.e.c. sector rather than of the insurance sector. The role of non-life insurance companies in the saving process is essentially different from that of life insurance companies and of pension funds. Such a shift would require neither new data nor the introduction of new transaction relations. It should be noted that this is an institutional sectoring question, not one of activity grouping—if the change were made, the non-life insurance activities of life companies would still be reflected in the insurance sector.

Government Sectors

There is probably a need for one or more subsectors in the two government sectors to isolate certain more or less self-contained government activities. An enterprise subsector is needed. The scope of such a subsector is not obvious. Not all activities listed as enterprises in Treasury statistics or so classified in the Commerce accounts would necessarily be eligible for membership in an enterprise subsector. If such a subsector is to be set up, there should be a careful reconsideration of the boundaries between general government and government enterprise. The purpose of the subsector should not be to isolate all the production activity of the government but rather to recognize differences in the pattern and criteria of decision-making within the government sector. It may be found desirable to have two enterprise subsectors—one for financial enterprise and one for nonfinancial—and a subsector for retirement funds, etc. In any case,

[17] One of the advantages of the consumer-noncorporate boundary recommended in the preceding paragraphs is that it permits this kind of alternative regrouping of total nonfinancial business.

additional close examination of the various competing qualifications and criteria for subsector status, experimentation with various structures, and thinking through of what analytic purposes will be served by the provision of government subsectors are required before specific recommendations for government subsectors can be made.

Rest-of-the-World Sector

There are several fringe problems in drawing precise boundaries between the domestic sectors and the rest-of-the-world sector. To a great extent, the definitional and statistical problems here are so interwoven that it is difficult to separate them. Neither the flow-of-funds accounts nor the income and product accounts have handled these problems with complete consistency. Some attempt to deal with the problems on a more systematic basis might be worthwhile.

TRANSACTION CATEGORIES

The discussion of transaction categories and of the "activity" subaccounts cannot really be carried on independently of one another. The full discussion of each presupposes, to some extent, that the other has already been discussed. Some of the transaction entries cannot be specified except in relation to the activity subaccounts; on the other hand, the activity subaccounts can only be specified in terms of a division of transaction entries. In the following discussion, therefore, there is some jumping back and forth between, and a final merging of, the two topics.

The basic unit recorded in a national accounting system is the transaction, which consists of an exchange between two transactors. In a comprehensive national accounting system, such as the flow-of-funds accounts or the proposed integrated system, that records all the flows involved in the transaction, each transaction is represented by four entries—a debit and a credit for each of the transactors party to the transaction.[18] The term "transaction" is used to cover both purchase and sale relationships and transfer relationships. The purchase and sale transactions may take the form of goods and

[18] This is a simplification. There may be more than four entries, e.g. a purchase of goods with a downpayment and an extension of credit covering the remainder would entail six entries.

An important part of the full structure of accounts are "transactions" that represent not exchanges between different transactors but transfers of values between different accounts of a given transactor; they involve two rather than four entries in the accounts. While these entries, which include depreciation, saving, profits, etc., are not market transactions in any sensible use of the term, it is convenient to refer to them as "internal transactions." The internal transactions, being relations between activity subaccounts, will be discussed after these subaccounts are taken up in the next section. The present stage of the discussion deals only with transactions between two transactors.

services exchanged against financial instruments or claims; financial instruments against financial instruments; and goods and services against goods and services (in-kind transactions). The transfer transactions may take the form of transfers "against" financial instruments; and transfers "against" goods and services.[19] Each of the major transaction categories—goods and services, transfers, and financial instruments—is broken down into more detailed transaction categories, with uniform classification for the two parties to the transaction.

In addition to market transactions, the accounts may contain several kinds of imputed transactions—that is, transactions that did not actually occur, did not occur in the form recorded, or did not occur between the transactors (or sectors) for which they are recorded.[20] In general, these imputed transactions appear in the accounts as full four-entry transactions,[21] and the entries are classified in the pertinent transaction categories. For maximum usefulness of the accounts, detail should be given identifying—in so far as possible without undue complications—the market transactions, on the one hand, and the imputed and in-kind, on the other.

The transaction entries are, in principle, conceived of as entered gross at this stage; but, in fact, the statistical and conceptual bases for putting many financial flows on a gross basis do not exist. Suitable netting and subtotaling can be provided for. The transactions are recorded on a transactions basis, that is, at the values at which the exchange takes place. These values may or may not be the same values at which predecessor transactions took place; revaluations are reflected in the prices at which transactions take place, but the revaluations themselves are not transactions.[22]

The specific transaction categories to be used in the proposed integrated structure are indicated in Table 1; the categories stem from the needs of both the national income and product elements and the financial analysis elements of the accounts. The nonfinancial

[19] It is extremely easy to fall into the practice of referring to one-half of an exchange (e.g. the purchase debit and the sale credit) as a transaction, but the transaction is the full exchange, and the two halves are more properly referred to as transaction categories.

[20] Imputations may arise in several connections, e.g. in reaching some significant total—GNP, national income, saving, etc.; in simplifying or short-circuiting some hopelessly complicated web of transaction relationships; or in highlighting what is considered to be the essential nature of some transaction relationships.

[21] Some imputations are internal transactions (see note 18) and are represented by two entries.

[22] Revaluations and capital gains and losses can be systematically handled as internal transactions. This has not been done in the detailed system presented here, but an indication of how they might enter the system is given in the brief discussion of revaluations and capital gains toward the end of the paper.

TABLE 1

SECTOR-TRANSACTION CATEGORY STRUCTURE

Sector-Transaction Category	*Consumer and Nonprofit*		*Nonfinancial Business*		*Finance*		*Government*		*Rest of World*		*Total*		
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.		Cr.
Nonfinancial transaction categories													
Compensation of employees		×	×		×		×		×		ΣX	=	ΣX
Interest	×	×	×	×	×	×	×	×	×	×	ΣX	=	ΣX
Indirect taxes	×		×		×			×			ΣX	=	ΣX
Subsidies				×			×				ΣX	=	ΣX
Business transfer payments		×	×								ΣX	=	ΣX
Other purchases of goods and services (including,intermediate, final, capital, existing asset)	×	×	×	×	×	×	×	×	×	×	ΣX	=	ΣX
Direct taxes and refunds	×	×	×	×	×	×	×	×			ΣX	=	ΣX
Employment taxes	×							×			ΣX	=	ΣX
Dividends		×	×	×	×	×		×	×	×	ΣX	=	ΣX
Proprietors' income withdrawals		×	×		×						ΣX	=	ΣX
Other transfer payments	×	×					×	×	×	×	ΣX	=	ΣX
Financial transaction categories[a]													
Gold					×				×		ΣX	=0	0
Treasury currency					×		×	×			ΣX	=	ΣX
Currency and demand deposits	×		×		×	×	×		×		ΣX	=	ΣX
Time deposits	×		×		×	×	×	×	×		ΣX	=	ΣX
Savings shares	×				×	×					ΣX	=	ΣX
U.S. savings bonds (consumer-held)	×							×			ΣX	=	ΣX
Saving through life insurance	×					×		×			ΣX	=	ΣX
Saving through pension funds	×					×		×			ΣX	=	ΣX
Federal obligations	×		×		×		×	×	×		ΣX	=	ΣX
State and local obligations	×				×		×	×	×		ΣX	=	ΣX
Corporate and foreign bonds	×		×	×	×	×	×		×	×	ΣX	=	ΣX
Corporate stock	×		×	×	×	×	×		×	×	ΣX	=	ΣX
Mortgages on 1-to-4-family properties	×	×	×	×	×		×		×	×	ΣX	=	ΣX
Other mortgages	×	×		×	×		×				ΣX	=	ΣX
Consumer credit		×	×		×						ΣX	=	ΣX
Security credit	×	×			×	×			×	×	ΣX	=	ΣX
Bank loans n.e.c.		×		×	×	×				×	ΣX	=	ΣX
Other loans		×	×	×	×	×	×	×	×	×	ΣX	=	ΣX
Trade credit		×	×	×	×		×	×			ΣX	=	ΣX
Miscellaneous financial instruments	×		×	×	×	×	×	×	×	×	ΣX	=	ΣX
Total	ΣX	= ΣX	ΣX	= ΣX	ΣX	= ΣX	ΣX	= ΣX	ΣX	= ΣX	ΣX	=	ΣX

NOTE: × indicates pertinent cells; estimates are not available for all pertinent cells.

[a] For the financial transaction categories, net acquisitions of assets, whether positive or negative, are shown as debits (with appropriate sign); and net changes in liabilities, whether positive or negative, are shown as credits (with appropriate sign).

transaction categories are defined, on pages 44 to 54, in connection with Table 5; the financial transaction categories are defined in "A Quarterly Presentation," pages 851–857.

Table 1 presents the sector-transaction category structure of the accounts. This is the simplest form of the integrated system of accounts. Conceptually, it is a set of aggregations of the sets of four entries describing the individual transactions, aggregating transaction debits and credits by sector and by transaction category. As such, it preserves the basic equalities of the unit transaction: for each sector, the sum of credits equals the sum of debits, taking the sums across all transaction categories; and for each transaction category, the sum of debits equals the sum of credits, taking the sums across all sectors.[23]

A simple sector-transaction matrix, such as that given in Table 1, is not adequate as it stands to serve as the basic underlying structure for the integrated system of accounts. It lacks distinctions between capital and current nonfinancial transaction entries, between production and consumption activities, and between market and imputed and in-kind entries; it lacks significant internal transactions, such as depreciation, profits, and saving; it lacks significant subtotals and groupings.[24] On the other hand, the transaction categories shown are summary categories in many instances; in a fully implemented system, there might be additional detail or subcategories shown in the transaction structure as well as in the sector structure. Most of these missing distinctions and elements are better discussed in connection with the activity subaccounts. After the activity subaccounts are introduced and described, in the next section, we will return to further specification and elaboration of the transaction structure.

ACTIVITY SUBACCOUNTS

In setting up the system of integrated accounts, it is essential to provide an internal structure that can make those kinds of distinctions among transactions that are of significance both for analysis and for

[23] Statistically, the structure is not derived by aggregating debit and credit entries from individual transaction units. As measured, discrepancies arise, for several reasons, where equality is posited (see *Flow of Funds*, Appendix A, pp. 371–378; and "A Quarterly Presentation," pp. 857–859). To preserve the posited equalities in a formal sense, a dummy discrepancy sector (column) and a dummy discrepancy transaction category (row) would have to be added to Table 1.

[24] The flow-of-funds accounts, for example, have never been restricted to the simple sector-transaction matrix. Identification of capital and current flows has been made in one form or another, subtotals of financial and nonfinancial entries have been shown, and in the latest version, internal transactions (depreciation, saving, profits, etc.) are explicitly recorded.

the definition and measurement of concepts needed in a system combining income and product and flow-of-funds perspectives. The distinctions among production, consumption, and investment activities are vital ones, as is the distinction between financial and nonfinancial flows. We want to be able to distinguish among those transactions that are part of the current production process, those that represent transfers of income rather than the generation of income, those that represent the taking of the final output of the production process, etc.

These various distinctions can be made through the use of a system of subaccounts, uniform for all sectors (where at all relevant), that organize the transaction entries of each sector in terms of the various activities and types of transactions indicated. Thus, for each sector, the basic structure will have several subaccounts.

The system of activity subaccounts proposed for the integrated structure is given in the following listing, which also indicates summary groupings of these subaccounts into current and capital accounts and into nonfinancial and financial accounts:

Current	Production account	Nonfinancial
	Appropriation account	
	Current purchase account	
Capital	Tangible capital account	
	Financial account	Financial

The functions and contents of the subaccounts will be discussed presently.

The grouping of transaction entries into such activity subaccounts cuts across the grouping into the balancing transaction categories already discussed. A corollary of this is that transaction categories within a given subaccount are not necessarily balancing across sectors. Two examples will illustrate the point. Compensation of employees is a transaction category and balances when taken across all sectors—that is, total payments of compensation of employees by all sectors are equal to total receipts of compensation of employees by all sectors (only one in this example). But all such payments are recorded in production accounts; and all receipts, in appropriation accounts. Similarly, purchases of newly produced capital goods are recorded in capital accounts, but sales of these goods are recorded in production accounts. Thus, in presentation, the introduction of the activity subaccounts destroys the simple symmetry of a transactions matrix with respect to nonfinancial transaction entries (although not with respect to financial transaction entries).

In the discussion of transactions on the preceding pages, we confined our attention, in general, to exchanges between different transactors. Introduction of the activity subaccounts not merely involves dividing the entries for these transactions among the subaccounts, but also permits the introduction of internal entries, representing the carrying of values from one subaccount to another of the same transactor. These internal transaction entries are of various kinds, and serve various functions in the accounts—some represent income-originating entries or other cost-of-production entries; some represent purchases of final product; some represent balancing entries, carrying saving from current accounts to capital accounts; some are necessary to arrive at totals of analytic significance, etc. Since each internal entry in any subaccount is matched by another internal entry of the same value in another subaccount of the same sector, the recording of these internal "transactions" adds equal debits and credits to the total sector account and does not affect the balance of the sector accounts or of the transaction accounts in which they are recorded. Among the internal transactions recorded in each subaccount are entries carrying the balance of the subaccount to another subaccount; these internal entries thus make each subaccount a balanced account.

Production Subaccounts

The function of the production accounts is to record the transaction entries that are essential parts of productive activity as defined by, or implied in, the basic national income and product concepts used. The production accounts for the various sectors should be so set up that the national summary table on income and product can be derived from them by a relatively simple process of consolidation plus some obvious netting where necessary. In addition, the sector production accounts should contain all the detail necessary for transaction category identification, with transaction entries on a gross, rather than a net, basis and with detail identifying in-kind and imputed transaction entries.

The characteristics of the production accounts that follow from these general principles can be stated quite simply: All income originating and other charges against gross product are "paid" out of production accounts; all sales of final product are from the production accounts; where items in the national account for income and product are on a net basis (e.g. net interest), both the receipt and the payment that are netted together for the national income component are recorded in the production accounts. Ideally, the production accounts should contain no transfer payments or redistributions of

primary income shares.[25] No purchases of final product are made by any production accounts (production-account purchases of goods and services other than income-originating entries are intermediate purchases from other production accounts); all purchases of final product are made by the current purchase accounts or by the tangible capital accounts. Payments of income originating are made from production accounts to appropriation accounts. (In the case of compensation of employees and interest, these are transactions with other transactors; profits and unincorporated business income, on the other hand, as the residual income generated in the enterprise, are internal transactions with the appropriation account of the same transactor; distribution to owners—and to government in the form of profits taxes—takes place out of the appropriation accounts, not out of the production accounts.) Intermediate purchases and sales of goods and services are recorded gross in the sector production accounts.

All sectors, both the domestic sectors and the rest-of-the-world sector, have production accounts in the basic system.[26] The rest-of-the-world production account, which is, in effect, a part of the domestic economy, is required by the scope of the concept of national income, that is, by the inclusion of United States net income originating abroad in national income.[27]

The exact form of the production accounts and the transaction categories entered in them are presented in Table 6. A more detailed discussion of the contents of the production accounts of particular sectors also occurs in a later section.

A consolidation of the production accounts for all sectors yields the account for national income and product. The process of consolidation is a simple one—intermediate purchases of the production accounts are netted against sales, interest receipts are netted against interest payments, subsidy receipts are netted against government enterprise current surplus. The debit side of the consolidated account details national income by type of income and also records other charges against gross product; the credit side shows sales of gross national product. Since, in recording sales, the sector production accounts do not, in general, indicate the purchasing sector or the

[25] However, in order to conform to specific characteristics in the definition of national income in the Commerce accounts, business subsidy receipts and business transfer payments are recorded in the production accounts in the structure presented in this paper.

[26] It is possible to set up a condensed version of the basic system with a single national production account and with the sector accounts beginning at the appropriation account level. This is discussed briefly in a later section of the paper.

[27] Income and product systems using domestic product rather than national product as the basic concept would not show a rest-of-the-world production account.

purpose (e.g. consumption or investment) of the purchase, the consolidation will ordinarily yield only total GNP on the credit side. Detail on components of GNP can be provided from the current purchase accounts and the consolidation of the tangible capital accounts.

Appropriation Subaccounts

The appropriation accounts have the general function of recording the receipt and redistribution of income. No purchases of goods and services are covered by these accounts in the system discussed here. The appropriation account entries cover (1) all receipts of income originating (and indirect taxes) paid out by production accounts; (2) all payments and receipts of secondary redistributions of income, such as dividends and proprietors' income withdrawals from unincorporated enterprises; (3) all payments and receipts of direct taxes (and tax refunds)—individual income taxes, estate and gift taxes, corporate profits taxes, and employment taxes; (4) all payments and receipts of nonbusiness transfers of various kinds;[28] (5) payments and receipts (except those by business sectors) of government interest; (6) payments of subsidies and receipts of business transfer payments; and (7) the residual transfers to current purchase or to capital accounts of the net of these income receipts and transfers.

In principle, the appropriation accounts as conceived here would receive production-account outpayments (item 1 in list above); the various redistributions, taxes, and other transfer transactions would take place entirely among appropriation accounts, so that after all the redistributions and transfers have been recorded, the sum of resulting "disposable" incomes (item 7) for all sectors would be the same as the sum of the receipts from production accounts for all sectors, but with a different sector distribution. Under such a setup, all transaction entries of the appropriation accounts except 1 and 7 would net to zero for all sectors taken together. However, in order to conform to the treatment in the Commerce accounts of subsidies, business transfer payments, and business receipts of government interest, these three types of transactions are recorded as occurring between appropriation and production accounts rather than within appropriation accounts. The Commerce treatments of the three items are discussed in more detail in later sections.

