

THE ROLE OF FINANCIAL ACCOUNTS*

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This paper reviews some of the ideas that have been expressed regarding the development of national financial accounts. It concludes that a consensus is emerging that a set of sector financing statements and balance sheets, based on a monetary survey and incorporating liquidity criteria, can contribute to the understanding of the operation of an economy.

Facts, arranged in the right way, speak for themselves; unarranged they are as dead as mutton . . . as always it is the arrangement which is the delicate operation.

John Hicks, *The Social Framework*, 2nd ed., p. 3.

Skill in bookkeeping (or the keeping of accounts) consists, not in forcing the record of transactions through any particular system, but in devising and selecting the methods best adapted to the general nature of the transactions to be recorded.

J. Peirson, Henry Higgs (ed.) *Palgrave's Dictionary of Political Economy*, 1893, p. 165.

I. THE PRESENT CONSENSUS

Financial accounting may be defined as the arrangement of financial data¹ in statements that are best adapted to the general nature of the transactions to be recorded. While it must be recognized that considerable progress has been made in this field in recent years, and that a considerable number of countries have developed new financial accounting statements,² it must also be recognized that in all countries the financial accountants still have much to achieve in devising and selecting the methods and arrangements best adapted to the requirements of economic analysts.

Further, while it is recognized that the art of financial accounting has not yet become sophisticated, it is widely accepted that improved statements can contribute to our understanding of the operations of an economy. Hence, there is a fairly widespread interest in the development of improved and better organized financial statistics than we have at present. One need only refer to the discussions of the integration of financial data in the United Nations *System of National Accounts*,³ to the efforts being made by the International Monetary Fund to improve and broaden the coverage of its monthly bulletin (*International Financial Statistics*), to the Organization for Economic Cooperation and Development's convening of the *ad hoc* Group of Financial Statisticians, and to the current work by the Economic Research Departments of the Bank of Italy and of the Bank

*This paper is a revised version of a lecture at the Bank of Spain on March 4, 1968. The revisions largely reflect the comments made during the discussion following the lecture.

¹Financial data may be defined as the records of indebtedness and of changes in indebtedness between different economic units in a community, and between these units and the rest of the world.

²For a still reasonably current review of the accounts presently published, see: Dorrance G. S. "Financial Accounting: Its Present State and Prospects," *Staff Papers*, July 1966, pp. 198-228.

³See: *Proposals for the Revision of the SNA, 1952*, UN/E/CN.3/356, August 1967.

of Spain to develop improved sets of accounts to describe the financial transactions in the Italian and Spanish economies as examples of the widespread interest in this subject.

The financial accountant faces a set of problems that are fundamentally different from those facing the company, government or personal accountant. Long before Luca di Pacioli codified the principles of double-entry bookkeeping in 1494, the accountant had become an important administrative officer in commercial and industrial organizations and a key figure in governments. He could require other members of his organization to provide him with all the information that he desired, and, as he could obtain information on consistent bases covering all the activities of his organization, he could ensure that his accounts described the organization's operations completely and accurately. Perhaps more important for the present purposes, he had, and even today still has, almost complete freedom in determining the principles of classification and valuation that should be used in organizing the information available to him, when presenting a set of accounts that he considered most revealing. Today, the comptroller or chief accounting officer is a highly influential officer in every private business, and the Treasury or a body like a Tribunal du Cuentas is a key branch of every government organization.

The modern financial accountant enjoys none of these privileges. He must gather his data from a variety of sources, and these separate streams of information are frequently compiled on bases inconsistent with each other, not to mention the irritating fact that a single transaction is frequently recorded as of different dates by the two partners to it, so that the double-entry basis for accounting is undermined. Further, he is the most recent descendant of a long line of statisticians and economists. In many respects, it is his responsibility to coordinate the available statistics with the requirements of modern economic theory. In many respects, his prime role is one of consolidation rather than of innovation.

While the financial accountant must be primarily a coordinator rather than an innovator, it does not follow that he is precluded from original theoretical investigation. Rather, because economic theory is still inadequate for many of the demands placed on it, the financial accountant has great opportunities for the presentation of theoretical hypotheses. The theory of finance is perhaps the least developed branch of the art of economics. Hence, the financial statistician can and must make contributions to this branch of economic analysis. However, he must build on existing models of thought if he is to make a real impact on his partners in the development of economic policy and theory.

