

THE PRESENT STATUS OF FINANCIAL ACCOUNTS: A REVIEW OF RECENT DEVELOPMENTS¹

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'THE last few years have seen a large and interesting development of financial statistics. . . . These developments have breathed a welcome new life into social accounting statistics.' (J. J. Polak, 'Financial Statistics and Financial Policy', I.M.F. *Staff Papers*, April 1959.)

'The observation frequently made that financial accounts, unlike the traditional national accounts . . . , have no counterpart in macro-economic theory to guide their construction is erroneous.' (Report of Session Held in Geneva, February 23-27, 1959, Expert Group on Statistics of Changes in Financial Assets, Conference of European Statisticians.)

'It has frequently been observed that, while the national income accounts are based on a usable economic theory, the national financing accounts, whose construction is under way or in prospect in many countries of the world, have no such basis.' (Earl Hicks, 'The Theory and Use of Financing Accounts', *Staff Papers*, October 1959.)

I. INTRODUCTION

In a number of countries³ during the past ten years a wide range of financial and related statistics have been developed.

¹ This paper is a major revision of one with the same title presented to the Sixth Conference of the International Association for Research in Income and Wealth. It is similar, in many places, to a paper on 'Financial Accounts in Countries Other than the United States and Canada' to be published in *Studies in Income and Wealth*, Vol. 25. The latter is directed towards an outline of the major differences between the accounts published in North America and elsewhere, whereas the present one is intended to be a more general review of the problems raised by a review of the accounts available at the time it was written (early 1960).

² The author is an officer of the International Monetary Fund. None of the views expressed here should be interpreted as the views of the IMF, or of members of the IMF Department of Research and Statistics.

³ A survey of the accounts published in Western Europe, Asia, and the Americas is available, on request, from the Finance, Division, International Monetary Fund, 19th and 'H' Streets, N.W., Washington, D.C., U.S.A. Financial Analyses are prepared in the U.S.S.R. and the East European countries. The

However, the present status of work in this field might better be regarded as one of expectancy rather than of general agreement. The financial statistics which are presently published cover a wide range of concepts, and even where comparable statements are based on similar criteria, they are frequently disparate in form. In some respects, the available statements appear to be statistics in search of a theory, rather than statistics designed to explain accepted economic relations.

A review of national income and expenditure accounts for a number of countries displays a remarkable degree of similarity in the accounts published in Western Europe, Southern Asia, and the American Continents.¹ There is general acceptance, by economists, outside Eastern Europe and China, of the basic Keynesian equations on which income-expenditure accounts are constructed. The wide disparity in the form of the financial accounts, presented by competent statisticians, indicates that there is no similar widespread acceptance of fundamental opinions in the field of financial analysis.

While there are substantial differences in approach to the problems of financial accounting, there are certain groupings within which the various systems may be placed. However, even within these groups there are significant dissimilarities in the construction of the individual statements. It is evident that there are many statistical problems to be faced in the evolution of satisfactory financial accounts.

II. THE TYPES OF ACCOUNT

The accounts presently available may be considered as extending from analyses of money and reserve-money to comprehensive reviews of all economic transactions. At the risk of over-emphasizing the similarities between different accounting systems, they may be classified in the following general array:

Analyses of reserve-money.

Consolidated accounts of the monetary system, or analyses of factors leading to changes in money.

author has not been able to obtain access to English versions of the accounts prepared in Eastern Europe. However, they are reviewed in Michael Kaser *A Survey of the National Accounts of Eastern Europe*, see p. 171 of this volume.

¹ Thus the United Nations is able to present income-expenditure accounts for eighty-five countries compiled on basically similar principles (see UN, *Yearbook of National Accounts Statistics 1958*). No similar presentation would be possible at present, for financial accounts.

Consolidated accounts for financial institutions, or analyses of factors leading to changes in liquidity.

Comprehensive accounts for all economic sectors.

As a sideline to this array, there are records limited to the accounts of the business, or similar, sectors (or parts of these sectors). While it is possible to conceive a ranking of the statements by degree of coverage, there is a parallel classification that could be adopted. Some statements are records of transactions: some are records of assets and liabilities. That is, certain statements are primarily directed to the measurement of inter-sector finance: certain are primarily directed to the measurement and analysis of liquidity.¹

The differences in the approaches to the problems of financial accounting may be considered to be based on varying opinions regarding the real significance of particular financial aggregates. While the first published monetary analyses were explanations of changes in reserve-money,² most of the earlier statements were attempts to explain the origins of changes in the stock of money as indicated in the accounts of the monetary system.³

¹ For a discussion of the differences in these approaches, see Earl Hicks, 'Monetary Analyses' in 'Recent Developments in Monetary Analysis', *Staff Papers*, February 1957.

² The first complete analysis of reserve-money to be published was probably the table on 'Reserve Bank Credit and Related Items' as revised for the *Twenty-First Annual Report of the Federal Reserve Board*, covering operations for the year 1934. This was followed by the table (since discontinued) on 'Effect on Chartered Banks' Cash Reserves of Changes in Bank of Canada Accounts' which first appeared in the second *Report of the Bank of Canada*, covering the year 1936.