For each sector, the final balancing entry in the appropriation account is the internal residual entry carrying the balance of the appropriation account down to the next subaccount for the sector—

[28] In the present system, all transfer payments are considered to be current flows. The possibility of capital transfers is discussed below (page 37).

to the current purchase account in the case of the consumer, government, and rest-of-the-world sectors; and to the tangible capital account in the case of the business and finance sectors. The appropriation account residual entry for the consumer sector is disposable receipts; for the business sectors, net saving; for the rest-of-the-world sector, net unilateral receipts (plus net interest receipts from government sectors); and for government sectors, net current receipts before purchases of GNP (this phraseology is applicable to this entry for all sectors).[29]

Current Purchase Subaccounts

The function of the current purchase accounts is to record current purchases of gross national product for those sectors that make such purchases, that is, all sectors except the business sectors. Such purchases—consumption expenditures, government current purchases of goods and services, and rest-of-the-world net imports—are usually recorded in the appropriation account. For several reasons, mainly having to do with the desire for sharper focusing on the role of transfer payments and on the purchasing of the gross national product, it is convenient in this detailed basic structure to keep current purchases of goods and services out of the appropriation account and in a separate account, as is done in the even more detailed account structure of the Netherlands income accounts. The present proposal for separate appropriation and current purchase accounts is a tentative one; if it is found to result in awkward constructions, the two accounts can be easily merged and any interesting entries lost in the merging shown as subtotals or as memorandum entries.

The full structure of the current purchase account is quite simple. Income after transfer receipts and payments (disposable income for the consumer sector, surplus before purchases of GNP for government sectors, and net unilateral receipts for the rest of the world) is carried down from the appropriation account as an internal flow; current purchases of GNP are made from the account (for the rest-of-the-world account, imports and exports are recorded, and the account for that sector is perhaps better named the import-export account); the balance in each current purchase account (that is, disposable income less current purchases) is carried down to the sector capital account as an internal flow. For the consumer and government sectors, this balance is net saving; for the rest-of-the-world account, it is the net balance on current account.

[29] In a later section (page 82) I will return to the appropriation accounts to indicate how they might be adapted by the use of other internal entries to provide more varied and flexible concepts of disposable receipts.

It should be noted that for all domestic sectors, saving is the link between current and capital accounts. For the business sectors, which have no current purchase accounts (all of their current purchases being intermediate purchases recorded in production accounts), this link occurs between the appropriation and capital accounts; for the consumer and government sectors, the link is between the current purchase and the capital accounts. The concepts of saving are, of course, not determined by account structure; rather, the specific decisions as to which saving concepts are wanted, which transactions are to be treated as current and which as capital, etc., determine the specific boundaries of the account structure. The concepts of saving proposed here for the integrated structure are those embodied in the latest version of the flow-of-funds accounts (with the addition of government tangible capital formation and depreciation, which were not handled there, pending work clarifying conceptual and statistical problems in this area). Discussion of the saving concepts adopted appears in the August 1959 *Federal Reserve Bulletin* (pages 832–843 and 849–850); differences from the saving concepts in the Commerce accounts are briefly discussed on pages 842–843 of that issue and are indicated in detail in reconciliation tables published in the *Flow-of-Funds Supplement* #6.

Tangible Capital Subaccounts

As a tentative matter, capital transaction entries are recorded in two capital accounts—a tangible capital account and a financial account. Such a division has both advantages and disadvantages.

On the positive side, the balance of the tangible capital account—nonfinancial surplus—carried down to the financial account is a net summary link between all nonfinancial entries and all financial entries. This is a convenient summary and would probably be added as a memorandum subtotal if it were not provided in the structure of the accounts. The existence of the two capital accounts provides a convenient separation between financial flows and transactions in real assets. They provide different elements to a consolidated national saving and investment summary—one yielding domestic capital formation, and the other, net foreign investment. In addition, certain comparisons and expositions of structure are clearer with the separation than without it.

On the negative side, the separation into two distinct capital subaccounts may give to the unwary the unwarranted analytic presumption that economic units keep financial and nonfinancial flows completely separate in their decision-making processes, linking them only at the net nonfinancial deficit or surplus level; for example, that

units (or sectors) finance their nonfinancial deficit rather than their capital expenditures. In other words, it seems to give the deficit or surplus on nonfinancial account an integral existence that it probably does not have, particularly in a broad sector account; it may tend, thus, to divide artificially a closely linked area of decision.

The tangible capital accounts cover purchases of pre-existing and newly produced tangible assets and sales of existing tangible assets. Physical capital formation is recorded in this account. The transactions in existing assets would also cover purchases and sales of businesses and changes in legal form of organization across sector lines. If both the purchase and the sale entries of transactions in existing assets are recorded in the tangible capital accounts, then consolidation of the tangible capital accounts for all domestic sectors eliminates transactions in existing assets and yields the total national tangible capital formation as an element of GNP.[30]

The entries in the tangible capital account include, in addition to purchases of capital goods (and sales of existing capital goods), a credit entry (which may be either positive or negative) for the net saving (or, in some alternative treatments, the gross saving) of the sector, carried down from the current purchase account or from the appropriation account (for the business sectors); a credit entry for capital consumption charges, carried down from the production account; and a debit entry (which may be either positive or negative) for the balance in the tangible capital account (the nonfinancial surplus), carried down to the financial account.

All domestic sectors are shown with tangible capital accounts. (The concept of a tangible capital account has no meaning for the rest-of-the-world account in this structure.) The tangible capital expenditures of each of the nongovernmental sectors are described on page 851 of the flow-of-funds presentation in the August 1959 *Federal Reserve Bulletin*. However, the proposed integrated structure calls for more information on existing-asset transactions than is available at present and more than has been incorporated in the flow-of-funds presentation. For government sectors, neither the present national income accounts nor the present flow-of-funds accounts treat any government expenditures on goods and services as structural elements of capital accounts, but such treatment should be provided, and the government sectors are considered here to have tangible capital

[30] If, however, one sector records the transaction in existing assets as a current flow and the other sector records it as a capital flow, consolidation will not eliminate the effect of the existing-asset transaction from the national total of tangible capital formation. In particular, this problem arises where all government purchases and sales of goods are recorded in current account in the government sectors.

accounts even though the exact capital expenditures to go into such accounts remain to be determined.

In the proposed structure, all transfer payments are considered to be current transactions and are entered in the appropriation accounts (except as noted above for production-account entries). However, some transfers can reasonably be argued to be capital rather than current flows and either are so treated in the accounts of some countries or have been recommended for such treatment. Examples of these are estate taxes, gifts of capital to foundations, and parts of foreign unilateral transfers. If such capital transfer entries were to be made, they would be entered in the tangible capital account. The shifting of some transfers to the capital account in any sector would change the contents of the saving entry (that is, the excess of current income over current outlays) for that sector but would not affect any other entries in the capital account.[31]

One troublesome facet of recording capital transfers is that such transfers may not be considered capital flows by both parties to the transaction. If this divergence of view were reflected in the accounts, it would complicate both the interpretation to be put on certain sector totals and the relations between sector and national totals of saving and investment. Similar problems arise when the capital transfer transaction is with foreign countries. However, these complications could be tolerated and adjusted for if the resulting sector pictures were more appropriate for analyses of sector behavior.

Another possible type of entry in the tangible capital accounts relates to the revaluation of assets and capital gains and losses. This area of valuation problems will be touched on very briefly at the end of the paper.

Financial Subaccounts

The financial accounts cover all financial flows. In the simplest version of the structure, the only entry in the financial account that does not record acquisitions and dispositions of financial assets,[32] incurrence and repayment of liabilities, and issue and redemption of equity securities is the balancing entry with the tangible capital account—nonfinancial surplus. This entry can be considered to be the balance in the financial account carried back to the tangible capital account, as well as the balance of the tangible capital account carried forward; in the absence of discrepancies, the nonfinancial

[31] For a brief discussion of the effect of capital transfer recording on the saving-investment definitional equality, see "A Quarterly Presentation," p. 833, n.1.

[32] Acquisitions and dispositions of financial assets cover asset flows that are related to gift transactions as well as those that are part of purchase and sale transactions.

surplus is equal to the financial deficit. Other possible entries might arise in connection with revaluations (i.e. capital gains and losses[33]).

Just as consolidation across all domestic sector tangible capital accounts yields the tangible capital formation component of national investment, consolidation across all the domestic sector financial accounts yields (when allowance is made for statistical discrepancies in the financial transaction categories) the net foreign investment component of national investment.[34]

Little need be said here about the details of the financial accounts for the various sectors. The financial accounts proposed here for the integrated structure, including the types and grouping of financial instruments, the valuation bases, the data sources, etc., are (with the possibility of one minor exception relating to the treatment of domestic net gold production) the same as those developed for the latest version of the flow-of-funds accounts and described in the August 1959 *Federal Reserve Bulletin* (pages 831–832, 837–843, and 851–857). This does not mean that no improvements or changes are needed or contemplated for the financial part of the structure. In several areas, we are aware of possibilities of improvement in estimates or in grouping, and there are undoubtedly other possibilities we are not now aware of. But such changes, even if they turned out to be advisable, would not be called for in order to adapt the financial part of the flow-of-funds accounts for use in an integrated structure. That adaptation has, with minor exceptions, already been performed in the published version.

In connection with the adaptation to an integrated structure, it should be noted that the scope of the financial accounts in an integrated structure is determined by considerations related not only to the financial area viewed as a separate entity but also to the needs and scope of the structure's nonfinancial elements and of the system as a whole.

THE SECTOR-ACTIVITY ACCOUNT STRUCTURE

The structure of sector accounts and of activity subaccounts is indicated schematically in its most general form in Table 2. For purposes of illustration, a simplified sector structure is used, and there is no indication of transaction categories.[35] The cells of the

[33] The recording of capital gains and losses is discussed toward the end of the paper.

[34] The existence of an "errors and omissions" item in the balance-of-payments statistics and the measurement of net foreign investment in the national income accounts from the current account side rather than from the capital account side of the balance-of-payments statement result in a statistical difference between net foreign investment in the Commerce accounts and net foreign investment in the integrated structure.

[35] Table 6, following the detailed discussion of transaction categories, presents an expanded version of Table 2, including all transaction category entries.

TABLE 2

SECTOR-ACTIVITY ACCOUNT STRUCTURE

Sectors / Subaccounts	Consumer	Nonfinancial Business	Finance	Government	Rest of World
Production Account					
Appropriation Account					
Current Purchase Account					
Tangible Capital Account					
Financial Account					

table represent sector activity subaccounts; however, the cross-hatched cells indicate that the business and finance sectors have no current purchase accounts and that the rest-of-the-world sector has no tangible capital account.

The basic relationship of the present national income accounts and the flow-of-funds accounts to the integrated structure and to each other can be shown schematically on this account matrix. This is done in Tables 3 and 4; these tables indicate the basic contrast between an activity and a sector orientation in an account structure.[36] The comparison portrays the broadest relationship, ignoring differences in sectoring and transaction detail that complicate such comparisons.

Table 3 indicates the present structure of the national income and product accounts of the Department of Commerce as presented in the Roman-numeraled tables at the head of the statistical presentation of income and product statistics.[37] The full structure consists of five accounts. The national income and product account (I) of the Commerce system is a consolidation of the production accounts of all sectors and of the appropriation accounts of the business sectors; the personal income and outlay account (II) covers the appropriation and current purchase accounts of the consumer sector; the government receipts and expenditures account (III) covers the appropriation,

[36] Both the national income accounts and the flow-of-funds accounts are mixtures of sector and activity considerations. There is, thus, no question of absolute contrast between them; rather, and equally important, the question is of the relative weights given to these considerations and of the general orientation of the basic account structures of the two systems.

[37] *U.S. Income and Output, A Supplement to the Survey of Current Business*, Dept. of Commerce, 1958, Tables I–V, pp. 114–116.

TABLE 3

DEPARTMENT OF COMMERCE NATIONAL INCOME ACCOUNTS IN TERMS OF SECTOR-ACTIVITY ACCOUNT STRUCTURE

Subaccounts \ Sectors	Consumer	Nonfinancial Business	Finance	Government	Rest of World
Production Account	I	I	I	I	I
Appropriation Account	II	I	I	III	IV
Current Purchase Account	II			III	IV
Tangible Capital Account	V	V	V	III	
Financial Account	V	V	V	V	IV[a]

[a] See note 38.

NOTE: Roman numerals in individual cells and the heavy lines indicate the coverage, in terms of the sector-activity subaccounts, of the various accounts of the Department of Commerce's national income and product system. Each of the Commerce accounts is a consolidation of the indicated cells.

Sector-activity subaccount coverage of:

I. National income and product account
II. Personal income and outlay account
III. Government receipts and expenditures account
IV. Foreign transactions account
V. Gross savings and investment account

TABLE 4

FLOW-OF-FUNDS ACCOUNTS IN TERMS OF SECTOR-ACTIVITY ACCOUNT STRUCTURE

Subaccounts \ Sectors	Consumer	Nonfinancial Business	Finance	Government	Rest of World
Production Account					
Appropriation Account					
Current Purchase Account					
Tangible Capital Account					
Financial Account					

NOTE: Dashed boundaries show current and capital subaccounts within the sector accounts.

current purchase, and tangible capital accounts of the government sector; the foreign transactions account (IV) covers the appropriation, current purchase (or import-export account), and financial accounts of the rest-of-the-world sector; and the gross savings and investment account (V) is a consolidation of the tangible capital and financial accounts of all domestic sectors (except for government tangible capital accounts).[38] The account structure of the present national income system is thus seen to be focused primarily on types of activity rather than on sectors.[39] None of the accounts are full sector accounts covering all the transactions and subaccounts of the sector.

On the other hand, as shown in Table 4, the focus of the flow-of-funds accounts is on the sector account. The flow-of-funds accounts have been published in several versions, but in all versions the accounts have had a sector orientation. Such an orientation of the basic account structure is an essential feature of any national accounting structure—the integrated structure as well as the flow-of-funds system—that explicitly records both financial and nonfinancial flows and that is to be of maximum usefulness as a framework for behavior analysis involving both financial and nonfinancial flows.

In earlier versions of the flow-of-funds accounts, the sector

[38] In describing the account structure of the Commerce national income accounts in terms of groupings of the individual sector-activity account cells, it is possible to consider the rest-of-the-world financial account either (1) as a consolidated part of the foreign transactions account (IV), as is done in the text above, or (2) as a consolidated part of the gross savings and investment account (V). The summary forms of Accounts IV and V would be the same under the two approaches, but there would be a difference in the contents and definition of the item "net foreign investment" that appears in these two Commerce accounts. Under approach (1), net foreign investment is the net flow of financial assets and liabilities between the United States and foreign countries, that is, it is the net sum of specific financial flows appearing in the financial accounts. (All financial flows among United States domestic sectors are eliminated in the consolidation of Account V.) Under approach (2), net foreign investment would be the net of all nonfinancial flows between the United States and foreign countries, that is, it would be the balancing residual on the rest-of-the-world current account that is carried down to the financial account. (In this case, all financial flows, both domestic and international, would be eliminated in the consolidation of Account V.) The net financial flows and the net current surplus in the rest-of-the-world account are, in concept, equal in amount, but in actual measurement there is a statistical discrepancy between them (the errors and omissions item of the balance of payments). There seems no question that approach (1) is the more useful and conceptually consistent view of the Commerce structure, despite the fact that net foreign investment in the Commerce accounts is taken as equal in amount to the surplus on current account rather than to the net financial flows in the financial account.

[39] An earlier version of the Commerce account structure combined the sector production accounts with the appropriation accounts and then had an additional recapitulation table (corresponding to Account I) combining all the production accounts. The change from the earlier to the present structure thus strengthened the activity orientation of the Commerce system.

accounts could be considered to be a form of consolidation of the integrated structure sector accounts. That is, while the transactions between different transactors of a given sector were not eliminated in consolidation (except in the banking and rest-of-the-world sectors), the internal transactions between the subaccounts of a given transactor were consolidated out. In the latest version, presented in the August 1959 *Federal Reserve Bulletin*, however, current and capital accounts are identified, and internal flows between current and capital accounts are recorded (but with no distinction among the three types of current account). In Table 4, this characteristic of the latest version is indicated by the broken-line sub-boundaries within the sector accounts.

THE SECTOR-ACTIVITY-TRANSACTION STRUCTURE

Having indicated the general characteristics of the activity subaccounts, we can now join the discussion of the transaction categories with that of the sector activity accounts and give a detailed description of the nature of the transaction entries in the complete system.

Table 5 indicates, for a summary sector grouping, the location, in terms of the activity subaccounts, of the entries for the various transaction categories. In the presentation of the categories, specific identification of the in-kind, imputed, and internal transaction components of categories containing such elements is necessary to provide the basis for analyses that focus on transactions effected through the use of money and credit. Several of the transaction categories shown are summary categories; in a fully implemented system, considerable detail could be shown under them.

Table 5, which is organized in terms of transaction categories, contains all the elements of the basic structure. Since Table 5 records the subaccount in which each entry of the system appears, the elements of Table 5 can be rearranged directly into the subaccount form of the basic structure. This is done in Table 6.

In Table 5, the production, appropriation, current purchase, tangible capital, and financial accounts are indicated by the letters P, A, C, T, and F, respectively. The table is divided into several sections—the first shows those transaction categories that are recorded wholly or in part in production accounts; the second section shows transaction categories that are recorded wholly in appropriation accounts; another section shows the residual internal transfers from one activity subaccount to another; the last section indicates the financial transaction category entries, all of which are recorded in the financial account. The detailed financial transaction categories have

TABLE 5

BASIC STRUCTURE OF ACCOUNTS BY SECTOR AND BY TRANSACTION CATEGORY

	Consumer and Nonprofit		*Nonfinancial Business*		*Finance*		*Government*		*Rest of World*	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Nonfinancial transaction categories										
Categories wholly or in part in production account										
Compensation of employees	P	A	P		P		P		P	
In-kind	×	×	×				×			
Other	×	×	×		×		×		×	
Interest										
Private	P	A	P	P	P	P		A	P, A	P
Imputed		×		×	×	×		×		
Other	×	×	×	×	×	×		×	×	
Government		A		P		P	A	A		A
Imputed		×					×			
Other		×		×		×	×	×		×
Indirect taxes	P		P		P			A		
Subsidies				P			A			
Business transfer payments		A	P							
Other purchases and sales of goods and services										
Capital account purchases of inventory (all internal)			T =	P			T =	P		
Sales offset to in-kind income	C	P		P				P		
Sales offset to imputed income	C	P	P		P	P	C			
Other internal	C =	P					C =	P	P = C C = P	
Market transaction—intermediate purchases	P		P	P	P	P	P	P		
Market transactions—final purchases	C, T	P	T	P	T	P	C, T	P	C	C
Transactions in existing tangible assets	T	T	T	T	T	T	T	T		
Capital consumption charges	P =	T	P =	T	P =	T	P =	T		
Net income of production accounts (internal)										
Corporate profits			P =	A	P =	A			P = A A = P	
Net income of noncorporate business			P =	A	P =	A				
Net income of government enterprise							P =	A		
Imputed net rental income	P =	A								
Categories wholly in appropriation account										
Direct taxes and refunds—income and estate and gift	A	A	A	A	A	A	A	A		
Employment taxes	A						(A)	A		
Dividends		A	A	A	A	A		A	A	A
Proprietors' income withdrawals		A	A		A					
In-kind		×	×							
Other		×	×		×					
Other transfer payments	A	A					A	A	A	A
Residual internal transfers not involving the production accounts										
To current purchase account—"disposable receipts"	A =	C					A =	C	A =	C
To tangible capital account—saving	C =	T	A =	T	A =	T	C =	T		
To financial account—nonfinancial surplus	T =	F	T =	F	T =	F	T =	F	C =	F
Financial transaction categories (see Table 1 for detail)	F	F	F	F	F	F	F	F	F	F

P = production account entry. T = tangible capital account entry.