It is possible to perceive five approaches to the development of financial accounting that have influenced statisticians in recent years. Taking arbitrary origins for the concepts upon which these types of accounts are based, they may be classified as:

1. The balance-sheet approach stemming from Hicks, *The Social Framework*, published in 1942.⁴
2. The flow-of-funds approach stemming from an unpublished memorandum by Wesley Mitchell in 1944.⁵

⁴Hicks, *op. cit.*

⁵See: Morris A. Copeland, *A Study of Moneyflows in the United States*, p. 3.

3. The monetary-survey approach stemming from a paper presented by Robert Triffin to the First Meeting of Central Bank Technicians of the American Continent, in Mexico City, in 1946.⁶

4. The liquidity approach first outlined by Governor Holtrop of the Netherlands Bank in 1953.⁷

5. A financial surpluses and deficits of individual sectors approach, whose origins are rather difficult to trace, which was probably first calculated in the U.K. national accounts for 1946–51,⁸ but not used for analytical purposes in the United Kingdom until 1958.⁹ An analysis along these lines was probably first used in the *Annual Report* on the operations of the “Monnet Plan” in 1954.¹⁰

Today a consensus appears to be emerging that four of these approaches may be coordinated to provide a foundation for the development of useful systems of national accounts. The original Copeland flow-of-funds approach has generally been abandoned. He set out to measure “the complex made up of all the various outflows and inflows of all the various transactors.”¹¹ Despite the wide use of the term “flow-of-funds accounts,” this type of statistical presentation has not been adopted permanently by any country. Even the United States so-called “flow-of-funds accounts” are not such in the Copelandian sense. Rather, they are primarily records of changes in financial asset and liability data, with the minimum information on income, saving, and investment to permit comparison with the national income and product accounts.¹² It is now recognized that an attempt to measure all the various outflows and inflows of all the various transactors is redundant. The national income and expenditure accounts have proved to be useful tools for economic analysis. They are well known, their uses and limitations are understood, and they have come to form an almost subconscious part of the thought processes of economists, civil servants, politicians, and journalists.

However, because the presently accepted system of national accounts assumes that borrowing and lending transactions “cancel out and do not provide a net source for the finance of domestic capital formation,”¹³ it cannot fully perform its allotted role as “a practical means of describing what is taking place in an economic system insofar as this can be expressed in terms of transactions between a set of accounts drawn up on the double-entry principle.”¹⁴ The

⁶“Esbozo General de un Analisis de las Series Estadísticas Monetarias y Bancarias de America Latina sobre Bases Uniformes y Comparables,” *Memoria, Primera Reunion de Técnicos sobre Problemas de Banca Central del Continente Americano*, pp. 410–14.

⁷De Nederlandsche Bank, *Report for the Year 1953*.

⁸Central Statistical Office, *National Income and Expenditure, 1946–1951*, p. 48.

⁹*Economic Survey for 1958*, CMND 394.

¹⁰Ministère des Finances, Service des Etudes Economiques et Financières, *Rapports sur les Comptes Provisoires de la Nation de l'Année 1953 et sur le Budget Economique de l'Année 1964 et Compte Rendu des Travaux de la Commission des Comptes et des Budgets Economiques de la Nation* (1954).

¹¹Copeland, *op. cit.*, p. 214.

¹²See: *Federal Reserve Bulletin*, Aug. 1959, pp. 828–59.

¹³*A System of National Accounts and Supporting Tables*, UN/ST/STAT/SER.F, No. 2 (referred to hereafter as SNA), p. 10. It might be noted that this comment on canceling out might be made regarding almost any pair of entries in a system of double-entry accounts.

¹⁴Richard Stone, “Functions and Criteria of a System of Social Accounting,” in *Income and Wealth*, International Association for Research in Income and Wealth, Series I, p. 1.

lending and borrowing¹⁵ decisions that are made by individual economic units¹⁶ are, in many respects, decisions that are determined by financial rather than other economic stimuli and they have an impact on nonfinancial flows. It follows from these considerations that the measurement of significant financial aggregates should be an important component of economic analysis.

The four other approaches provide criteria for the classification of the financial aggregates which should be measured in any set of accounts. Briefly, it may be suggested that the financial accountant should start from a Triffinian monetary survey, to provide a “Monnet Plan” picture of the financial surpluses and deficits (or borrowings and lendings) of the significant economic sectors, that is consistent with a Hicksian set of national balance sheets for these sectors, with the entries in the borrowing and lending and balance sheet accounts determined by Holtropian liquidity considerations.

Even though a consensus regarding the general framework for national financial accounts is emerging, it does not follow that international meetings of statisticians may be expected to compile a manual on financial accounting similar to the U.N.’s *System of National Accounts*, or the Fund’s *Balance of Payments Manual*. It is futile to look for a financial accounting structure that will be uniform for every country, and unrealistic to envision the development of financial accounts in a number of countries that will bear the similarities to each other that prevail in the fields of national income and expenditure, or balance of payments accounting. All countries import and export goods and services, borrow or lend internationally, and hold foreign balances. Hence, all balance of payments statements have similar appearances. The details on commodity export classifications, portfolio transactions, or changes in foreign-owned bank balances may be different in each national statement, but these differences are relatively small. Similarly, wages, profits, interest, and rents are paid and earned in all countries; producers and consumers consume, invest, and save: a standard system of national accounts can serve all countries. Financial systems, however, differ markedly from country to country. Even if the same principles were applied in both countries, an accounting system describing financial transactions in the United States, where private resident economic units other than financial institutions hold only 20 per cent of their financial assets in the form of money plus quasi-money (with corporate equities accounting for 30 per cent of the total, life insurance for 15, and bonds for over 10 per cent),¹⁷ would look quite different from one for Argentina, where money alone accounts for almost 60 per cent of the community’s financial assets, and quasi-money for almost another 30 per

¹⁵Here, and subsequently, the term “lending” is used to comprise direct lending, the purchase of financial assets, and the repayment of debt. Consistently, “borrowing” includes direct borrowing, the sale of financial assets, and the realization of debts due from others. In some respects, it might be more appropriate to use the term asset and liability (or debit and credit) transactions.

¹⁶Here, and subsequently, the term “economic unit” is used to mean any complete decision-making entity whose activities may be identified conceptually (e.g., a bachelor living alone, a family living together, a partnership, a company, a charity, a government).

¹⁷These data are based on those in Raymond Goldsmith, Robert Lipsey, and Morris Mendelson, *Studies in the National Balance Sheet of the United States*.

cent.¹⁸ It is no accident that the origins of the balance-sheet approach are found in a book describing the financially most complex society in the world,¹⁹ and the origins of the monetary survey approach in a paper dealing with Latin American problems.

II. THE MONETARY SURVEY

Today, the financial accountant must start with the statistics that are available to him. It is pointless to start with grandiose theoretically aesthetic matrices for which the data are not available, or for which many of the entries may be largely irrelevant for individual countries. One may look to the future and envisage a set of accounts that might emerge as adequate information is compiled. However, given the present unsatisfactory state of financial theory, the financial accountant must be pragmatic rather than dogmatic. The development of accounts must inevitably be almost as exploratory as it is explanatory. As data are developed and their adequacy in explaining the operation of an economy is observed, guides to the improvement of existing statistics, and for the development of new information, will become apparent.

In all countries, the quality of the financial data available from various sources is quite uneven. Probably without exception, the data on the activities of the monetary system are of the best quality. At the same time, money is a crucial asset, being, in all countries that are not suffering from severe inflation, the most liquid of all assets available to the private nonfinancial sectors of the economy. Hence, a monetary survey must be regarded as an essential part of a complete system of financial accounts.

Further financial statistics are not only uneven in quality but are available with different delays. Central bank accounts are frequently prepared within 24 hours, government accounts should be available almost weekly, deposit money bank accounts are usually presented within a month. Hence, a monetary survey can usually be prepared quite rapidly and may describe recent events.²⁰ If it has been placed in a wider structure of accounts, it may also be used as an indicator of general financial developments. It follows that the monetary survey might be regarded as the cornerstone in the structure of a financial accounting system.