A = appropriation account entry. F = financial account entry.

C = current purchase account entry. × = detail.

NOTE: An equality sign between the debit and credit entries for a given category in a given sector indicates an internal transaction.

already been shown with indication of sector participation in Table 1 and are not repeated here.[40]

The nonfinancial transaction categories and entries used in the system, including the internal transaction entries, are described in the following pages in the same order in which they appear in Table 5. In the descriptions, indication is given of the main differences between the transaction structure presented here and those used in the present income and product and flow-of-funds accounts. The financial transaction categories have been described in detail in the August 1959 *Federal Reserve Bulletin* (pages 848–859); these descriptions are not repeated here.

Nonfinancial Categories Recorded Wholly or in Part in Production Accounts

COMPENSATION OF EMPLOYEES. All payments are made by production accounts, and the total is paid to the consumer appropriation account. The category has the same coverage as compensation of employees in the income and product accounts—wages and salaries and supplements to wages and salaries. It differs from the Commerce income and product accounts only in that employer contributions to "social insurance" (as defined in Commerce accounts), which are components of employee compensation, are treated as receipts of consumers (to be transferred out to the social insurance funds in other tax and saving transaction entries) rather than as direct receipts of the social insurance funds from the production accounts of employers. This difference does not affect the total of compensation of employees. The category also differs from corresponding series in the flow of funds (payroll) in that it includes wages in-kind (excluded from the flow of funds) and employer contributions to social insurance and to private insurance pension plans (government contributions and private contributions are excluded or reflected in other transaction categories in the flow-of-funds accounts).[41] Identification of the in-kind component is provided.

INTEREST. Interest is paid both by private production accounts and by government appropriation accounts in accordance with the present national income treatment of government interest. The production accounts record the interest payments and interest receipts that are needed to arrive at the present national income net interest component. Thus, all private domestic sector payments are recorded in

[40] Lines M through h (*Federal Reserve Bulletin*, August 1959, Table 5, on p. 1054) also show this detail.

[41] There are a few minor issues with respect to the treatment of certain elements of other labor income that are not discussed here.

production accounts; rest-of-world payments are recorded in the production account except for the payment to government, which is recorded in the rest-of-the-world appropriation account; all government payments are recorded in appropriation accounts; all consumer and government receipts are recorded in appropriation accounts; all domestic business receipts are recorded in production accounts; and rest-of-the-world receipts are recorded in production accounts except for receipts of government interest, which are recorded in the appropriation account. Imputed as well as monetary interest is recorded, and identification of these two components is provided.

This is essentially the present national income treatment. There are, however, several differences in detail from the Commerce income and product accounts: The proposed structure would (1) show receipts and payments gross; (2) include imputed interest to consumers from government employee retirement and government life insurance funds; (3) include imputed interest from private pension funds; (4) include government interest payments to and from rest of the world, rather than classifying them as unilateral transfers; and (5) classify dividend receipts of mutual financial institutions as dividends, rather than as interest receipts as in the Commerce accounts. Only the last difference affects the net interest component of national income, and even this would not affect total national income. Difference (2) results from including in consumer saving equity in government employee retirement funds and equity in government life insurance; difference (3) results from a difference in sectoring (i.e. private pension funds are not part of the consumer sector as in the Commerce accounts).

The proposed treatment differs from flow-of-funds interest flows by the inclusion of imputed interest. However, the insurance and pension fund (private and government) interest imputations are picked up in the flow-of-funds accounts in another form.

The treatment of interest required to set up sector production accounts that consolidate down to the concepts used in the present national income and product accounts is quite complex, reflecting the complexity of the national income treatment; and it highlights certain problems. For example, since the interest income-originating component of business sectors is net interest paid, the interest receipts of these units is recorded in the production accounts. This is straightforward (though it may conflict with some intuitive ideas of what ought to be in production accounts). The major complications arise in connection with government interest.

Government interest is treated in the national income accounts as a transfer payment, rather than as the purchase of a service. The

reasoning behind this is not completely consistent with other lines of reasoning in the income accounts.[42] Moreover, despite its treatment as a transfer payment, government interest does enter the calculation of the net interest component of national income. Thus, the net interest component of income originating in the business sector is net not only of receipts of "productive" interest but also of receipts of government "transfer" interest, and profits reflect not only productive activity but also the receipt of this transfer payment. Considered as a measure of net income generated in "productivity" activity, profits as recorded in the Commerce accounts are overstated, and net interest is understated. Total national income is unaffected.

If government interest were consistently treated as a transfer and, thus, as a relation between appropriation accounts, the distribution of national income between profits and net interest would more nearly represent the basic definition of what is or is not a productive service or payment in the income and product accounts. Such a treatment would, it is true, involve an artificial division (as well as, perhaps, a statistically difficult one) of the interest receipts of companies between productive private interest and transfer government interest, whereas, from the point of view of the recipients, these are both receipts for the performance of the same economic function.[43] However, if it is the same economic function, the artificiality of the division stems not from any treatment of entries in the account structure but rather from the basic national income distinction made between private and government interest in terms of their productive and transfer natures.

Serious consideration of the implications of such an artificial division of interest proceeds may lead one to suspect that government interest may, after all, represent the purchase of a service and that the usual arguments in favor of the treatment as a transfer may not be completely relevant. Treating government interest as the purchase of a service, which is not done in the proposed integrated setup, would increase both national income and GNP by the amount of government net interest.

Another procedure, which would not affect the income and GNP totals, might be to treat interest the same as dividends in the structure of accounts, that is, to treat interest not as a factor cost but as a distribution of the income generated in the business. Profits in this case would be before interest payments and receipts, and both dividends and interest would be paid out of the appropriation account.

[42] If analogous reasoning were rigorously applied to other interest transactions, many of them might also be banished from the net income component of national income.

[43] The problem of such an "artificial" division also exists in the income accounts with respect to the receipt of dividends in the many cases where dividend and interest receipts are equally the "sales proceeds" of financial business and even of nonfinancial business.

Since the choice between issuing debt or equity securities, and thus of paying interest or dividends, is often a slim one, and since the statistical categories do not really have the same boundaries as theoretical income distribution concepts, such a treatment might have certain analytic advantages. It also would have some disadvantages, and the procedure is not recommended for the present.

In any case, this is not the place to settle such issues. A final integrated structure would, of course, have to embody some specific treatment for interest. However, the issue is really one that should be raised with reference to the national income accounts themselves, rather than with reference to the integrated structure as such. Decisions on basic conceptual treatment of interest must be decided on conceptual, not accounting, grounds; it does seem to be true, however, that the task of creating an integrated structure through a sector account approach tends to bring into focus the detailed conceptual complexities of the interest treatment in the income and product accounts. A fresh look at this area would certainly seem to be warranted in any program of structural development of national accounting.

INDIRECT TAXES. Indirect taxes are paid from production accounts of consumers and business to government appropriation accounts. The national income treatment and classification of indirect taxes are used. For purposes of present simplification, it is assumed that there is no substantial difference between estimates on a payments basis and those on an accrual basis. Consequently, there is no need to decide which to use and no need to set up a corresponding financial category if the latter were selected. Aside from this, there are no conceptual differences between the national income and flow-of-funds treatment.

SUBSIDIES. These are transfer payments to productive enterprise. To conform to the way they appear in the national income treatment, subsidies are recorded as transfer-type payments out of government appropriation accounts and as receipts of business production accounts. The national income treatment is somewhat anomalous; subsidies are treated both as a transfer and redistribution of income and as a production-account receipt entering national income. (This is reflected in the need for an adjustment item between national income and gross national product.) If it is really felt that the subsidy represents a receipt for some service rendered and, therefore, appropriately reflected in income originating, the same logic would seem to indicate that the same service would be reflected as a purchase in GNP. On the other hand, if it is a redistribution of income, both the receipt and the payment might well be recorded in appropriation

accounts; this would result in a lower national income. Either alternative would eliminate the need for the adjustment item between the definitions of GNP and national income. In any case, the present income and product account treatment has been followed here.

BUSINESS TRANSFER PAYMENTS. These are transfer payments from productive enterprises. To conform to the way they appear in the national income accounts, the business transfers are shown as payments out of the business production account (rather than out of the appropriation account) and as receipts of the consumer appropriation account. There are several problems involved in this treatment, but the space cannot be taken in this paper to go into them.

PURCHASES AND SALES OF GOODS AND SERVICES. These are of various kinds. All intermediate purchases and sales are recorded in production accounts; all sales of GNP are out of the production account; and all purchases of GNP are recorded either in the current purchase accounts or in the tangible capital accounts.

In addition to actual market transactions between different transactors, sales of GNP out of production account contain several elements that are either internal flows or are offsets to other treatments:

(1) All inventory purchases go through the production account, that is, net change in inventory for any enterprise is recorded as an internal purchase by the tangible capital account of the enterprise from its own production account, with any market purchases involved being recorded as intermediate purchases of the production account. This treatment avoids the necessity of identifying the particular components of wages, interest, depreciation, and material embodied at each inventory stage. (As a convention, decreases in inventory are shown as a negative "sale" to the tangible capital account, rather than as a positive "purchase" of the production account from the capital account.)

(2) Similarly, force-account construction would be handled as an internal transaction between tangible capital and production accounts.

(3) Sales of the consumer and the government production accounts contain other types of internal transactions. For the consumer sector, these represent sales of services to self in connection with depreciation, interest, and owner-occupied homes; for the government sectors, they represent depreciation, wages and salaries, and, in fact, all purchases of GNP.

(4) Imputed income and in-kind wages are reflected in offsetting sales by the production accounts involved.

Transactions in previously existing, nonfinancial capital assets are the only purchases of goods not going through the production accounts. Such transactions, provided that both purchase and sale

are recorded consistently in domestic capital accounts, do not affect the total of GNP or of net capital expenditures, but the distribution of capital expenditures by sector is changed. In order for transactions in existing capital assets to have this neutral effect on national investment and on total GNP without special adjustment or reconciliation entries, all domestic sectors, including the government, must be recorded with formal tangible capital accounts. Statistically, this is one of the weakest parts of the recommended structure. Transactions in existing assets should include purchases and sales of land, existing homes, existing equipment, operating businesses, and the transfer of businesses from one sector to another as the result of changes in legal form of organization or industry classification. In general, these are not now specifically recorded in the national income system of accounts with its consolidated capital account.[44] The present flow-of-funds accounts omit most of them because of statistical deficiencies.

CAPITAL CONSUMPTION CHARGES. Capital consumption charges (charges for depreciation, accidental damage, and capital expenditures charged to current account) are internal entries between production accounts and tangible capital accounts of the same transactors. In addition to such charges recorded in the national income accounts, the present structure proposes to include depreciation charges on consumer durables (as in the present flow-of-funds accounts) and on government tangible assets; this would be consistent with the entry of purchases of these consumer and government assets in capital accounts.[45]

[44] The many subtle and difficult questions as to exactly what are "existing assets," how they enter the national income accounts now, and whether they should (or can, for that matter) always be identified and shown separately do not have to be gone into at this point. It suffices to point out here that there are some transactions in assets not currently coming to fruition through the productive process that are not specifically recorded in the present income and product accounts but that would have to be recorded on some basis in an integrated structure with a sector orientation. It can also be pointed out that there is no great matter of principle that keeps transactions in existing assets out of the national income accounts (as contrasted to keeping them out of the total for gross national product, where there is matter of principle involved). The present national income accounts do, in fact, handle some existing-asset transactions. For example, consumption expenditures, a component of GNP, include purchases of existing surplus goods from the government. This does not affect total GNP, since the sale is netted against government purchases, but it does change the sector distribution of purchases of current production.

[45] If these additional depreciation estimates are used as the measure of the internal sales of the current services from these assets, total GNP in the proposed structure is greater than the GNP of the Commerce income and product accounts by the amount of these estimates, with no corresponding change in national income. However, as noted earlier, the value of these services need not be measured by the depreciation. For purposes of simplification, however, and without implying any recommendation, it is assumed in this paper that the services are valued at the amount of estimated depreciation.

The problems of the proper valuation, time base, and method of depreciation have been the subject of much concern and controversy. Definitive choices with respect both to concept and measure remain to be made. For the present discussion, no real choices are indicated —existing series and concepts would be used. In the case of government depreciation, for which there is no current, regularly available series on any basis, implementation of the proposed accounts would have to await major statistical developments.

There is no question, however, that the present state of statistics and concepts on depreciation is not satisfactory. There is a possibility that we may always be on somewhat shaky grounds here, both statistically and conceptually, particularly if we strive to settle on *the* correct procedures. Moreover, for many analyses, flows gross of depreciation are the significant variables. In these circumstances, a case can perhaps be made for entirely omitting depreciation from the main body of the structure of accounts, and for retaining depreciation estimates (or, perhaps, several alternative series) only as memorandum items, to be used for *ad hoc* adjustments to be made to certain totals, such as gross national income, gross national product, and gross investment in order to arrive at *ad hoc* measures of net concepts. This procedure has not been followed here, nor yet explored to see if any serious problems are created by it, but the possibility of such a solution should not be lost sight of in future work on the form of the integrated structure.[46]

NET INCOME OF PRODUCTION ACCOUNTS. This is the residual income-originating entry of production accounts. It covers four separate transaction subcategories: corporate profits, net income of unincorporated businesses, net income of government enterprises, and imputed net rental income.[47] These are internal entries carried down from the production account to the appropriation account of the same unit.[48]

Imputed net rental income arises because the value put on the housing services "sold" by owners of owner-occupied homes to themselves as consumers exceeds the costs (including depreciation) of producing the services. While the entry as shown here refers only to owner-occupied homes, an analogous imputed net income would arise in connection with the services "produced" by consumer

[46] Such a treatment of depreciation entries is followed in some national income accounting systems. For example, see the entry structure of the United Kingdom system in *National Income and Expenditure, 1959*, Central Statistical Office, London 1959.

[47] In the actual detailed accounts, each of these elements could, of course, be made into a separate transaction category.

[48] The distribution of business income out of the business appropriation accounts is represented by separate transaction entries—dividends and proprietors' income withdrawals.

durable goods and government tangible assets if the value of these services were recorded at a figure other than cost, that is, depreciation. If such additional imputed net income entries were to be incorporated in the integrated accounts, the measure of national income in the integrated accounts would differ from that in the present national income accounts. Since, in the present paper, the value of these services is taken, for simplicity, as equal to depreciation, no additional imputed net incomes arise.

The net income of government enterprises could conceivably be a source of difference between the integrated accounts and the present income and product accounts for several reasons. The final decision on sectoring might involve a change in the measure. A difference might arise in connection with government depreciation. If government enterprise net income were to be shown net of depreciation, national income, as defined in the Commerce accounts, would not change, but the item "current surplus of government enterprises less subsidies" would be decreased (matched in the national income and product account by increased depreciation).

Another issue that might be considered is the present exclusion of the current surplus of government enterprises from the total of national income. It is the only production-account surplus so excluded. It has already been suggested above that the business income which is made part of national income possibly should not reflect receipt of subsidies. If that suggestion were carried out, and government enterprise net income were included in national income, "current surplus of government enterprises less subsidies" would be completely eliminated as a reconciliation item between GNP and national income. The subsidy part would be made a business appropriation rather than production-account receipt (with business "production" income correspondingly decreased), and the surplus part would be made an item of income originating. Even if, owing to statistical reasons and the difficulty of drawing fine lines of differentiation, a separation of the item into its two components is not viewed as possible, the national income total could still reflect the change by striking the total of national income after instead of before the combined surplus-subsidy item.

Nonfinancial Transaction Categories Recorded Wholly in Appropriation Accounts

The next set of transaction entries are those occurring entirely between appropriation accounts. These are the transfers or redistributions of income.[49]

[49] As discussed above, there are several types of transfers that, in order to conform to present national income treatment, have one entry in production accounts.

DIRECT TAXES. Direct taxes and refunds include individual income, estate, and gift taxes, profits tax and renegotiation payments, and Federal Reserve payments to the Treasury. The series differs from the treatment in the Commerce accounts in that it excludes the so-called personal nontaxes (which are treated instead as a sale by government to consumers), and it records profits taxes on a payments basis.

The bulk of the personal nontaxes represent purchases of services; their treatment with income taxes in the national income accounts and their consequent deduction before arriving at a disposable income concept is somewhat anomalous. Their treatment as a quasi-tax in the national income accounts is required neither by national income concepts, by analytic considerations (indeed, the opposite treatment seems analytically more defensible), by structural considerations (in fact, as noted above, some sales to consumers are already handled as deductions from government purchases), nor by statistical considerations. The treatment here of these items as purchases and sales of services (as is also done in the flow-of-funds accounts) does not change either the concept or the measure of GNP; it does change the distribution of GNP as between consumption expenditures and government purchases, and it changes the measure of disposable income.

Profits taxes are on a payments and receipts basis, rather than on an accrual basis as in the Commerce accounts. This is discussed below on page 64 in connection with the business sector accounts.

EMPLOYMENT TAXES. Employment taxes cover employer, employee, and self-employment taxes, contributions, and deductions required for the old age and survivors insurance (OASI), unemployment compensation, and cash sickness funds. All payments, of both employer and employee contributions, are made from consumer appropriation accounts to government appropriation accounts; employer contributions are included in "employee compensation" payments to consumers, who are then shown as making the payment to government. The deposits and withdrawals between state unemployment compensation funds and the federal unemployment compensation fund are included in this category; such intergovernmental transactions are not recorded in the Commerce accounts, which, in effect, lump the state funds in the federal government sector.