However, while money is important in every economy, and while money and banking statistics that are properly organized are enlightening, even the best of monetary surveys can, on occasion, be misleading. In any but the simplest of economies, where the banking system is one of the partners in practically all financial transactions and hence a monetary survey provides essentially complete

¹⁸These data are based on Banco Central de la Republica Argentina, *Boletín Estadístico*, and material supplied to the author by the Banco Central.

¹⁹On the basis of Goldsmith's measure of the financial interrelations ratio, the United Kingdom with an FIR of 2.15 is the financially most complex society in the world (The FIR for the United States is 1.25; for Mexico 0.60; for Guatemala 0.30; and for Ethiopia 0.15). See: Organization for Economic Cooperation and Development, *The Determinants of Financial Structure*, Development Centre Studies No. 2 (Paris, 1965).

²⁰It is worth recording that of the 101 monetary surveys in the May 1969 issue of *International Financial Statistics* (i.e., covering data available in Washington by April 22), 31 provided data for February 1969, 19 for January, 27 for December 1968, 13 for November, and 11 for earlier periods.

financial statistics, the pattern of financial relations is likely to contain some essentially fortuitous elements. As an economy becomes more sophisticated, the relative size and number of these fortuitous relations grows, and the need to develop more comprehensive statistics beyond the monetary survey, or any system based on a description of from-whom-to-whom financial relations, increases.

A simple example may demonstrate this point. Let it be assumed that in an economy the private nonfinancial sectors hold a relatively large portion of the government's debt. Let it also be assumed that the government's budget is balanced and that hence there is no change in the amount of government debt outstanding during the period under review. Further, let it be assumed that the private sectors have a very strong demand for credit. Finally, let it be assumed that, in order to protect its liquidity position, the banking system follows a rough rule-of-thumb that it holds one quarter of its assets in the form of government securities and, therefore, that for every three units of increased credit that it extends to the private sector, it will increase its holdings of government debt by one unit. (These assumptions are not fully realistic for any particular country but they may not be too unrealistic for expository purposes.)²¹ Under these circumstances, the banking system may well respond to the demand for credit from the private sectors by making loans and simultaneously making purchases of government bonds approximately equal to one third of the increase in its loans. Under the assumed conditions, the banks can acquire these securities only from the private sectors. The bond sales will provide the private sectors with funds to meet part of the expenditures that lie behind their credit demands. In this case, 75 per cent of the demand for finance by the private sectors will have been met from bank loans, and 25 per cent from the sale of government bonds. A monetary survey, or any "to-whom-from-whom" matrix, will show that 75 per cent of the private credit demand was met by loans from the banks, that there was an extension of credit by the banks to the government, and a countervailing extension of net credit (i.e., through debt transfer) from the government to the private sectors. Such a matrix-type conclusion would be a misleading description of the facts described here. In this case, members of the private sectors desired credit and the banking system responded in a way that provided them with the credit they desired. This would only be shown by a set of financial accounts that identified separately the financing transactions of the banking system, the government, and the private sectors.

The importance of these fortuitous elements in financial relations is one of the reasons why financial statistics should be as all-embracing as possible and why, insofar as possible, all financial statistics should be on as consistent a basis as possible. That is, the nature of financial relations in an economy makes it desirable that all financial statistics should be based on an integrated set of financial accounts.

Hence, it becomes important that "in attempting to understand the role of the different sectors in the economy in expansion and contraction, we should attempt to branch out from money and banking statistics and attempt to build

²¹They are, in fact, rough approximations to the ratios of the data in the *International Financial Statistics* page for Spain.

up as complete a picture of borrowings and lendings as we can achieve.”²² It also is important to decide the lines along which this “branching out” should proceed.

III. FINANCIAL SURPLUSES AND DEFICITS

This “branching out” must be directed along fairly clearly determined analytic lines.²³ One of the differences between the Copelandian flow-of-funds approach and the other approaches to financial accounting is that Copeland was rather aimless in his analysis, whereas Triffin and Holtrop, in particular, were trying to explain clearly observed phenomena. It may be suggested, in general terms, that the financial accountant should try to identify some of the macro-economic forces leading to increases or decreases in the total volume of expenditures that the individual economic units in any economy wish to achieve.

Economic analyses are often presented in a form which considers the inflation or deflation problem to be one relating to savings and investment. It is argued that if, *ex ante*, desired investment is greater than the volume of savings arising at current income and price levels, inflation will result. Similarly, the problem of deflation is seen as an insufficiency of planned investment compared to the savings accruing at current income and price levels. In this form of analysis, investors are considered to exert an expansionary pressure on the economy. The actions of savers are viewed as contractionary. On this view, statistics measuring “the balance of resources”²⁴ can indicate the expansionary or contractionary impulses exerted on the economy.

This approach to the measurement of the expansionary and contractionary forces exerted on an economy presumes that investment decisions are primarily determined by productive prospects and existing capacity with few, if any, financial restraints. Concurrently, in this view of the economy, “saving, in fact, is a mere residual”²⁵ also uninfluenced by financial considerations. Such a view of the economy must be regarded as incomplete.

Business saving and investment decisions are frequently influenced by purely financial considerations. The type of questions faced by corporate executives or other entrepreneurs is often of the nature:

Are our profits plus other internal sources of funds going to be large enough to permit the financing of desirable investment without recourse to borrowing? or

How shall we dispose of our current earnings: shall we distribute them as dividends, shall we use them for capital expansion, or shall we purchase financial assets?

²²J. J. Polak, “Financial Statistics and Financial Policy,” *Staff Papers*, April 1959, p. 8.

²³For a discussion of the importance of analytical hypotheses rather than “general intellectual curiosity about the workings of the economic system” as a basis for the development of statistics, see the interchange between Robert L. Sammons and Graeme S. Dorrance recorded in *The Flow of Funds Approach to Social Accounting, Studies in Income and Wealth*, Vol. 26, pp. 162–70.

²⁴See, for example, Table 63 in Sweden, Ministry of Finance and National Institute of Economic Research, *Revised National Budget*, 1967.

²⁵J. M. Keynes, *The General Theory of Employment, Interest and Money*, p. 64.

Similarly, household saving that is one of the important sources of funds for investment is also strongly influenced by financial considerations. In practically every country, household saving primarily takes the form of accumulation of financial assets.²⁶ In most instances, this accumulation is dominated by assets that provide liquidity protection to their holders (e.g. bank deposits or insurance policies) and shifts in the pattern of accumulation frequently occur in response to changes in the pattern of interest rates. That is, the structure of household savings is strongly influenced by purely financial considerations.

Insofar as savings and investment decisions are contemporaneous, they are neutral in their effect on the expansion or contraction of the economy. The expansive effect of investment is to be found only in investment which is financed by borrowing and the depressive effect of saving is to be found only in savings which are lent. The problem for a stabilization policy may be viewed as the need to induce an *ex ante* equivalence between borrowing and lending, rather than an *ex ante* equivalence between saving and investment. Borrowing and lending are financial concepts and it is through an encouragement of their equivalence at optimum levels that financial policy can exert appropriate influences on the flows of production and expenditure.

It follows from this argument that some of the accounts in a complete set of national economic accounts should be directed towards the measurement of the financing associated with savings and investment decisions. If adjustments can be made to the activity sectors that are used in national income and expenditure accounting, to give totals for the decision-making sectors that are relevant for financial analysis, consistent financing, income, and expenditure accounts may be derived. For any sector, its income plus transfers received less its consumption and transfers paid out are equal to its saving;²⁷ its saving less its investment is equal to its financing balance. Similarly, for any sector its lending plus purchases of financial assets less its borrowing and sales of financial assets are equal to the same balance. Provided that all transactions are properly recorded, these two measures should be identical.