The series on employment taxes differs from the comparable Commerce series (personal contributions to social insurance and employer contributions to social insurance) in that (1) the employer contributions go through the consumer appropriation account here, whereas they are paid directly by employer to government in the

Commerce accounts; and (2) the Commerce series include contributions to government employee and railroad retirement funds and to government life insurance funds, and these are treated as saving transactions here rather than as current taxes.

The treatment also differs from the present flow-of-funds accounts in that the latter show private employer contributions as being made directly to government, and eliminate government employer contributions entirely in the consolidation of the government account.[50]

DIVIDENDS. Dividends are shown gross, and cover both dividends and branch profits. Except for a minor difference resulting from the treatment of dividend receipts of mutual financial institutions (Commerce treats these as interest receipts), the net dividend receipts of consumers are identical with the corresponding figure in the Commerce accounts.

PROPRIETORS' INCOME WITHDRAWALS. Proprietors' income withdrawals are owner withdrawals from the appropriation accounts of noncorporate business; the consumer appropriation account shows the corresponding receipt. This distribution of income from the appropriation account is not the income-originating entry, which is the already discussed transfer of net income from the business production account to the business appropriation account.[51] Under this procedure of treating the business net income and the owner withdrawals as two separate sets of entries, there is no structural reason for having the owner net income withdrawal from the business appropriation account exactly equal the business net income flow into the appropriation account (just as dividend payments out of the business appropriation account are not equal, except by coincidence, to net profits going into the business appropriation account from the business production account). However,

[50] Comparison on other aspects of this category in the integrated structure with the present flow-of-funds accounts is complicated by the circumstance that the latter accounts have a double treatment for some payroll taxes and other payroll deductions. For example, contributions to government employee retirement funds are treated both as current deductions and, by means of an imputation, as saving elements (see discussion *Federal Reserve Bulletin*, August 1959, p. 849).

[51] It should be noted that this withdrawal transaction is made only from the business sector appropriation accounts. The income-originating transaction entries for the net income of government enterprises and for imputed net rental income already carry these income flows to the appropriation accounts of the "proprietors." There would be little point in also recording an internal withdrawal transaction for these net incomes, both entries of which would be in the same appropriation account, merely for the sake of formal symmetry with the business net income and proprietor withdrawal treatment. However, if the government enterprises were to be put in a separate sector or in the private business sectors, rather than in the general-government sector, a proprietor withdrawal transaction between the appropriation accounts of the two sectors, similar to the one described here between the business and consumer appropriation accounts, would then be needed.

given the state of our statistical knowledge of noncorporate business and of the relations between proprietors and their businesses, making the two flows equal on an annual basis is probably the most practical treatment.[52] The withdrawals cover income taxes and self-employment social insurance contributions, which are then paid out of the consumer appropriation account. The income withdrawal differs from the corresponding series in the flow-of-funds accounts by the inclusion of withdrawals in kind.

OTHER TRANSFER PAYMENTS. Other transfer payments cover unilateral transfers between rest-of-world and government and consumer sectors, OASI and unemployment compensation benefits, direct relief, military and veterans benefits, etc.

The category differs from that in the Commerce accounts (1) by excluding benefit payments from government employee retirement funds, railroad retirement funds, and government life insurance (corresponding to the treatment of these funds under saving in the integrated structure); (2) by including unilateral cash transfers between consumers and rest-of-world (treated as purchases and sales in the Commerce accounts); (3) by having a different timing on armed forces leave bonds; and (4) by excluding rest-of-the-world interest payments to and from the federal government (treated as interest entries in the integrated structure).

Residual Transfers Between Subaccounts (Not Involving Production Accounts)

The next group of entries in Table 5 indicates the residual internal transfers from one subaccount (other than the production account) to the next within a given sector. In general, the subaccounts are divided at points that yield residual transfers with some economic significance—"disposable receipts," taken down from appropriation

[52] In the present flow-of-funds accounts, the two flows are shown as equal on an annual basis, but are allowed to differ quarterly on a seasonally unadjusted basis on the grounds that owner income withdrawals are likely to be smoother seasonally than business net income.

The decision as to the relation between the magnitudes recorded for the business net income entry and the proprietors' income withdrawal entry also affects the distribution of saving among sectors (but not the total of saving). Thus, if the two magnitudes are recorded as equal, no net saving is recorded for noncorporate business, all saving generated in such business being reflected in consumer-sector net saving. If the two magnitudes differ, net saving is shown for the noncorporate business sector account; this net saving may be either positive or negative depending on the relative magnitudes of the entries for business net income and proprietors' income withdrawals. Decisions as to the treatment of these items in the current accounts have their counterpart, of course, in the financial account, where the content and measure of the entry "proprietors' net investment in noncorporate business" reflects the decisions made (see also the discussion in "A Quarterly Presentation," pp. 838–839, 850, and 856).

to current purchase accounts; "saving," taken down to tangible capital from either appropriation or current purchase accounts; and "nonfinancial surplus," taken down from tangible capital to financial accounts. However, it is not a necessary characteristic of a structure of accounts that the residual balancing entries be the only or the most significant economic variables in the subaccounts either from the point of definitional concepts or, and more importantly, from the point of view of variables to be found useful in behavior equations and functional relationships.

The entries listed in this group of residual entries in Table 5 do not include the residual internal transfers from production accounts to appropriation accounts. These are shown earlier in the table as "net income of production accounts." Similarly, there are several other internal transactions that are not residual items; these, too, are indicated separately in the table.

Financial Transaction Categories

As indicated above, the specific detailed financial transaction category entries are shown in Table 1 and described in "A Quarterly Presentation."[53] All the entries in these categories are recorded in the financial subaccounts.

The Basic Structure of Accounts

The basic underlying structure of the integrated system is shown in Table 6, which incorporates the sector, transaction, and activity-subaccount elements discussed above. Table 6 presents within the framework of sector accounts and subaccounts all the transaction entries indicated in Table 5.[54]

The basic orientation of an integrated structure encompassing both financial and nonfinancial flows is toward the full sector account with explicit activity subaccounts; and the primary interpretation of the basic structure is as a set of linked, mutually interconnected sector accounts, that is, with the major focus on the sector columns of Table 6. This primary sector orientation is indicated in schematic form, in terms of the sector activity-subaccount matrix used earlier in the paper, by the heavy inner lines in Table 4 (page 40).

While the sector-oriented view of the economy is the primary organizing focus of the integrated system, equally important elements of the system are the national summary accounts, directly derivable from the basic detailed underlying structure, that provide activity-

[53] Pp. 851–857.

[54] The detailed financial entries shown in Table 1 have not been repeated in Table 6.

TABLE 6

BASIC STRUCTURE OF ACCOUNTS BY SECTORS, ACTIVITY SUBACCOUNTS, AND TRANSACTION CATEGORIES

	Consumer and Nonprofit		*Business*		*Finance*		*Government*		*Rest of World*	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Production account										
Compensation of employees		×		×		×		×		×
In-kind	×		×				×			
Other	×		×		×		×		×	
Interest		×		×		×				×
Imputed				×	×					
Other	×		×	×	×				×	
Indirect taxes		×		×		×				
Purchases and sales		×		×		×		×		×
Internal to capital account				×				×		
Offset to income in kind		×		×				×		
Offset to imputed income		×	×		×					
Other internal		×						×	×	
Market purchases and sales	×	×	×	×	×		×	×		
Capital consumption		×		×		×		×		
Subsidies										
Business transfer payments				×						
Corporate profits				×		×				×
Net income of noncorporate business				×		×				
Net income of government enterprise								×		
Imputed net rental income		×								
Appropriation account										
Transactions with production accounts										
Compensation of employees										
In-kind		×								
Other		×								
Interest[a]								×		×
Imputed		×					×	×		
Other		×					×	×		
Corporate profits										×
Net income of noncorporate business										
Net income of government enterprise										
Imputed net rental income										
Subsidies										

Business transfer payments				×													
Transactions between appropriation accounts																	
Dividends				×		×	×		×	×			×		×		×
Proprietors' income withdrawals				×		×			×								
In-kind			×		×												
Other			×		×			×									
Other transfer payments and receipts, by type		×		×								×	×		×		×
Direct taxes and refunds—income, etc.		×		×		×	×		×	×		×	×				
Employment taxes		×											×				
Residual internal transfer to current purchase account[b]		×										×			×		
Residual internal transfer to tangible capital account—net saving						×			×								
Current purchase account																	
Internal transfer from appropriation account				×									×				×
Current purchases of goods and services		×										×			×		×
Offset to income in kind	×																
Offset to imputed income	×										×						
Other internal	×										×			×		×	
Other, with detail by type	×										×			×		×	
Residual internal transfer to tangible capital account—net saving		×										×					
Residual internal transfer to financial account—nonfinancial surplus[c]															×		
Tangible capital account																	
Net saving—residual internal transfers from current purchase or business appropriation account				×			×			×			×				
Tangible capital expenditures (new and existing—with detail by type)		×		×		×	×		×	×		×	×				
Nonfinancial surplus (or net financial saving)—residual internal transfer to financial account		×				×			×			×					
Financial account																	
Nonfinancial surplus—residual internal transfer from tangible capital or current purchase (in case of rest of world) accounts				×			×			×			×				×
Financial flows, by type of instrument (see Table 1 for detail)		×		×		×	×		×	×		×	×		×		×

NOTE: × on left side of Dr. or Cr. column indicates detail.

[a] Government interest payments are made partly to production accounts and partly to appropriation accounts.

[b] Disposable receipts for consumer sector; net unilateral receipts for rest-of-the-world sector.

[c] "Surplus on current account" for rest-of-the-world sector.

oriented and transaction-oriented views of the economy. These will be discussed after a few remarks on some of the details of the sector accounts.

SECTOR ACCOUNTS

The detailed form of the sector accounts and subaccounts for the condensed sector grouping used for illustrative purposes in the paper can be seen directly in Table 6. As indicated earlier, the full structure would be considerably more detailed, both with respect to the number of sectors and subsectors for which explicit sector accounts would be set up and with respect to the transaction detail to be shown (as appropriate) for each sector account.

The following discussion by sector will deal with some aspects of the individual sector accounts of the basic structure as shown in Table 6 that have not already been discussed in connection with the transaction categories and the activity subaccounts.

Consumer and Nonprofit Sector Account

PRODUCTION ACCOUNT. The production account of the consumer and nonprofit sector as recorded in Table 6 covers the production activities related to: (1) owner-occupied homes, (2) nonprofit organizations,[55] (3) domestic servants,[56] (4) consumer interest payments, and (5) consumer durable goods. The production-account entries for each element are indicated in the various parts of Table 7:

TABLE 7(a)

CONSUMER SECTOR PRODUCTION ACCOUNT ENTRIES RELATED TO OWNER-OCCUPIED HOMES

Dr.	Cr.
Interest (mortgage) Indirect taxes (property taxes) Purchases of goods and services (intermediate) Depreciation Imputed net rental income (internal flow to consumer appropriation account)	Sales (gross imputed rent—a final purchase of the consumer current purchase account; an internal entry)

[55] If data were available to separate nonprofit organizations from the consumer sector and put them in a separate sector, their production activities would, of course, not be elements of the consumer-sector production account.

[56] The production activities of domestic servants could reasonably be treated as a kind of noncorporate business and thus be reflected in the noncorporate-business-sector production account rather than in the consumer-sector production account. The procedure used here of including these activities in the consumer production account conforms to the treatment in the table on income originating by legal form of organization in the Commerce national income accounts.

1. There are no problems of consistency between this treatment of home ownership production activity and either the national income or flow-of-funds accounts. The flow-of-funds accounts exclude imputed net rental income (and a corresponding part of gross imputed rent), but consolidation of the internal flows would yield the present flow-of-funds treatment.

TABLE 7(b)

CONSUMER SECTOR PRODUCTION ACCOUNT ENTRIES RELATED TO NONPROFIT ORGANIZATIONS

Dr.	Cr.
Compensation of employees Depreciation Purchases of goods and services (intermediate)	Sales (a final purchase of consumer and nonprofit current purchase account; partly internal, partly market)

2. To a certain extent the sales of the nonprofit-organizations production account are internal—sales to themselves, representing the costs of operating the institutions; but the nonprofit organizations also make sales to consumers. It is not possible with the data available to separate these or to identify the cost elements going with each. The treatment followed here is to record all the current market purchases of the organizations in the production account rather than in the current purchase account, and to record a sale from the production account to the current purchase account. This creates no problems for the income and product aspects of the account structure, but it does mean that the internal transaction part of these sales cannot be specified, except by some convention.[57]

TABLE 7(c)

CONSUMER SECTOR PRODUCTION ACCOUNT ENTRIES RELATED TO PRODUCTIVE ACTIVITY OF DOMESTIC SERVANTS

Dr.	Cr.
Compensation of employees In-kind Other	Sales (to consumer current purchase account) In-kind Other

[57] In principle, there might be a net income associated with sales of nonprofit organizations that would be carried down to the sector appropriation account as an internal transaction. The income and product accounts do not record such net income, and it is not introduced here. If it were introduced, it would change GNP and national income totals.

3. This "production activity" can be considered to be on the part of either (a) the domestic servant, with the "employing" family purchasing services from the production unit, which in turn employs and pays its "owner" the wages as an internal transaction; or (b) the employer, who would pay wages, including in-kind, and sell the services to himself as an internal transaction. Whether the wages or the purchase of services is the internal transaction, and which, therefore, would be eliminated in a consolidation of the sector account, depends on which view is taken. However, as a practical matter, regardless of which view is taken, the consolidation to remove internal transactions is more useful when it eliminates the "sale," leaving the compensation of employees in as an element of consumer-sector market transactions.[58] Strictly speaking, the entries to reflect wages in kind also differ in the two views, but that has been ignored here.

TABLE 7(d)

CONSUMER SECTOR PRODUCTION ACCOUNT ENTRIES RELATED TO CONSUMER INTEREST PAYMENTS

Dr.	Cr.
Interest (other than mortgage interest)	Sales (to consumer current purchase account; an internal entry)

4. The moving of consumer interest payments through a production account is necessary in order to conform to the treatment of interest in the national income accounts, particularly the division of income originating by legal form of organization.

TABLE 7(e)

CONSUMER SECTOR PRODUCTION ACCOUNT ENTRIES RELATED TO CONSUMER DURABLE GOODS

Dr.	Cr.
Depreciation (internal transaction with consumer tangible capital account)	Sales (to consumer current purchase account; internal transaction)

5. Consumer purchases of durable goods are shown as capital expenditures in this structure, as is also done in the flow-of-funds accounts. The corresponding current purchase of the services rendered by the capital asset is taken as equal to the depreciation on the goods.

[58] If domestic-servant production activities were to be considered part of the noncorporate-business sector (see note 56), alternative (a) above would be indicated, and the payment of wages in that alternative would no longer be an internal transaction.

This adds an element to the gross national product measure in this system that is not part of gross national product in the Commerce accounts.

The amount of depreciation is not the only value that could be put on the services rendered by the capital good; for example, a treatment more similar to that used for owner-occupied housing might be adopted. For the purposes of this paper a final decision on the valuation of this service is not necessary, since different treatments would not essentially change the structure of the accounts.

The consumer and nonprofit sector production account (shown in Table 6) is the simple sum of these five elements. The debits cover income-originating entries (compensation of employees, interest, and net imputed rental income), depreciation, indirect taxes, and intermediate purchases; and the credits represent sales (all of which are final-product sales) to the consumer current purchase account, with most of these sales being internal rather than market transactions.

OTHER CONSUMER SECTOR SUBACCOUNTS. As portrayed in Table 6, the consumer appropriation account receives productive income, that is, total compensation of employees paid by production accounts (gross of deductions for taxes, social security, or pensions, including employer contributions to pensions and social security); interest—monetary and imputed—from private production and government appropriation accounts; proprietors' income withdrawals (including amounts to cover self-employment contributions to social insurance) and dividends from business appropriation accounts; imputed net rental income (an internal entry from the consumer production account); business, government, and rest-of-the-world transfer payments;[59] and tax refunds. Consumer appropriation account payments cover direct taxes—income, estate, and gift; employment taxes—including employee and employer OASI and unemployment compensation contributions, but not contributions to pension and retirement funds; transfer payments;[60] and the balancing entry—disposable receipts—carried down to the current purchase account.[61] In the current purchase account, the payment is for consumption expenditures (excluding purchases of durable goods but including "purchase" of the "services" of durable goods);[62] and the balancing

[59] The transfer payments and receipts would include transfers among consumers and nonprofit organizations if a statistical separation of these two groups could be achieved.

[60] See preceding note.

[61] Differences from Commerce accounts are detailed in the earlier descriptions of transaction categories.

[62] As noted in Table 7(e), this purchase is an internal transaction with the consumer production account; the depreciation entry itself it an internal transaction between the production account and the tangible capital account.

entry is net saving, an internal entry carried down to the tangible capital account, from which capital expenditures are made with the balancing entry—nonfinancial surplus—carried to the financial account. As indicated in Table 6, pertinent detail by type beyond that shown in the table would be recorded.

Table 8 repeats the full consumer-sector account of Table 6 in a form in which it is easier to highlight the subaccount structure and relations.

TABLE 8

CONSUMER SECTOR ACCOUNT

Dr.	Cr.
PRODUCTION ACCOUNT	
Compensation of employees	Sales (to consumer current purchase account)
Interest	
Indirect taxes	
Depreciation (to tangible capital account)	
Purchases (intermediate)	
Imputed net rental income (residual entry; to appropriation account)	
APPROPRIATION ACCOUNT	
Direct taxes	Compensation of employees
Employment taxes	Interest
Transfer payments	Dividends
	Proprietors' income withdrawals
	Imputed net rental income (from production account)
Disposable receipts (residual entry; to current purchase account)	Transfer receipts
	Tax refunds
CURRENT PURCHASE ACCOUNT	
Current purchases	Disposable receipts (from appropriation account)
Nondurable goods	
Services	
Net saving (residual entry; to tangible capital account)	
TANGIBLE CAPITAL ACCOUNT	
Expenditures for	Gross saving
Consumer durable goods	Net saving (from current purchase account)
Homes	
Nonprofit organization plant and equipment	Depreciation (from production account)
Nonfinancial surplus (residual entry; to financial account)	
FINANCIAL ACCOUNT	
	Nonfinancial surplus (from tangible capital account)
Change in assets (with detail; see Table 1)	Change in liabilities (with detail; see Table 1)

Nonfinancial Business Sector Accounts

PRODUCTION ACCOUNT. The production accounts for the private nonfinancial business sectors—noncorporate business, farm business, corporate nonfinancial business—have a general similarity of form and can be discussed together. Table 9 reproduces, with minor rearrangement, the form of the business production account as it appears in Table 6.