However, given the quality of the data available to the statistician, these two measures are rarely equal. In fact, they are only equal for those countries where the balances recorded in the income and expenditure accounts are derived from the financial accounts (e.g., Germany), and there presumably are errors and omissions in other entries in the income or expenditure accounts. In recent years, the financial accountant has made a contribution to the improvement of the income and expenditure accounts by drawing attention to the errors in them that, in the past, tended to be covered up by the automatic self-balancing nature of accounts that include residual estimates. In those countries where sector financing accounts have been available, attempts to reduce the discrepancies between the income and expenditure accounts on the one hand, and the sector financing accounts on the other hand, have resulted in an improvement in both

²⁶See: OECD, Committee for Invisible Transactions, *Capital Markets Study, General Report*, pp. 32 and 91–98, for discussions of the importance and structure of household saving.

²⁷Transfers may be considered as gross additions to income or current expenditure, or separated into transfers on current account (additions to income and consumption) and on capital account (additions to saving and investment). On either basis, they have the same effect on measures of financing.

the income and expenditure accounts and the financing accounts. Attention might be drawn to the large increases in the U.K. estimates of household saving that were one of the results of this search for the origins of the discrepancies between the two sets of accounts.²⁸

Even with the improvements that have been made, the income and expenditure measures of the financial balances must be largely residuals that should properly be defined as "financial balances and errors and omissions." While the errors and omissions element is being reduced in the accounts for several countries, it still remains disquietingly large,²⁹ and a residual estimate for this significant economic aggregate must be a poor basis for the determination of economic policy.³⁰

Further, the activity sectors of the national income and expenditure accounts are different from the decision-making sectors that are appropriate for financial accounting. Finally, the income and product accounts do not comprehend the financial considerations that, in part at least, determine borrowing and lending decisions. Hence, much of the present widely used statistical evidence on which economic policy is based must be regarded as inadequate.

It would appear that extended financial accounts based on a "Monnet Plan" approach directed towards the measurement of the "balances of finance" in the community should be an important part of national economic statistics. That is, the compilation of accounts directed to the recording of net lendings and net borrowings by significant economic sectors, and of the significant components of these lendings and borrowings, is one of the important roles of the financial accountant.

IV. BALANCE SHEETS

Borrowings and lendings are, however, more than financial flows. They are changes in the assets and liabilities of individual economic units. As such, they are significant. Only a miser is willing to continue accumulating assets for their own sake. Only an irresponsible spendthrift is willing to incur unlimited liabilities. Assets are only acquired if they are of use. Specific types of assets are only acquired if their addition to the holder's total stock of assets will make the distribution of his stock more attractive to him. Likewise, liabilities are only incurred if the expenditure which they make possible is more attractive than the eventual cost of the liabilities. Further, reasonable people will only assume liabilities if they are of a type which the borrowers may expect to be able to repay together with the other liabilities already assumed. This ability to repay may well be influenced by the assets held as a protection against obligations. Similarly, assets are only sold if their disposal does not endanger the position of the sellers.

²⁸See: "More Light on Personal Saving," *Economic Trends*, April 1965.

²⁹For a discussion of these discrepancies, see: Dorrance, *op. cit.*, pp. 215-24.

³⁰A reference to the caution with which U.K. savings data must be viewed is appropriate here. A recent review of the data concluded "that the estimation of saving data is subject to great errors and all figures should be treated with skepticism (J. C. Odling-Smee, "The Rise in the U.K. Personal Saving Ratio," *Bulletin of the Oxford University Institute of Economics and Statistics*, Aug. 1967, p. 287).

If lending and borrowing are, in fact, conscious decisions to change assets and liabilities, it is reasonable to assume that these decisions to modify the values of stocks are partly determined by the pre-existing values of the stocks themselves. That is, if lending and borrowing are conscious decisions to alter balance-sheet aggregates, it is reasonable to assume that they are partly determined by the existing structures of the balance sheets of the individual economic units making the decisions. Further, if this be true, it follows that balance-sheet criteria must be incorporated into our economic theory. Consequently, the aggregated balance sheets of the significant economic sectors must be an essential part of our economic statistics.

Balance-sheet considerations also provide guides to the integration of financing statistics with income and product accounts. Investment as recorded in the income and product accounts is equivalent to the changes in the community's stock of physical assets and its net accumulation of claims on foreigners; saving is equivalent to the changes in the community's net worth. Hence, the investment and saving entries in the income and product accounts may be related to the changes in the national balance sheets via the records of the borrowing and lending accounts.

It might be noted, in passing, that the earliest financial statistics were asset rather than transactions data. Money and banking statistics have been published by many countries for a number of years. These have generally been in the form of total banking system liabilities and assets. It has been recognized that the total amount of money in a community is an important economic aggregate and that, in this case at least, stock rather than flow data are significant. This precedent might well be adopted in the development of other financial statistics.

It follows that, while financial accounts should start with "Monnet Plan" type borrowing and lending statements, the development of Hicksian balance sheet accounts should be, at least, envisaged. Among other points, this means that any decisions regarding the classification of entries in the lending and borrowing accounts should be consistent with the decisions that are, or will be, required in the compilation of balance sheet accounts.

V. LIQUIDITY CRITERIA

A detailed discussion of the structure of accounts measuring financial surpluses or deficits, or of the form which national balance sheets should take, or of the sectors for which they should be compiled would be out of place here. This has been undertaken elsewhere.³¹ However, a few points related to both general economic theory and economic accounting might well be raised.

In the first place, it has been suggested that changes in assets and liabilities are determined in part by desires to alter existing structures of the balance sheets of individual economic units. These changes in structure are of two types. They may represent changes in the totals of assets and liabilities. They may represent changes in the composition of assets and liabilities. Consequently, any set of balance-sheet statistics should record not only the gross assets and liabilities

³¹See: Graeme S. Dorrance, "Balance Sheets in a System of Economic Accounts," *Staff Papers*, Vol. VII (1959), pp. 168-209.

of the economic sectors that are identified, but should classify the significant components of these totals.

Both assets and liabilities vary in type, and may be classified by diverse criteria. Probably the most significant classification is one identifying financial assets and liabilities by liquidity. As far as changes in individual assets and liabilities alter the structure of balance sheets, they primarily shift their liquidity structures. As far as the existing structures of balance sheets influence individual economic units to desire changes in these structures, it is primarily the liquidity structures which individual units wish to alter. As far as changes in assets and liabilities are coincident (e.g., when a unit borrows in order to finance the purchase of an asset), the relation between the liquidity attributes of the assets acquired and the liabilities incurred is significant. Hence, financial statistics should record the liquidity attributes of assets and liabilities.

Asset records should identify the most liquid of all assets—money. They should recognize that many other assets are close substitutes for money. Other assets are readily saleable, with a greater or lesser risk of capital gain or loss, and hence have liquidity attributes of varying degree. Government securities have an assurance of repayment, and hence a liquidity value different from that of private obligations. Foreign assets have particular liquidity attributes. Life insurance policies have a liquidity value to their holders, in addition to their security attributes. These and other classifications should be recorded in balance-sheet statistics.

Similarly, liabilities have liquidity attributes. The willingness of any economic unit to invest will be determined, in part, by the structure of its liabilities. The decisions made by a unit with large short-term debts to a bank will be different from the decisions made by a unit whose major indebtedness is of a long-term nature. When any outstanding indebtedness to a bank is expected to be renewed, it differs in significance from indebtedness which the borrower knows must be met in money at maturity. Hence, liability accounts also should recognize the liquidity aspects of different types of debt.

Thus, it may be suggested that the conceptual origins of the criteria for the classification of balance sheets (and other financial data) is to be found in Holtropian liquidity considerations.

VI. CONCLUSION

The arguments presented here may be summarized in a few simple propositions. First, for many years at least, Triffinian monetary surveys must be the foundation for national financial accounts. Second, in all but the least sophisticated societies such monetary surveys are likely to be somewhat less than fully adequate analyses of financial relations; progress should be made towards the development of "Monnet Plan" analyses of the financial surpluses and deficits, or borrowings and lendings, of the significant economic sectors. Third, if we are to provide a fully adequate explanation of the operation of the economic system, progress must be made toward the development of a Hicksian set of balance sheets for these sectors. Finally, the classification of the entries in the financing and balance-sheet accounts should not only be consistent as between the two sets of account, but should be based on Holtropian liquidity considerations.