TABLE 9

PRIVATE NONFINANCIAL BUSINESS SECTORS PRODUCTION ACCOUNT

Dr.	Cr.
Compensation of employees	Sales
In-kind	To capital account a/c of inventory change (internal)
Other	Offset to wages in-kind
	Other (market transactions)
Interest payments	
Indirect taxes	Subsidies
Purchases (intermediate)	Interest receipts
Imputed	Imputed
Other	Other
Capital consumption (to tangible capital account, internal)	
Business transfer payments	
Net income from production (residual entry, to appropriation account; internal)	
Corporate profits	
Noncorporate business income	

In general, the form of the nonfinancial business sector accounts in the proposed integrated structure is consistent with treatments contained (or implicit) in the Commerce income and product accounts. Aside from some minor statistical problems, the only differences with respect to production accounts are those inherent in a different sectoring and in showing gross flows for intermediate transactions and interest. This general conformance with the present national income accounts raises certain problems centering around government interest receipts, subsidies, and business transfer payments. These problems have been discussed in the earlier section on transaction categories.

APPROPRIATION ACCOUNT. The proposed appropriation account for corporate business differs from that implied in the Commerce accounts with respect to corporate profits taxes. The Commerce accounts record profits taxes on an accrual basis; the proposed accounts record them on a payments basis. This difference does not arise from the nature or scope or inner meaning of income and product accounts, flow-of-funds accounts, or integrated accounts.

Nothing in the nature of income and product accounts requires that profits taxes be recorded on an accrual basis. Such taxes are not elements of the production account, where income and product concepts are the ruling consideration, but are debits to the appropriation account, representing redistributions of income. Redistributions out of appropriation accounts are not necessarily geared in timing (or coverage) with the income-originating flows into the appropriation accounts. For example, there is no implication that dividend payments are a distribution of the same year's profits originating; and personal taxes are on a payments, not an accrual, basis. In fact, the profits tax accrual in the Commerce accounts is not geared to the income and product concepts in those accounts. That is, it is not an indication of that part of the profits component of national income that is destined to be siphoned off to the government. It covers the tax accruals not only on "national income profits" but on "inventory valuation profits" and other "capital gains profits" that are not parts of the national income concept. It covers, and properly so, all corporate profits taxes. The issue of accrual versus payments basis, thus, cannot be resolved by reference to the present national income concepts.[63]

Similarly, there is nothing in the general concepts of the proposed integrated structure or of the flow-of-funds accounts that dictates the choice of a payments over an accrual basis for the transaction entry in the appropriation account; neither system is a cash system, and accruals can be reflected in financial relationships.

The choice made here (and in the flow-of-funds accounts) was on the basis of specific characteristics of the tax accrual item. Corporate profits tax accruals, particularly as currently accruing, are more a unilateral internal segregation of reserves in recognition of future payments than a financial flow or a specific debt instrument between corporations and government. The amount as currently accrued is not agreed upon by the "creditor" (i.e., the government); the current

[63] This would not be true for all conceivable sets of concepts. Thus, if it were desired to define profits taxes as a factor income payment, an accrual basis might be indicated; but in that case it would only cover taxes on "national income profits." Taxes on other corporate income would still have to be handled in the appropriation account.

accruals may in specific cases bear little relation to the amounts that will actually be paid. The amount of accrual may influence portfolio and other decisions (just as any estimates of future patterns of payments or receipts do) and is needed in analysis, but for these purposes it is preferable to record it as an internal charge or as a memorandum item rather than as a corporate payment and government receipt involving financial relations.

It is possible to devise a set of internal entries, not affecting the balance of the appropriations account, to record the tax accruals within the formal structure of accounts, while tax payments are recorded as the transaction with the government. However, this is much too elaborate, and it is simpler and more understandable to record only the tax payments in the formal structure and to show the tax accruals in a memorandum line.

Financial Business Sector Accounts

PRODUCTION ACCOUNT. The production accounts for the financial business sectors differ from those for nonfinancial business only in the addition of the imputation entries incident to the treatment of interest and insurance. The present treatment in the Commerce accounts is complicated by the circumstance that the exact treatment specified or implied differs somewhat from one type of financial institution to another.[64] In Table 10, indicating the structure of

TABLE 10

FINANCIAL BUSINESS SECTORS, TREATMENT OF INTEREST IMPUTATIONS

Dr.	Cr.
PRODUCTION ACCOUNT	
1. Compensation of employees	7. Interest receipts
2. Other purchases	8. Other receipts
3. Interest payments	9. Imputed sales
4. Actual	
5. Imputed	
6. Depreciation	
10. Profits—to line 11	
APPROPRIATION ACCOUNT	
13. Dividends paid	11. Profits—from line 10
14. Taxes	12. Dividends received
15. Saving—to capital account	

entries for the necessary imputations, only a single one of the detailed patterns is given. In a fully implemented, integrated structure, each

[64] See *National Income Supplement, 1954, Survey of Current Business*, Dept. of Commerce, pp. 100–102.

of the different types of cases would, of course, be worked out separately.

Before final determination of the structure of the integrated accounts, decisions will have to be made as to whether the entries in the integrated structure are to conform exactly to the present Commerce account treatments in this area. Such decisions might require consideration of the extent to which the present specific procedures in each case are required by the basic underlying income and product concepts; the extent to which the different sectoring (or other different aspects) of the proposed integrated structure may require or indicate somewhat different treatments; and the extent to which more simplified treatments might be advisable, even at the cost of conceptual niceties, if the magnitudes involved are relatively minor. Prior to more detailed study, it is not possible to indicate all the specific ways in which an integrated structure might differ from the present national income accounts, but some possible differences are already evident in connection with life insurance and the mutual financial institutions.

Table 10 represents the simplest version of the imputation structure for financial intermediaries. Some elements needed for some of the cases are not recorded explicitly (e.g., the imputation for insurance covers "net rent," which could be derived from appropriate parts of items 8, 1, 2, and 6 in the table). But, in general, the various kinds of situations can be indicated with reference to this table. The differences relate mainly to the way imputed interest paid (5) and imputed sales (9) are estimated.

Where imputed sales are taken as equal to imputed interest paid (commercial banks and finance n.e.c. in the Commerce tables), profits are not affected; and there seems to be no problem created for the integrated accounts by the Commerce treatment.[65] In other cases, e.g. mutual financial institutions, the net effect of taking imputed sales as equal to costs (excluding profits) would be to eliminate net business income and saving from the sector accounts of these institutions. From the sector point of view of the integrated accounts, it is preferable to record the net income and saving of these financial institutions in their own sector account, even if they are mutuals. A change from the present Commerce procedure is thus indicated; whether it should take the form of a change in imputed interest or a change in imputed sales is left for further decision. Similarly, with respect to the treatment of life insurance, a change in

[65] In this case, the interest imputation (5) is equal to (7) + (12) − (4), and the imputed sales (9) are equal to (5); and net interest originating is equal to (3) − (7) = (12), or dividends received.

either the imputed interest paid or the imputed sale of services is indicated in order to show insurance companies with internal saving rather than to shift all company saving to consumers, as is done, in effect, in the present Commerce accounts.

Government Sector Accounts

Table 11 presents the government accounts as indicated by Table 6.

PRODUCTION ACCOUNT. The government production accounts reflect the various ways in which government production activity occurs in the national accounts: the production activities of government enterprises, production activities represented by sales of goods and services by general government to other sectors, the production of government employees, and government depreciation.

As indicated earlier, there is good reason for setting up for each government sector (i.e. federal and state and local) a government enterprise subsector, or perhaps even two—one for nonfinancial business and one for financial enterprise. It has not been done for this structure; the exact nature of the subsectoring is by no means clear, and the exact structure of production, appropriation, capital, and financing relations between the subsectors has not yet been worked out in detail.

As with all production accounts in the system, the net income after capital consumption charges (but before interest payments, in order to retain the present Commerce treatment of government interest) is an income-originating entry carried down to the appropriation account. Simple consolidation of all production accounts would make this net income a part of national income. However, in the Commerce treatment, the net income of government enterprise is treated as a reconciliation item between GNP and national income rather than as a part of national income. Either treatment can be followed in the national summary tables that can be derived from the integrated accounts.

At present, capital consumption charges on government assets are not a part of either the national income accounts or the flow-of-funds accounts. However, tangible capital accounts for the government sectors are proposed for the integrated accounts; and in them depreciation would be entered as a government production-account debit and a tangible capital account credit, with a corresponding purchase of services by the government from its own production account. This would result in a GNP total larger than the present total in the income and product accounts.

All government current purchases are funneled through the government production account (as intermediate purchases) with

TABLE 11

GOVERNMENT SECTORS

Dr.	Cr.
PRODUCTION ACCOUNT	
Compensation of employees[a]	Sales
Purchases[b]	Sales to own capital account (inventory change and force account construction; internal)
Depreciation (to tangible capital account; internal)	Sales offset to wages in-kind
Net income of government enterprises (to appropriation account; internal)	Sales of government enterprises to public
	Sales of general government[c]
	Sales to own current purchase account (internal balancing entry)
APPROPRIATION ACCOUNT	
Subsidies	Net income of government enterprises (from production account)
Transfer payments—with detail[d]	Direct taxes—with detail[f]
Interest payments[e]	Indirect taxes—with detail
	Employment taxes—with detail[d]
"Disposable receipts"[g] (to current purchase account; internal)	Transfer receipts—with detail
	Interest receipts
CURRENT PURCHASE ACCOUNT	
Purchases of goods and services (from own production account; internal)—with detail	"Disposable receipts"[g] (from appropriation account)
Net saving (to tangible capital account; residual internal entry)	
TANGIBLE CAPITAL ACCOUNT	
Capital expenditures—with detail	Gross saving
Nonfinancial surplus (to financial account; residual internal entry)	Depreciation (from production account)
	Net saving (from current purchase account)
	Sales of capital goods
FINANCIAL ACCOUNT	
	Nonfinancial surplus (from tangible capital account)
Change in assets—with detail by type	Change in liabilities—with detail by type

[a] With detail by in-kind and cash; with detail by general government and government enterprise.

[b] All gross current purchases, including purchases for inventory and for force-account construction.

[c] Includes "nontaxes"; excludes sales of existing assets.

[d] Excludes transactions of government employee retirement and railroad retirement funds.

[e] Includes accruals; includes imputations in connection with life insurance and employee retirement.

[f] Corporate profits taxes on a receipts, not an accrual, basis.

[g] This is not a particularly satisfactory title for the residual transfer from government appropriation to current purchase account.

corresponding final sales from the government production account to the government current purchase account. This is not an ideal (or absolutely necessary) treatment, and it is followed here only in order to avoid an identification and allocation of various cost elements to the sales of government to other sectors. By having all current purchases go through the production account, some difficult statistical and conceptual allocations are avoided. The treatment, however, is an awkward one and is not consistent with the procedure in other sectors (consumer and rest-of-the-world) that have current purchase accounts. Arbitrary allocations might be developed that would be preferable to this treatment. The treatment does not affect the total of GNP or its allocation by purchasing sector. Under it, the intermediate purchases of the government production account cover all purchases of government except the purchases of construction (other than force-account), durable equipment, and land, which are covered in the tangible capital account. (Purchases that end up in inventory and in force-account construction go through the production account, as in the business sectors.)

Sales out of the government production accounts thus have several components: sales to own tangible capital account in connection with net inventory change and with force-account construction; sales of government enterprises to the public; other government sales to the public[66] (except sales of existing capital assets, which are sold out of capital account); government sales corresponding to wages in kind; and sales to government current purchase account—an internal transaction that, with tangible capital account purchases, makes up government purchases of final product. This last internal sales figure is the residual balancing entry of the government production accounts. It reflects depreciation "services" as well as wages and salaries of government employees and other market transactions; but it is not possible to specify how much of each it reflects unless one wants to make specific allocation of depreciation, wages, and purchases among all the other categories of government sales.

OTHER GOVERNMENT SECTOR SUBACCOUNTS. The other elements and subaccounts of the government sectors will be mentioned only briefly. Since some of the transfer payments recorded in the government appropriation account represent programs adopted with the budget situation in mind, the residual transfer from the appropriation account to the current purchase account does not have in the case of the government sectors the same "disposable" connotation that it

[66] Including the so-called personal nontaxes (see earlier transaction discussion for differences from Commerce treatment).

does in the case of the consumer sector.[67] Despite this, the government appropriation and current purchase accounts may be useful to divide those government current operations that are direct demands for goods and services from those that redistribute income but make no direct use of resources.

As indicated earlier, the exact contents of government tangible capital expenditures remain to be worked out. There are several very knotty problems in this area. While absolutely satisfactory theoretical solutions to these problems may be very difficult to come by, it will undoubtedly be possible to agree on some conventions that will represent an acceptable compromise.

Rest-of-the-World-Sector Account

The rest-of-the-world account implied by the Commerce national income treatment and by the principle stated earlier in this paper of having all income originating originate in the production accounts is presented in Table 12. It is an extremely complicated account. Yet as long as the present treatment of United States income originating abroad is adhered to, it is the account system indicated by the requirement that the summary national income and product account be derivable by consolidation of sector production accounts.

Part of the jungle of entries arises from the fact that the income-originating entries are entered gross; "profits" and dividends flow in both directions and have to be handled through both dummy production and dummy appropriation account entries. In any case, consolidation of all internal entries (which would eliminate items 3 and 12, 6 and 8, 4 and 20, 7 and 18, 16 and 17, 22 and 23) yields a very familiar rest-of-the-world statement. For that matter, merely starting at the level of the current purchase (or export-import) account yields a comfortable account. However, for the basic underlying integrated structure all four subaccounts are needed.

There are two minor departures from the Commerce national income accounts implicit in this account. One difference relates to consumer transfers with the rest-of-the-world, which are treated here as transfers but in the Commerce accounts as transactions in goods (despite the abandonment in 1959 of this treatment for government

[67] On the other hand, the differences should not be exaggerated. Many of the government transfer payments are semiautomatic, following established programs, with the government having little immediate control over the exact amounts paid out in any time periods. Conversely, if consumer transfer transactions were shown gross, or a subsector were provided for nonprofit organizations, it would be clear that some consumer transfer transactions take place after, rather than before, the striking of a truly precise disposable measure. Moreover, for both the consumer and the government sectors, there are some expenditures for goods and services that might be considered as coming before a disposable measure.

TABLE 12

REST-OF-THE-WORLD SECTOR ACCOUNT

Dr.	Cr.
PRODUCTION ACCOUNT	
1. Compensation of employees (to consumer appropriation)	
2. Interest paid (to all U.S. domestic sectors except U.S. government)	5. Interest received (from all U.S. domestic sectors except U.S. government)
3. Corporate profits (an internal flow to appropriation account, line 12; equal to dividend and branch profits paid to U.S.)	6. Corporate profits (an internal flow from appropriation account, line 8; equal to dividend and branch profits from U.S.)
4. Purchases (internal, from export-import account, line 20; equal to lines 5 + 6)	7. Sales (internal, to export-import account, line 18; equal to lines 1 + 2 + 3)
APPROPRIATION ACCOUNT	
8. Corporate profits (internal, to production account, line 6)	12. Corporate profits (internal, from production account, line 3)
9. Dividends and branch profits paid (to U.S. sectors)	13. Dividend and branch profits received (from U.S. sectors)
10. Unilateral transfers (to U.S. sectors)	14. Unilateral transfers received (from U.S. sectors)
11. Interest paid (to U.S. government)	15. Interest received (from U.S. government)
16. Net transfers to export-import account, line 17 (= lines 14 − 10 + 15 − 11)	
EXPORT-IMPORT ACCOUNT (current purchase account)	
	17. Net transfers from appropriation account, line 16 (equal to net unilateral transfers plus net interest transactions with U.S. government)
18. Purchases from production account, line 7	20. Sales to production account, line 4
19. All other imports from U.S.	21. All other exports to U.S.
22. Current surplus (internal, to financial account, line 23)	
FINANCIAL ACCOUNT	
	23. Current surplus (internal, from export-import account, line 22)
24. Change in assets—with detail	25. Change in liabilities—with detail

transfers). The other difference relates to the classification of government interest to and from the rest-of-the-world sector, classified as interest here and as transfer payments by Commerce.

There is also one minor departure from the flow-of-funds rest-of-the-world account as currently published, relating to the treatment of United States net domestic gold production. In the integrated structure, it is tentatively proposed to follow the national income treatment, whereby the net domestic gold production is reflected in an imputed export of goods in the current account and in an imputed import of gold in the financial account. Where the magnitude warrants, identification of the imputation would be in order.

Transactor-Consolidated Sector Accounts

A brief mention should be made of a type of sector account created by a certain kind of consolidation within the basic structure. Each sector account contains internal transactions occurring between different subaccounts of given transactors and market transactions occurring between different transactors in the sector. Consolidation of the accounts of each transactor would eliminate the former but not the latter intrasector entries. This kind of consolidation results in sector accounts very similar in form to the sector accounts of the earlier versions of the flow-of-funds system.[68] Such accounts are of value in focusing on market transactions. However, since the sector accounts of the basic integrated structure as proposed here contain full identification of market and nonmarket transaction entries, a focus on market transactions can be provided by appropriate regrouping and subtotaling without formal consolidation.[69]

NATIONAL SUMMARY ACCOUNTS

The basic structure of accounts, whether viewed in the form of Table 6 or Table 5, provides the basis not only of a sector-oriented view of the economy but also of a transaction-oriented view and an activity-oriented view. Corresponding to the last two are two types of national summary tables or accounts.

Transaction Accounts

The national summary transaction accounts represent a simple recording for each transaction category of the various sector debits

[68] See *Flow of Funds*. They are not exactly the same since the accounts resulting from the consolidation being considered here would contain in-kind transactions and non-internal imputations, which the flow-of-funds accounts did not cover.

[69] The sector accounts in the more recent version of the flow-of-funds accounts—with their recording of specific saving, depreciation, and business net income entries—are not consolidated in this way.

and credits for that transaction category. Just as each column of Table 5 or Table 6 constitutes a sector account, each row of Table 5 constitutes a transaction account.[70] Examples of transaction accounts that are constructed directly from the rows of a basic sector-transaction category matrix can be found in the various flow-of-funds presentations.[71]

Summaries of Activity Subaccounts

The other type of national summary is a grouping not of transaction categories but of the activity subaccounts. The national income and product account is such a summary. As already discussed earlier, it is the consolidation of the production accounts of all sectors. In Table 13 the relation of the national summary income and product

TABLE 13

NATIONAL SUMMARY INCOME AND PRODUCT ACCOUNT FOR THE INTEGRATED SYSTEM IN TERMS OF THE SECTOR-ACTIVITY ACCOUNT STRUCTURE

Sectors / Subaccounts	Consumer	Nonfinancial Business	Finance	Government	Rest of World
Production Account					
Appropriation Account					
Current Purchase Account					
Tangible Capital Account					
Financial Account					

NOTE: Boundary across first row of cells shows coverage of the national summary income and product account.

account to the basic structure can be seen in terms of the schematic sector-activity subaccount diagram used earlier.[72] More specifically,

[70] In Table 6, the entries for many of the nonfinancial transaction categories are recorded in more than one activity subaccount; in such a case the transaction account cannot be constructed from a single row of the table, as it is possible to do in Table 5 for all categories. Each financial category, however, is a separate row in either of the tables.

[71] In the latest version of the flow-of-funds accounts, the financial transaction accounts appear in very summary form in Table 3 of the *Federal Reserve Bulletin* flow-of-funds tables (e.g. see page 1048 of the *Bulletin* for August 1959), and in detailed form for each financial transaction category in *Flow-of-Funds/Saving Supplements* #2, 1960, and #5, 1961.

[72] The national summary account differs from the national income and product account in the Commerce system by the exclusion of the business appropriation accounts from the former (compare Table 13 with Table 3.)

the national income and product account is derived from the sector production subaccounts of the basic structure as detailed in Table 6. This derivation is shown in two forms or stages in Table 14.

TABLE 14

NATIONAL SUMMARY INCOME AND PRODUCT ACCOUNT

Dr.	Cr.
PART A. COMBINED FORM	
A. Compensation of employees	K. Sales
B. Interest	L. Interest
C. Indirect taxes	M. Subsidies
D. Purchases	
E. Capital consumption charges	
F. Business transfer payments	
G. Corporate profits	
H. Net income of noncorporate business	
I. Net income of government enterprise	
J. Imputed net rental income	
PART B. CONSOLIDATED FORM	
N. Compensation of employees (A)	Y. Sales of gross national product (K − D), detail by type of expenditure[a]
O. Net interest (B − L)	
P. Corporate profits (G)	
Q. Net income of noncorporate business (H)	
R. Imputed net rental income (J)	
S. National income (N through R)	
T. Business transfer payments (F)	
U. Indirect taxes (C)	
V. Net income of government enterprise less subsidies (I − M)	
W. Capital consumption charges (E)	
X. Total (S through W = Y)	

[a] Since the sector production accounts in recording sales do not, in general, indicate the sector purchasing or the purpose for which purchased, consolidation of these accounts will ordinarily yield only total GNP on the credit side. However, detail on components of GNP can be provided from the current purchase accounts and the consolidation of the tangible capital accounts.

Part A of Table 14 shows the simple combination and addition of all the items in the sector production accounts. In Part B are performed the various consolidations, other nettings, and rearrangements needed to arrive at the national consolidated income and product account.

The national summary income and product account is a summary of elements appearing in the basic underlying structure (as represented

by Table 6); as such, it duplicates part of the basic structure rather than being an unduplicating element of that underlying structure. While it is outside the scope of this paper to consider the form of publication of the integrated structure or the compromises that might be required by unavailability of data, it is worth noting that one possible publication format would substitute the consolidated national income and product account for the sector production accounts of which it is a summary, with the sector accounts proper starting at the appropriation subaccount level. Such a structure would have the schematic appearance of Table 15. In this case, the

TABLE 15

NATIONAL SUMMARY INCOME AND PRODUCT ACCOUNT AS NONDUPLICATING ELEMENT OF STRUCTURE OF ACCOUNTS

Sectors / Subaccounts	Consumer	Business	Finance	Government	Rest of World
National Income and Product Account					
Appropriation Account					
Current Purchase Account					
Tangible Capital Account					
Financial Account					

NOTE: Boundary across first row of cells shows coverage of the consolidated summary income and product account; other boundaries indicate sector accounts.

national income and product account would be an integral, nonduplicating part of the system rather than a summary of elements of the system. The national summary account to be used for this purpose can be either in the combined gross form, indicated in Part A of Table 14, or in the consolidated form, in Part B of that table. To produce this type of structure, no changes are required in any of the entries in any other parts of the basic structure.[73]

[73] In this version of the structure, there is considerable loss of sector identification of current nonfinancial flows; e.g. property taxes paid by consumers are shown not as a consumer outlay but as an outlay of the consolidated production account. Similarly, there is a loss of information on sector market transactions; e.g. gross imputed rental outlays are recorded for consumers, but the actual outlays involved—taxes, interest, maintenance, etc.—are not recorded in the consumer account. These losses of information can be avoided by proper memorandum lines in the structure, or by the provision of properly detailed transaction accounts derived from the basic underlying structure.

The format of the sector accounts (Table 4) in the present flow-of-funds presentation in the *Bulletin* can, to a considerable extent, be considered an example of this condensed version of the basic structure, with the national income and product account omitted, although the form of several of the current nonfinancial entries in the consumer and government sector accounts is not quite appropriate to such an interpretation. It would, however, take only a few changes in the national income and product account of the present Commerce national income system and in the current nonfinancial entries in the sector accounts of the *Bulletin* presentation of the flow-of-funds accounts to produce a complete, internally consistent example of this version of an integrated structure.

Summary accounts, either combined or consolidated, can also be provided for the other activity accounts. Thus, a consolidated summary account of the capital accounts of the domestic sectors yields a national saving and investment account of the form traditionally shown in national income accounts, but providing more financial detail than is now an integral part of the traditional account.[74] This summary capital account is published regularly as part of the flow-of-funds presentation.[75]

A consolidated national summary of the appropriation accounts or of the appropriation and current purchase accounts together would not be of much interest; but a combined summary account of the appropriation and current purchase accounts, suitably condensed, would make an interesting addition to the national summary accounts now available.

Miscellaneous Topics

There are many aspects of the proposed integrated structure of accounts that have not been dealt with in this paper. The next few pages will very briefly discuss a few of these topics: valuation problems and capital gains, balance sheets, discrepancies, and input-output. This section also contains some remarks on the subject of possible alternative "disposable" concepts.

VALUATION PROBLEMS AND CAPITAL GAINS

The entries in the accounts are basically on a transactions basis, that is, they are recorded at the values at which each exchange being recorded takes place. For transaction (i.e. flow) entries for assets and liabilities that enter the balance sheets, transaction values may

[74] See discussion of consolidation of the capital accounts on pages 35, 36, and 37.

[75] See the "national saving and investment" column of Tables 1 and 5 and Table 2, *Federal Reserve Bulletin*, August 1959, pp. 1046, 1047, and 1054.

differ from those at which predecessor transactions took place, and they may not be the values indicated by changes in balance sheet entries; revaluations may have occurred. Revaluations are reflected in the prices at which transactions take place, but the revaluations themselves are not market transactions. However, revaluations and the resulting capital gains and losses can be systematically handled as internal transactions.

There are really two separate problems here that are often confused. One is statistical, that is, it relates to the problems of deriving series to fit the concepts wanted. Since many of our series are derived from sources that are on an unwanted valuation basis, it is necessary to adjust these statistics to the desired concept, i.e. transaction values, just as it is necessary to adjust them for unwanted sector coverage or transaction classification. Some of these adjustments, such as the inventory valuation adjustment and the adjustment of changes in balance sheets as reported to get a flow basis, reflect capital gains and losses. Information is needed to eliminate the revaluations in the source material not wanted in the flow figures, but with the adjustments made, there is no need to record the adjustments in the structure of the accounts.

On the other hand, it may be desired to include in the structure of accounts revaluations considered to be significant for purposes of measurement, analysis, conformance to the national accounting balance sheets, etc. The problem here is to decide what is wanted, how to measure it, and how to enter it in the accounts. These series on revaluations and capital gains are not necessarily the same ones needed to adjust the raw data; it is likely to be the case that a specific concept of capital gains is wanted rather than the conglomeration of business and government usages that must be reflected in the statistical adjustment series. (On the other hand, precisely the statistical adjustment series may be wanted if it can be established that economic units respond only to the valuations in their formally recorded accounts.)

Structurally, there is no problem in recording capital gains in the system. When the capital gains complex is stripped down to its essential elements, the serious problems are seen to relate to what is wanted and how to measure it rather than to the method of handling the desired concept in the structure of accounts.

In a formal sense (and in the most effective working sense), a capital gain in a set of flow accounts can be considered a simple, separate "internal flow," involving a debit entry to the capital account, which records the revaluation of an asset (or liability) and is labeled as such, and a corresponding credit entry, which records

the capital gain either in the production account, appropriation account, or capital account (depending upon whether or not it is deemed desirable to have capital gains reflected in income, saving, etc.).[76]

This direct and simple treatment can be used whether one is dealing with "capital gains realized during a period" or with "capital gains occurring during a period, whether or not realized" (to be called, for short, "current capital gains").[77] The procedure can be visualized most easily in the case of current capital gains; occasionally, there is more difficult in seeing its application to the case of realized capital gains.

The application to realized capital gains becomes more obvious if one views the act of selling an asset as two separate acts—(1) a revaluation to present value and (2) a sale transaction. Each of these two acts is represented in the accounts by a separate set of entries—the revaluation, by the two-entry internal transaction involving only one transactor, described just above; and the sale transaction, by a four-entry transaction between two transactors, with the entries recorded on a transaction-flow basis. The capital gain arises in the act of revaluation of the asset; this revaluation is independent of whether or not the gains are realized, even though the occasion for formal revaluation may be an immediately consequent sale. In the sale transaction, the revalued asset is exchanged for another asset of equal value. Thus, the transaction itself, which merely changes the form of portfolio, can not give rise to capital gains. This has occurred in the separate act of revaluation. The capital gain does not arise because an asset is sold; rather, the decision to sell and the price in the sale are based on prior revaluation of the asset.

With this view and treatment of capital gains (and particularly with the separation of the revaluation and the transaction in the case

[76] The term "capital gain" is often applied to both elements of this internal transaction. Failure to distinguish between the asset revaluation and the accompanying capital gain can lead to unnecessary confusion.

[77] There is a tendency to discuss realized capital gains and current capital gains as if the former were a component of the latter. In any given period, this is not so. The realized capital gain refers to the change in value over all time since the asset was purchased for all assets sold during the period. The current capital gain refers to the *change during the current period* in the value of all assets held (for as long as held during the period, in the case of assets bought or sold during the period). Roughly stated, one represents a summation of value changes over several periods (depending on when the asset was purchased) for only those assets sold during the period; the other, a value change in a single time period for all assets held. These two concepts do have an overlap (generally small)—the current increase in value of the asset sold in the period—but each of them has elements not in the other, resulting from their different time dimension and coverage. They do not necessarily move together; in any given period they can be of opposite sign.

of realized gains), there is no temptation to let the recording of capital gains in the system of accounts affect the basis on which the market transactions are recorded. The system of national accounts is in balance when the financial entries are on a transaction-flow basis. The addition of the capital gain internal transaction does not disturb this balance, nor does it change the basis of any of the transactions already recorded in the system.

If in fact, however, one should then proceed to combine in each sector the flow entry for each asset and liability with the corresponding revaluation item (i.e. the debit) from the capital gains internal transaction, one would arrive at asset and liability change items that, in some sense, are on an original cost or market value basis (depending on the scope of the revaluation and capital gain entries); and the capital gains entries (i.e. the credits) are left hanging in limbo. But little can be said in favor of proceeding in this way. It destroys the unity both of the transactions system, which is concerned with inter-transactor relations, and of the structure of internal flows, which is concerned with intratransactor decisions and evaluations. By unnecessarily combining flow aspects and revaluation aspects of the economy, it does away with elements needed in analysis, and deprives the whole structure of the flexibility needed in the national accounts. There is no question that the financial flows and the transactions in tangible assets in the national accounts should be on a transaction-flow basis whether or not capital gains are recorded as an internal flow and regardless of which concept of capital gains is used.

With respect to the choice between recording current capital gains and recording realized capital gains, there is nothing in the structure of the national accounts as such that indicates what the scope of the capital gains internal entries should be. There are undoubtedly some uses for both concepts.[78] Current capital gains, on both tangible and financial assets, however, would seem to be a more significant determinant of behavior with respect both to portfolio decisions and to current expenditure and income decisions; transactors have, after all, some idea of the value of their property, even if they carry it at cost on their books. It would probably also be closer to the balance sheet valuations that are most significant for economic analysis.

That leaves the question of whether the capital gains entries ought to be made part of the formal structure of the integrated national

[78] There may be some interest in a breakdown of net financial sources of funds between funds raised by liquidating the original cost of the assets sold and funds raised because the asset sold had been revalued. This might call for a series on realized gains for financial assets. But such a series could be a memorandum item and not part of the structure of accounts; moreover, it is difficult to conceive of a meaningful, unambiguous operation of measurement except for a relatively small number of cases.

accounts (i.e. the flow accounts) on any basis. Rather than being entered in the flow accounts, the capital gains entries can be made part of the balance sheet presentation in the form of the items needed to reconcile balance sheet changes and the corresponding flows in the national accounts. However, it may be that the valuations wanted in the balance sheets and the capital gains concepts wanted for the flow accounts are such that the difference between the change in balance sheet entries and the transaction flow entry is not the measure of capital gains wanted. The balance sheet reconciliation may be quite complicated.

If the credit entry of the internal capital gains transaction is to be made either to the production account or to the appropriation account, in order to have concepts of income and saving that included the capital gains, then it would seem preferable to handle it as an internal transaction in the flow accounts rather than as a reconciliation item on the balance sheet. On the other hand, if both the debit and the credit entries are to be made in the capital transactions accounts, there would seem to be no overwhelming reason for having it in one set of tables rather than the other. Moreover, the problems of measurement and definition may be such that it is better to leave the the entries out of the flow accounts; as reconciliation items in the balance sheets, there is less presumption that there is a specific concept of capital gains we are sure we want. It should also be noted that one can bring capital gains into the analysis of consumption, saving, and investment decisions without making such gains part of the major income and saving totals.

BALANCE SHEETS

A structure of sector and national balance sheets is an important part of a complete national accounting system. Such a balance sheet system should be integrated with the national accounts on a flow basis. To be so integrated, the balance sheet system should have the identical sector structure, financial category structure, and tangible asset structure as the flow system, but the valuation bases need not be the same.

There is a heavy load of conceptual and statistical work still to be done in this area, but the sector partial balance sheets (covering only financial assets and liabilities) presented regularly in the flow-of-funds accounts[79] satisfy the sector and (most of) the financial category requirements for a balance sheet system integrated with the integrated system of national accounts presented here. Entries for tangible assets, some entries for equity and net worth relationships, decisions

[79] See *Federal Reserve Bulletin*, August 1959, Tables 6 and 8, pp. 1055 and 1057–1061.

on the form of a national consolidated or combined balance sheet, and many statistical improvements remain to be worked out.

The valuation basis of entries in the balance sheet system is, of course, a crucial characteristic of the system. A discussion of this aspect of the system is outside the scope of this paper. The determination of analytically significant valuation for assets and for liabilities in a sector and national balance sheet system is not as simple as it often appears at first glance. A considerable amount of searching inquiry and discussion is merited before definitive decisions are made.

No matter what the valuation basis chosen, the year-to-year changes in the balance sheet items are not likely to be equal to the corresponding flow entries in the national accounts, since the balance sheet entries will reflect revaluations and other reserve adjustments as well as transactions. However, the balance sheet and flow systems would be linked either by internal revaluation and capital gains entries in the flow accounts or by reconciliation entries accompanying the balance sheets.

DISCREPANCIES

Both discussion and the table shown have ignored the role and place of discrepancies in the structure of accounts. The discrepancy structure is a very important part of the system of accounts. I have discussed the problems and meaning of discrepancies in national accounts at length elsewhere and there is no need to repeat the details of these discussions here.[80]

A treatment of discrepancies similar to that used in the flow-of-funds accounts—with discrepancies permitted in several sector accounts and in several transaction categories—is proposed for the integrated structure. The Commerce accounts treat discrepancies differently, suppressing all but one pair; and as a result, several estimates in the integrated structure will differ from corresponding estimates in the Commerce accounts (e.g. government individual income tax receipts and net foreign investment).

Each sector discrepancy expresses inconsistencies between total debits and total credits of the sector, and cannot in general be attributed to particular entries. It can be placed in any subaccount. If recorded as an entry in the tangible capital account, it appears as a discrepancy between current and capital transaction entries; if recorded in the financial account, as a discrepancy between financial and nonfinancial transaction entries. Recording it in the tangible capital account is probably somewhat preferable.

[80] See *ibid.*, pp. 857–859; and *Flow of Funds*, Appendix A.

INPUT-OUTPUT

This paper has been concerned only with the integration of national income and flow-of-funds accounts. The input-output accounts should certainly be basically consistent with the integrated system, with derivation from the same basic set of statistics; but such consistency does not require identical kinds of sectoring and other account structuring. This consistency would be expressed tangentially at a national summary level. That is, the national summary income and product account derived by consolidating all the sector production accounts of the integrated system could, if the input-output system were integrated, be made identical with a final-product column and an income-originating (and other charges against GNP) row of the interindustry matrix. This summary consistency requirement would enforce consistency of details insofar as relevant.

It should be noted that the desired consistency between input-output and national income and product is a statistical, not an analytic, consistency. Even if the basic statistics going into each are consistent, and even if there are a column and row derivable from the input-output tables that are identical with the summary national income and product table, this does not mean that such a GNP final-product column is necessarily the final bill of goods that is relevant for interindustry analysis.[81]

THOUGHTS ON SOME ALTERNATIVE "DISPOSABLE" CONCEPTS

The proposed structure of accounts as presented in the preceding tables and discussion is, despite several important differences in detail from the Commerce accounts, in the traditional line with respect to the general concepts of disposable income and saving and their relation to the whole structure of transactions—current and capital, financial and nonfinancial. There is, however, some reason to suspect that certain aspects of some of the traditional treatments and distinctions made do not necessarily yield the only or even the most significant concepts of disposable income and saving with respect to the analysis of economic behavior. The following discussion of some of the issues involved in this question is in terms of the consumer-sector account; comparable points can be made for other sectors. The discussion is intended only to raise certain issues, and no recommendations are made with respect to the proposed integrated structure.

[81] For an elaboration of this point see my article, "A Comparison of the Structures of Three Social Accounting Systems," *Input-Output Analysis: An Appraisal*, Studies in Income and Wealth, Volume 18, Princeton (for NBER), 1955, pp. 278–280.

Traditionally in national accounting systems, and also in the proposed structure discussed above, series on consumer disposable income and consumer saving are defined in terms of current nonfinancial flows. But not all current receipts recorded in national accounts (even aside from taxes) are truly subject to consumer decisions; there are obligatory payments other than taxes, including some financial flows, to be made out of income before we reach a disposable level. Similarly, with respect to saving, there is an important distinction to be made between saving that is disposable, or available (that is, saving with respect to which consumers must make some current decision on the form of investment), and saving that is not disposable. Thus, the traditional structure may be inadequate as a summary picture of the consumer's structure of transactions and of the transaction decisions facing him.[82] It might be useful to consider the various means by which it may be possible to achieve, either within or outside the structure of accounts, subtotals of income and of saving that can more reasonably be considered to be disposable, that is, to be subject to the current decisions of consumers, and thus to be more directly applicable to the analysis of consumer behavior.

Several kinds of transaction relationships that might affect the disposable concepts could be considered as eligible for treatment. For example, there are "noncash" elements of income, such as in-kind and imputed income matched by imputed consumption expenditures, that are nondisposable in some sense, since they must be consumed in the exact form received, that is, they are incomes for which the propensity to consume is necessarily equal to one.[83] There are elements of consumption expenditures—e.g. those matching depreciation of homes and consumer durables—that represent internal adjustments rather than market purchases out of currently available income; they result in an understatement of the saving that is disposable.

In addition to items related to consumption expenditures, there are financial relationships that represent uses of income over which the recipient has no immediate control. The traditional treatment of deducting only nonfinancial flows in the calculation of disposable income implies a degree of control and choice over all elements of saving that cannot be defended as an analytic proposition. Thus, there are income items that go directly and necessarily into consumer

[82] The problem of deriving consumer series that are related to the decision structure confronting consumers is a general one that has been approached in one fashion or another by many economists. An example of a detailed approach to the problem is to be found in the work of the National Industrial Conference Board, (see *Discretionary Income*, Technical Paper Number Six, New York, 1958).

[83] There is, of course, the possibility of resale of goods received as income in kind.

saving and are never income (or saving) at the disposal of the consumer—e.g. employer contributions to life insurance and pension funds, and imputed income matched by saving (as in the case of insurance and pension funds). Similarly, there are payroll deductions that go directly into saving, such as employee contributions to pension and retirement funds. There are contractual forms of saving that can be considered to be met before income is disposable, e.g. regularly amortized debt payments for both mortgage and consumer credit, insurance premiums (net of dividends), and contractual mutual fund plans.

On the other hand, some dissaving items are part of disposable income in the sense that they may be considered as current income by the recipient, e.g. pension and retirement benefits and life insurance benefits.[84]

If regular mortgage debt repayments are to be considered a deduction before the calculation of disposable receipts, then the accompanying interest and property tax payments would seem to come under the same head. Consumer credit interest payments might be similarly treated as a contractual payment. But would this principle extend to all contractual payments, e.g. payments under long-term leases?

There have also been some suggestions that some sort of a subsistence level of expenditures should be considered as a necessary deduction before relating a concept of available income to "discretionary" expenditures.

It should be clear from the above listing that the task of arriving at a workable and acceptable concept of disposable receipts is not an easy one. There are several kinds of problems. For example, where in this, or an extended, list does one stop? The list will certainly vary from one analyst to another and from one problem to another. Is agreement possible even on a minimum basic list of items to be treated? What is nondisposable in the short-run may be disposable in the long-run (or even vice versa in some cases). Moreover, in many cases, what is nondisposable (e.g. contractual payments) may be made disposable at a cost, and this cost will vary from item to item and over time.

Even with all these problems of coverage assumed to be settled, there remains the question of how to handle the items in the accounts. Several methods come to mind: (1) the systematic use of internal transfer entries that would carry appropriate values from one subaccount to another and would thus change the contents of the major

[84] The case of life insurance benefits is complicated, since they can be either in the form of annuities or of lump sum payments; and it may be that not all life insurance benefits fit into the list of items mentioned here.

residual transfers between subaccounts—disposable receipts, disposable saving, and disposable nonfinancial surplus; (2) the showing of sufficient detail and memorandum items under the various important totals for the desired concepts to be struck as subtotals or memorandum items; (3) the showing of sufficient detail in pertinent parts of the accounts for the individual reader to be able to strike

TABLE 16

CONSUMER SECTOR ACCOUNT, ALTERNATIVE DISPOSABLE CONCEPTS (1)

Dr.	Cr.
PRODUCTION ACCOUNT	
1. Compensation of employees	7. Sales = sum of lines 1 through 6
2. Interest	
3. Indirect taxes	
4. Depreciation—to line 26	
5. Purchases (intermediate)	
6. Net imputed rental income—to (9)	
APPROPRIATION ACCOUNT	
8. Taxes and transfer payments (with detail)	9. Receipts from all production accounts
	9A. Income in kind (with detail)
	9B. Imputed income (wtih detail)
	9C. Other (with detail)
11. Transfers to current purchase account—to (17) and (19)	10. Transfer receipts (with detail)
11A. Income in kind = (9A)	
11B. Imputed income reflected in consumption expenditures = part of (9B)	
11C. Other "nondiscretionary" expenditures	
11D. Interest equivalent = (2)	
11E. Property tax equivalent = (3)	
11F. Part of life premium = cost of insurance	
12. Transfers to financial account—to (33)	13. Transfers from financial account—from (33)
12A. Imputed income reflected in saving = part of (9B)	13A. Pension fund benefits
12B. Employer and employee contribution to pension funds	13B. Life insurance benefits
12C. Consumer premiums (part) and employer contributions to life insurance	
12D. Debt amortization payments = (40)	
14. Disposable receipts (to current purchase account—to (23) = [(9) + (10) + (13)] − [(8) + (11) + (12)]	

(continued)

TABLE 16 (concluded)

Dr.	Cr.
CURRENT PURCHASE ACCOUNT	
20. Consumption expenditures	15. Transfers from other accounts—(16) + (19)
21. Noncash purchases = (16) (imputed, in-kind, depreciation)	16. "Noncash" transfers
	17. From appropriation account—from (11A) and (11B)
	18. From tangible capital account—from (27)
22. Other nondiscretionary purchases = (19) (part of life premiums, interest, property taxes)	19. Other transfers from appropriation account—from (11C)
24. Other purchases	23. Disposable receipts from appropriation account—from (14)
24A. Nondurables	
24B. Services	
25. Disposable saving = (23 − 24) [to tangible capital account—to (28)]	
TANGIBLE CAPITAL ACCOUNT	
27. Noncash transfers [to current purchase account—to (18) = (26)]	26. Depreciation (from production account, line 4)
29. Capital expenditures (net of sales)—with detail	28. Disposable saving (from current purchase account, line 25)
30. Disposable nonfinancial surplus (to financial account, line 32)	MEMO: *Plus* net saving transferred to financial account [= (12) − (13)] *Equals* gross saving *Less* depreciation *Equals* net saving
FINANCIAL ACCOUNT	
	31. Nonfinancial surplus—(32) + (33)
	32. Disposable nonfinancial surplus (from tangible capital account, line 30)
	33. Net transfers from appropriation account—from (12) and to (13)
34. Change in financial assets	38. Change in liabilities (with detail where pertinent)
35. Equity in pension plans = (12B) + part of (12A − 13A)	39. Net change
36. Equity in life insurance = (12C) + part of (12A − 13B)	40. Regular repayments = (12D)
37. Other (with detail)	41. Other change = (39) − (40)

whatever concepts he wants; (4) performing the whole operation outside the structure of accounts in subsidiary tables; or (5) a mixture of these approaches, with some items handled one way, and others another.

Table 16 illustrates method (1), that is, the use of internal transfer entries; and Table 17 illustrates method (2), that is, the use of

detailed memorandum items and subtotals. In both tables, adjustments are made to achieve measures of disposable receipts and disposable saving that take account of the following cases (all of which were referred to in the preceding paragraphs):

a. depreciation
b. income in kind
c. imputed income
   1. matched by imputed expenditures
   2. matched by saving and acquisition of financial assets
d. pension plans
   1. payroll deductions matched by saving and financial assets
   2. employer contributions matched by saving and financial assets
   3. imputed interest matched by saving
   4. benefit receipts representing dissaving
e. insurance
   1. imputed interest matched by imputed expenditures
   2. imputed interest matched by saving
   3. employer contributions
   4. premiums
   5. benefits
f. payments on debt
   1. regular debt amortization
   2. interest
g. other, e.g. property taxes on owner-occupied homes

There is not space available in this paper to go into the entries for each of the individual cases listed above, nor to describe every entry in Table 16. The functions served by the various entries are several. One of the purposes is to arrive at a measure of disposable receipts over which the consumer has full discretion in some sense. In the appropriation account, this is accomplished by entries (items 11A through 11F) transferring out to the current purchase account the value of nondiscretionary consumption expenditures, and by entries (12A through 12D and 13A and 13B) transferring out to the financial account the value of saving that is compulsory or contractual in some sense and transferring in from the financial account dissaving that might be treated as disposable current receipts. The resulting disposable receipts total is transferred to the current purchase account (entries 14 and 23) where it can be compared to consumption expenditures that are subject to short-run decision (entry 24). One result of the various transfer entries involving the current purchase

account is the separation of the "nonmarket expenditures" (i.e. those matching income in kind, imputed income, and depreciation) from market transactions. For many kinds of behavior analyses, this latter total is of some interest.

The net between the "disposable receipts" (entry 23) and the "other purchases" (entry 24), i.e. other than "noncash" and "nondiscretionary," yields a disposable saving concept (entry 25). This total, by separating out those parts of saving that match imputed income or that are contractual or compulsory, represents that part of total saving with respect to which the economic units in the sector must make some current decisions on the form of investment. In the asset and liability entries of the financial account, detail is shown distinguishing between those financial flows that correspond to "disposable saving" and "disposable nonfinancial surplus" and those that correspond to the transfers of compulsory or contractual saving elements.

The same results can be achieved in a simpler tabular form by identification by memorandum items but without the formality of specific entries in the accounts. Table 17 shows the consumer appropriation and current purchase accounts under this type of treatment for the same collection of adjustments as that used in Table 16. In this treatment, the production, appropriation, and capital accounts would be left as they are in Table 8; and the concepts of disposable income, consumption expenditures, and saving would be the same as in Table 8, with the amended disposable concepts and the individual transfer entries of Table 16 being shown as components, subtotals, or memorandum (*plus* and *less*) items in the current purchase account. It would also be helpful to have the financial account for Table 17 show, as detail under the various assets and liabilities, the elements corresponding to the financial components of the *less* and *plus* items of the current purchase account. This would be the same detail indicated for the financial account of Table 16.

Still another approach to the problem of achieving meaningful disposable concepts was utilized in the latest version of the flow-of-funds accounts, where financial flows related to pension and retirement plans are treated both as current flows and as capital flows. They are first shown as current flows, and then adjustment is made to arrive at the desired saving concept by an appropriate imputation of the "saving element." The double treatment there was accomplished by "transactions" between sectors, whereas in the two types of procedures just presented, it was accomplished through internal transfers between the financial and appropriation accounts of the consumer sector or as memorandum or detail items in the current

TABLE 17

CONSUMER SECTOR ACCOUNT, ALTERNATIVE DISPOSABLE CONCEPTS (2)

Dr.	Cr.
APPROPRIATION ACCOUNT	
3. Taxes and transfer payments—line 8 of Table 16	1. Receipts from all production accounts—line 9 of Table 16
4. Disposable income (to current purchase account)	2. Transfer receipts—line 10 of Table 16
CURRENT PURCHASE ACCOUNT	
6. Consumption expenditures—line 20 of Table 16	5. Disposable income (from current purchase account)
less	*less*
6A. Expenditures matching imputed income	5A. Imputed income
6B. Expenditures matching income in kind	5B. Income in kind
6C. Contractual expenditures (cost of insurance, property taxes, and interest)	5C. Income going into contractual expenditures and contractual saving
6D. Expenditures matching depreciation	5D. Income going into compulsory saving
6E. *equals* other purchases	5E. *plus* dissaving viewed as current receipts (pension and life insurance benefits)
	6F. *equals* available receipts
7. Net saving (to tangible capital account)	
less	
7A. Saving matching imputed income (insurance and pension)	
7B. Contractual saving (excess of premiums over cost of insurance and debt amortization payments)	
7C. Compulsory saving (equity in pension other than imputed interest, and employer contributions to life insurance)	
7D. *equals* net disposable saving	
7E. *plus* depreciation	
7F. *equals* gross disposable saving	

purchase account. For the integrated accounts, it seemed easier to preserve income and product concepts and perspective with the "internal transfer" or the detailed memorandum procedure than with the "transaction plus imputation" procedure of the present flow-of-funds accounts.

One advantage of using internal transfers or memorandum items for this purpose is that it is possible to limit the treatment (or parts of the treatment) to a single sector. The transfers deemed suitable for

arriving at disposable series meaningful for the analysis of consumer behavior may not necessarily be those wanted for other sectors. On the other hand, if it is so desired, the identical adjustments or internal transfers can be made in the corresponding sectors. If all the corresponding internal adjustments are made, these entries can be viewed both as internal entries and as transaction entries.

For many of the financial entries shown in Tables 16 and 17 as elements of saving and dissaving that may be regarded as current payments or receipts for the consumer sector, it is probably as significant to make analogous internal adjustments to reach "disposable saving" concepts in other sectors as it is in the consumer sector. For insurance and pension transactions, there is little question that, for many analyses, premiums and benefits can profitably be viewed as current or pseudocurrent flows that, together with the net of investment income over expenses, give receipts available for investment by insurance and pension funds. Similarly, in any given period, the amounts available to creditor sectors for investment also include the funds becoming available through regular repayments of debt. The working out of the entries for the other sectors will not be presented here. The detailed illustrations given for the consumer sector can be applied directly (or with modification for switching of debits and credits) to the other sector accounts.

The advantage of making the same (or corresponding) internal entries throughout the accounts is that in this case the striking of totals across all sectors would yield significant national totals. The redefinition of consumer disposable receipts effected by the internal transfers of financial items would not result in any change in total disposable receipts for the economy as a whole if the corresponding adjustments were made in the sectors where the corresponding flows occur.[85] Within the unchanged national total, the sector distribution would be changed to reflect more realistically the sectors which actually have the funds at their disposal.

Such adjustments and transfers can thus be seen as an extension and application of principles long viewed as desirable in the construction of useful national accounts. They are identical in purpose with the recording of transfer payments in the traditional income and product structure and, in fact, complete the carrying out of that purpose. Transfer payments are part of the income and product accounts because it has long been recognized that a "pure" income and product system is inadequate for behavior analysis. If expenditure patterns and decisions are to be related to income, and if the

[85] This is on the assumption that none of the corresponding transfers would occur in the rest-of-the-world account.

mutual impacts between income and expenditures are to be studied, the secondary redistributions of income through transfer payments of various kinds have to be recorded.

However, the lack of focus on, or place for, financial flows in the traditional income and product accounts has made it easy to overlook the circumstance that many financial and saving flows partake of the nature of transfers to be recorded before striking the totals of disposable receipts. Once the pure income system has been breached with the introduction of transfer payments, nothing in principle demands that the deductions and additions be limited to nonfinancial flows. Conversely, there is no reason for keeping certain relationships (e.g. with pension funds) out of saving merely because it is also desired to have disposable receipts net of them. One can have them both in saving and as a deduction before the calculation of disposable receipts.

This principle does not, of course, indicate just which financial flows are to be handled in this way, nor does it indicate the method of bringing about the results. The financial-flow items mentioned here are intended to be illustrative. Further thought, discussion, and controversy will be needed to establish both the list and the method of treatment in the accounts.

Conclusion

I have tried to present in this paper not only a general approach to the task of integrating the flow-of-funds accounts and the national income and product accounts, but also a large part of the detailed working out of an important part of the process of arriving at the form of a more complete integration—namely, the construction of the detailed underlying integrated structure of accounts.

While such a structure may be too detailed and cumbersome to publish regularly or to use, it is essential as the first step. Without this step, the solutions to the problems that arise in merging the two systems either would have an unsatisfying patchwork quality, or would, in effect, ignore many of the problems. This detailed underlying structure is the framework within which statistical and conceptual integration can be enforced. It is the framework in terms of which decisions on the published forms of integrated national accounts should be made. Prior to its completion, it is premature to worry about details of the published form, particularly since the categories, forms, and concepts in the national accounts may be changed in some respect in the process of constructing the underlying structure.

The achievement of the optimum integrated structure of national

accounts should not be expected in the immediate future. The work presented in this paper is only a beginning to the task of developing the final form of the integrated accounts. There is much to be done. The work remaining falls into several major parts. There is, first of all, the completion of, and agreement on, the detailed structure. This includes statistical implementation; availability of data and the possibility of measurement have influence on the form of structure and the exact definition of concepts in national accounting systems; no system can seriously be considered as completed without the full perusal of the measurement problems. Considerably more experimentation, discussion, and even controversy will be required before this part of the task is completed.

The second major part of the task, which has not been dealt with in this paper, is the preparation of a usable published form for the structure, that is, of the summary and detailed and subsidiary tables that will enable the users to adapt it readily to many varied uses. This is by no means an easy part of the job. For example, it is not clear whether the published form of the integrated accounts should center around a simplified version of the single, unified, integrated structure of accounts, or whether separate specialized systems of national income and flow-of-funds accounts should be derived from the basic structure by relatively simple sets of operations and the two specialized systems linked together by relatively simple reconciliation tables.

Other work must be done on the sector and national balance sheet system and on the relations between the integrated structure and input-output accounts.

The last part of the task to be mentioned is by no means the last in order of priority with respect either to time or to importance—and that is the improvement of our statistical resources and measures. Without this, all the structural and conceptual work, no matter how subtly done, may tend to be off focus and irrelevant.

It was pointed out at the beginning of this paper that complete merging or synthesis of the two systems is not the only way to bring about their integration. Integration can be, and has been, achieved through reconciliation. Thus, the reconciliation tables in the 1955 report *Flow of Funds* are an adequate, though often cumbersome and time-consuming, basis for achieving integrated analysis. The much simpler set of reconciliation tables released as *Flow-of-Funds/Saving Supplement* #6 by the Federal Reserve Board's Flow of Funds and Savings Section in connection with the latest version of the flow-of-funds accounts makes integration through reconciliation still more effective in analysis. Thus, economists do not have to

wait for the still uncompleted optimum national accounting integration in order to have a statistical framework within which to integrate on a consistent basis their analysis of income and product flows and financial flows. A workable, though perhaps esthetically unsatisfying, substitute is available. The present flow-of-funds accounts, the present national income accounts, and the reconciliation tables linking them together constitute an integrated system of national accounts that, with no more effort than it will take to learn and adjust to a more unified structure, can serve the needs of integrated analysis of financial and nonfinancial variables.

COMMENT

RICHARD RUGGLES, Yale University

It was very gratifying to see that in a conference on the flow of funds one of the major papers should be devoted to the problem of integrating various systems of national accounts. In fact, Sigel starts his paper by indicating that the field of national accounting has now reached a stage where the question of the integration of various existing and potential systems of national accounts cannot be ignored. This particular paper focuses on one aspect of the general problem—the question of integrating the United States national income and product accounts and the United States flow-of-funds accounts. It is most encouraging that in his development Sigel abandons reconciliation of systems as an acceptable form of integration, and moves in the direction of developing a synthesis—a synthesis which may require revision of both the national income accounts and the flow-of-funds accounts into a single system.

In developing his definition of sectors, Sigel suggests that a sector is made up of a group of transactors, and that the general intent should be to define the transactors institutionally, even though this is not always possible to carry out in practice. That is to say, "the account for any transactor (or sector) is conceived of as covering all transactions in which the transactor (or sector) engages regardless of the type of activity represented by the transactions." This, unfortunately, does not dispose of the issue because this is not what is done in the suggested system. Thus, for example, the consumer sector covers the production activities of some transactors, such as owners of occupied homes, nonprofit organizations, domestic servants, receivers of interest payments, and owners of consumer durables (page 58), but it includes only the consumption activities of other transactors, such as farmers, whose production activities are in the farm sector, as well as proprietors of unincorporated

businesses, and professionals such as doctors and lawyers. It would seem, therefore, that if transactions were being classified according to the institutional nature of the transactor irrespective of the type of activity represented by the particular transaction, the consumption activity of farms should be included in the farm sector, and the consumption activity of professionals should be included in the unincorporated business sector. The consumer sector thus does not follow an institutional classification of transactors, and it may, therefore, be asked whether it is not somewhat illogical to toss into the consumer sector the production activities listed above which Sigel does include. There seems little reason to include domestic servants in the household sector any more than other producers in the service sector. Similarly, does it make sense to include owner-occupied housing in the consumer sector, thus separating it from other housing in the business sector? It might well be that the procedure followed by the Department of Commerce would be more useful in this respect.

Some questions also occur to me in connection with the structure of accounts. The introduction of an appropriation account makes it necessary to decide what is an appropriation (or redistribution) of income and what is a legitimate charge to be levied against production. On the one hand, one can adopt the Scandinavian position that all receipts in excess of wages and materials represent surplus, which is then redistributed among overhead items such as taxes, depreciation, interest, and dividends. At the other extreme, one may consider that from the point of view of the economy, profits and taxes are charges, which must be met just as much as wages and salaries. If such a criterion is followed the appropriation account completely disappears. Quite reasonable arguments may also be made for a variety of other positions in between these two extremes. In general, I would question the value of separating the appropriation account from the production account, on the ground that the total which is reached by such a separation is not a very useful economic construct. The remaining three accounts, the current purchase, tangible capital, and financial accounts, again seem to me to be more elaborate than their potential usefulness would justify; and, in my view considerably more important, they do not tie neatly into the development of balance sheets. Instead of the accounts shown here, therefore, it might be more useful to have accounts which would show the outlays made from current income and the changes in assets and liabilities in a given sector. Such a system could much more easily be tied into national balance sheets.

Finally, a word should be said about the role of input-output in

the integration of national accounts. Sigel has entirely omitted this topic from his paper and has gone on the assumption that the first task is to integrate national income accounting and flow-of-funds accounting. It may be, however, that the type of integration that results from this approach may not tie in neatly with the integration needs of input-output. This is especially so if the integration between national income accounts and flow of funds is achieved by setting up flow-of-funds accounts which comprehend the national income accounts, so that the form of the national income accounts is determined completely by the kind of consolidation possible from the flow-of-funds accounts. The report of the National Accounts Review Committee (NARC) suggested a different procedure. There, a national income accounting system was designed which could tie in with either the flow-of-funds or the input-output accounting system. In this the NARC system differs from the Sigel approach in that the flow-of-funds and input-output accounts become elaborations of a core national income accounting system. As I understand it, the national income accounting system resulting from a consolidation of Sigel's flow-of-funds system could not easily be used as a point of departure for developing an input-output system. Nor, as suggested above, does this flow-of-funds system lend itself readily to integration with national balance sheets or with the capital portion of input-output (national wealth). Concentrating on just two of the existing forms of national accounts to the exclusion of all the others may, therefore, create future problems, which could have been avoided by somewhat more forethought at this juncture.

L. M. READ, Carleton University

A few years ago, when a colleague of mine and I publicly criticized a venerable Canadian institution, the only reported reaction of that institution was from one of its high officials, who was overheard to say—"Wow!!" Confronted by this excellent long manuscript, with but one busy week to digest its contents, it would be by far the better part of wisdom for me to utter an admiring Wow!—and to sit down. However, I am forced by the occasion to "live dangerously."

The problem of integrating national product—income and expenditure—accounts and flow-of-funds accounts is primarily a United States problem. A Canadian, therefore, approaches the problem from a standpoint largely *external* to the controversy. This has advantages and disadvantages—one of the clear disadvantages being that an *outside* viewpoint is usually one which is annoying to all interested parties whether it is relevant or irrelevant. It is, therefore, with some sense of risk that I offer a number of comments on this problem.

1. My first comment from outside is, as it should be, one of appreciation. The fact that the money-flow accounts were initiated and flow-of-funds accounts developed independently of the national product accounts, gave the flow accounts freedom of experimentation and flexibility of presentation at a time when the product accounts had passed their heyday of experimentation and easy change.

The more detailed sectoring of kinds of transactors and the more detailed and comprehensive categorizing of kinds of things involved in transactions, and the *presentation* of balancing sector accounts and balancing category accounts in a *single integrated matrix*, were major contributions of the flow accounts to national accounting. Over the years, there has been a tendency of the flow-of-funds accounts to approximate to the national product accounts in certain important respects; but in certain other respects they have maintained an independent position. This has kept before our minds that there are reasonable alternatives in the accounting of some kinds of transactions and that the canon of national accounting conventions should not yet be closed.

2. My second comment from outside is this—what is a clear benefit for us is not an unmixed blessing for you. We may pick and choose and thus benefit in an easy way from your experimentation. You, on the other hand, are naturally affected to some extent by the history of the controversy and by the intellectual and institutional interests which have developed in relation to it.

The flow accounts began as money flow accounts—the focus of attention was on money, the movement of money as a medium of exchange. In the course of time it was observed that—for purposes of the accounts—attention should focus on economic transactions, on the exchange of equivalent economic values, whether or not one of these values is money. Money as the *unit of account* was of course indispensable throughout the accounts—but *only* as a unit of account. Money as a medium of exchange was treated, for accounting purposes, merely as one among many categories of financial claims.

Mr. Sigel's concurrence in this view of the transaction as the basic accounting concept is made quite clear in his paper.

Accompanying this shift in accounting emphasis was a change in name which, unfortunately, failed to signalize this shift in interest. The name which would have made this new emphasis clear was *national transactions accounts*—a name first suggested, to the best of my knowledge, by Professor Morris A. Copeland a number of years ago at this Conference. Instead, the old metaphor, flow, and a new, bravely vague term, funds, were combined to give us flow of funds.

Mr. Sigel argues at some length that an integrated national

accounting system may be achieved by reconciliation as well as by synthesis—that is, by producing tables of reconciliation as well as by producing a single system of accounts—and that we should not too readily assume that the latter course is the only reasonable solution *even if* all the instructors in elementary economics in the country say just that.

Mr. Sigel would seem to have a case against the crowd of economists represented by instructors in elementary economics if he could demonstrate that the product accounts and the flow accounts are concerned primarily with different areas of economic activity and that some concepts which are natural or appropriate to one are *not* natural or appropriate to the other. This, however, is *not* demonstrable. Since the flow accounts shifted away from their original concentration on flows of money they moved on to common ground with the national product accounts—the common ground of concern with economic transactions. On different teams, perhaps, but batting in the same league!

There are, indeed, certain accounting decisions which we would want to make for the transactions system as a whole because of their implications for financial transactions or, alternatively, because of their implications for income and expenditure transactions. But, on the whole, the controversy over differing concepts goes beyond special concerns. The controversy is essentially one between two groups of economists sharing a common field—rather than one between accountants representing the peculiar interests of diverse fields.

We might test this conclusion by asking ourselves the simple question whether the concepts in question would go along with the person or with the job if the two groups of accountants in question simply traded jobs. Perhaps the instructors in elementary economics are not too far "off the beam" when they refuse to take seriously as a long-term solution a reconciliation table which merely reconciles the east and the west sides of Washington.

3. My third comment is to the effect that Mr. Sigel's suggestions for the current account are far too complex and complicating for the single integrated account. If it were necessary to agree on all the many things with which Mr. Sigel is concerned here, he would be indeed right that the single, integrated account is still a long way off.

A requirement of summary accounts is simplicity of basic principle. Our aim should be to deliver the user of statistics from the *chaotic* maze arising out of the lack of an integrated account, not to hand him over to a *calculated* maze from which only an expert national accountant could deliver him. If Mr. Sigel's intention was, rather, to

demonstrate how hopelessly complex the current account can become once one begins to deviate from the principle of straightforward balancing categories—then I think he has established his point.

I am firmly of the opinion that the single, integrated national account should be an integrated transactions account—with balancing category accounts throughout as well as balancing sector accounts. Internal transactions should be cut to the barest minimum. The only important modification of this is that arising out of a three-way division of the categories—into current, capital, and financial—a division which has already been made by the flow-of-funds accounts.

Such an integrated transactions account will contain, in appropriate boxes, the *components* of national income and expenditure. If certain incidental items requisite to the calculation of national income and expenditure are not explicit in the category totals, then subcategory data might be shown *in* the summary table or *added* as footnote memoranda.

Complex arrangements of the sector or category data, designed for special purposes of research and forecasting, should be left to subsidiary tables and to the untrammeled discretion of particular publishers or particular researchers. We should be careful not to spoil a simple and solid, summary transaction account by asking it to tell everything to all men—and that immediately.

With the proposed integrated transactions account the major questions to be decided are: What transactions are to be included and what excluded from certain sectors; and what are we to mean by savings and investment?

4. My final comment and suggestion, therefore—one cutting two ways—is this: (a) The integrated transactions accounts should be made to harmonize throughout with the senior part of the accounts —that is, with the national income and expenditure accounts; (b) but the national product accountants should now recognize that the addition of financial transactions to transactions in goods, services, and transfers to form a complete national transactions account does alter the perspective somewhat and that, for the sake of simplicity and efficient use of the transactions accounts as a whole, certain modifications of some existing income and expenditure tables are clearly demanded.

For example, certain productive transactions which have been somewhat artificially placed in the business sector should be returned to the consumer sector, e.g. transactions involving owner-occupied housing. This would, among other things, permit mortgages to be shown as a consumer liability. The change could be made without

affecting the total of gross national product. In Canada, at least, the analogous problem between the business and government sectors could be solved similarly. It would also seem to me highly desirable that investment in owner-occupied housing should appear in the consumer capital transactions account and that government real capital expenditure be entered as such.

Certain of Mr. Sigel's suggestions, such as that investment should include *all* "acquisition of assets that yield service over time" and that capital consumption allowances be assessed on a replacement cost basis, have their definite attractions. But the preparation of an integrated transactions account need not await the eventual decision on these matters.

In general, it is safe to say that accountants are fated to be unbending defenders of concepts. This arises out of the fact that before an accountant is born he is shown a vision of the eternal order. If in the course of his mortal sojourn he is reminded of any part of the vision—he never thereafter forgets it. Plato undoubtedly would have objected to eternal ideas with debit and credit sides—but there you have it!

The financial transactions accountant was born into a national accounting community which, within a brief span of years, had just witnessed a remarkable development in national product—income and expenditure—accounts and which, not without some cause, was relatively well pleased with the result. Some excellent accounting talent had been applied to the national product accounts in a number of countries of the West; and, during World War II and the immediate aftermath, a considerable measure of agreement, both intranationally and internationally, had been reached.

It is perhaps understandable—under these conditions—that by the time financial transactions accountants hit the scene, the mood was one of consolidation in the wake of revolutionary development. Indeed, one sometimes gained the impression that the age of inspiration had passed and the canon was virtually closed.

However, it is now clear that certain minimal demands arising out of the requirements of the more comprehensive transactions accounts should be met. That these requirements are first pointed out by financial transactions accountants should occasion no great surprise, since it was they who *first*, and from the beginning of their enterprise, worked with *both* nonfinancial *and* financial transactions.

Granted a few, relatively simple modifications of national income and expenditure tables—such as those already mentioned—an integrated transactions account could be easily and usefully prepared in harmony with the national product (income and expenditure)

accounts—the senior part of the over-all accounts. Further developments could then be worked out over time *with* rather than *without* a single integrated transactions account.

MORRIS A. COPELAND, Cornell University

Sigel has given a substantial push toward the integration of the national income and product and flow-of-funds systems of social accounts. I am sure that we should all be very grateful to him for it —not only those of us in the United States but social accountants in other countries as well. The problem of integrating national income and product accounts and aggregative financial transaction accounts is one with which the Statistical Office of the United Nations as well as other organization units within the United Nations have come to be actively concerned.

Sigel urges that "the creation of an integrated system is likely to require changes in the pre-existing systems . . ." (page 17). And he notes that the efforts at the development of an integrated system by United Nations social accountants have been hampered by the feeling that they were under a directive requiring them to work within the present Standard National Accounts (SNA) system. In fact, at the Portoroz meeting of the International Association for Research in Income and Wealth, 1959, Geary aptly referred to the SNA as the Procrustean Bed of social accounting. Fortunately, as a result of action following the Geneva meeting last spring this restraint seems now to be removed.

Sigel suggests two avenues of approach to the integration problem with which he is concerned: (1) the publication of reconciliation or translation formulas; and (2) the publication at regular intervals of an integrated release. He refers to the former as a "workable, though esthetically unsatisfying" approach. I would regard it as an immediate, absolute minimum objective. Such formulas are a great help in analysis. Also, they are immediately feasible. But they are a decidedly inferior substitute for genuine integration.

Moreover, reliance on this avenue of approach as a continuing expedient is obviously a matter of degree. One can envision an integrated release that still leaves a part of the integration problem to be handled by reconciliation formulas. I think we should aim to minimize the extent to which we rely on such formulas as a method of achieving the integration objective. Affirmatively our aim should be an integrated release at least on an annual basis, a standard, annual, published system of social accounts that articulates with both the national income and product system and the flow-of-funds system in a way that involves a minimum of reconciliation steps.

But we urgently need to distinguish between the method of connecting the standard release with these two systems that would rely on reconciliation formulas and the method of connecting them that I propose to call connection by elaboration or condensation.

An integrated system may be an inclusive one, a system so comprehensive that it can be condensed in one way—through one set of combinations of sectors and one method of grouping of types of transaction—to give the national income and product accounts, and condensed through another set of sector combinations and another grouping of transaction types to give the flow-of-funds accounts. Sigel has been concerned to envisage such a comprehensive integrated system.

Alternatively, an integrated system might be a kind of skeleton that could be elaborated by subdividing sectors and subdividing the types of transaction—in one direction to give us the national income and product accounts and in another to give us the flow-of-funds accounts.

This latter kind of integrated system should be much easier to agree upon, and I urge pushing toward such a system as an immediate objective. What I have in mind is essentially a streamlined Table 7. Quite possibly the sectors of that table might stand as they are; but, presumably, the type of transaction detail should be simplified. For one thing, I would urge combining the current purchases and appropriation accounts.

While I agree with Sigel when he says that integration will necessarily involve changes in both the national income and product system of social accounts and the flow-of-funds system, I am skeptical about some of the detailed changes in the national income and product system he suggests. In particular, with a skeleton standard integrated account such as is here proposed, there should be no need for modifications of the definitions of national income and of disposable income along the lines he advocates. Such a streamlined standard account could, if that seems advisable, avoid the use of both these terms. A streamlined, skeleton standard account is a much easier objective than a comprehensive one, because it would make it possible to avoid controversial details, such as several of those toward which a considerable part of the discussion of Sigel's paper seems to have been directed.

Sigel has given a substantial push toward integration. But this is not all. He has promised us a further push—a set of reconciliation formulas that will connect the new (August 1959) system of flow-of-funds accounts with the national income and product accounts. We can better judge the extent of this further push when we see it. The simpler it is, the bigger will be the push.