³ It should be emphasized that, except for the two pre-war tables referred to above, the development of financial accounts is a post-war development. Colombia, Costa Rica, and New Zealand share the credit for publishing the first 'monetary analyses' in 1945. The impetus for the development of this type of accounting was largely provided by R. Triffin's paper, 'Esbozo General de un Análisis de las Series Estadísticas Sobre Bases Uniformes y Comparables', submitted to the first Meeting of Central Bank Technicians of the American Continent in Mexico City, 1946. The United States 'Consolidated Condition Statement for Banks and the Monetary System' was first presented by Morris A. Copeland and Daniel H. Brill, 'Banking Assets and the Money Supply Since 1929', *Federal Reserve Bulletin*, January 1948. Rudimentary monetary analyses for fifty-six countries appeared in the first issue of *International Financial Statistics* published in January 1948, while complete monetary analyses were first presented in *International Financial Statistics* in January 1955; they are now available for sixty-five countries. The first attempt made by any official agency to extend financial analysis beyond monetary analysis is probably the study on 'Some Estimates on the National Wealth of the Netherlands in 1938', Netherlands Central Bureau of Statistics, *Statistical and Econometric Studies*, 1947, No. 3. It is believed that the first country to embark on annual publication of a general financial analysis was Finland; the first table appeared in the *Economic Survey* published in 1949.

These latter statements¹ may be regarded as products of a theory which 'attaches great importance to the quantity of money as a determinant of prices' and employment.² Analyses limited to an explanation of the factors causing changes in reserve-money³ may be regarded as simplified versions of 'monetary analyses' based on the theory that 'changes in the volume of member bank reserves, permitted or brought about by the monetary management, affect directly the ability of member banks to extend credit to customers and to assume the deposit liabilities to the public that result from these credit extensions'.⁴ That is, they tend to be based on the belief that reserve money items bear a more or less constant relation to money.

Even those, who, like the author, believe that money occupies a unique position in the community's asset structure and that the study of its changes is a central fulcrum around which financial analysis must revolve, recognize that monetary analysis alone is an inadequate substitute for financial accounts. While they 'do not regard the supply of money as an unimportant quantity (they) view it as only part of the wider structure of liquidity in the economy'.⁵ If one agrees with this view, the problem of financial analysis becomes one of extending the statistical statements beyond monetary analyses. Two separate questions arise in consideration of this extension:

How far should the conspectus of transactions be extended? Is it sufficient to measure financial flows, or should the statistics aim at measuring the totals of outstanding assets and liabilities?

¹ Monetary analyses are presently published in Argentina, Australia, Austria, Belgium, Brazil, Burma, Ceylon, Chile, Colombia, Costa Rica, Cuba, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Finland, France, Germany, Greece, Guatemala, Honduras, India, Indonesia, Israel, Japan, Korea, Mexico, Nicaragua, New Zealand, Paraguay, Peru, Philippines, Union of South Africa, United States, Viet Nam, and Yugoslavia. The sources for most of these statements are to be found in Dorrance and Aubanel, 'A Survey of Monetary Analyses', *Staff Papers*, February 1957.

² Hearings Before the Joint Economic Committee, Congress of the United States, May 25, 1959, p. 608 (Evidence of Milton Friedman).

³ Analyses of reserve-money are published in Germany, Norway, Sweden, and the United States (for references see Dorrance and Aubanel, 'Survey of Monetary Analyses', *Staff Papers*, February 1957, pp. 358-433).

⁴ Ralph A. Young, 'Tools and Processes of Monetary Policy', The American Assembly, *United States Monetary Policy*, p. 14.

⁵ United Kingdom, *Report of Committee on the Working of the Monetary System*, Cmnd. 827, 1959 ('Radcliffe Report'), p. 132. The author believes that this report goes further in the minimization of the role money plays in the economy than is justified on the basis of the theory outlined in the paragraph from which this quotation is taken.

A few of the available statements are limited to consolidating the accounts of financial institutions, or a survey of the causes of changes in liquidity, which is defined as the assets and liabilities of the monetary system plus short-term government securities.¹ These statements presumably derive from the opinion that 'liquid assets are a strategic form of wealth, as far as . . . behaviour is concerned'.² In theory, there appear to be a number of weaknesses in this 'liquidity' approach. The difficulties in arriving at an unequivocal definition of 'money' are well known. The separation of 'liquid' assets and liabilities from those that are 'illiquid' is even more difficult. Furthermore, once the view is taken that not only the key financial asset (money) but also the range of assets and liabilities extending from this key asset should be studied, the legitimacy of limiting the range under purview becomes more questionable. If the economy is viewed as one where each individual transaction is only one in a series of interdependent transactions financial analysis should not be limited to the measurement of one group of transactions, but should attempt to encompass all transactions. That is measurements of flows should include all payments and receipts, and balance sheets should be complete statements, and not be limited to records of financial items only.

However, the statement that an analysis embracing all transactions in the economy is preferable to an analysis of the accounts of financial institutions alone does not support the view that the latter is without value.

Monetary accounts serve two purposes which more all-embracing accounts may not serve as well. In the first place, they are available both quickly and frequently. One of the purposes to be served by financial accounts is the provision of a guide to policy makers. Central Bank statements are, almost invariably, compiled monthly, and are usually available within one week of the date to which they refer. Accounts for other banks are usually also available on a monthly, or, at the least, quarterly, basis and usually appear within two months of the date to which they refer. Hence they are available as current

¹ The following are examples of liquidity analyses: Netherlands, 'Causes of Changes of Total Domestic Liquid Resources', *Netherlands Bank Report for the Year*; and Norway, 'Factors Affecting Domestic Liquidity' and *Economic Survey*.

² L. R. Klein and A. S. Goldberger, *An Econometric Model of the United States, 1929-1952*, Amsterdam, North Holland Publishing Co. 1955, p. 8.

guides to policy makers.¹ Fresh incomplete statements may be more useful than stale complete statements. For this reason alone, monetary analyses, and Central Bank statements (i.e. analyses of reserve money) have a valuable place in the structure of accounts that should be prepared for financial analysis.

In the second place, it should be emphasized that much information, if it is properly assessed, may be derived from a statement of the accounts of financial institutions. In less-complex economies the assets and liabilities of the financial institutions and the data on government may provide an approximate statement of the range of financial liabilities and assets in the community. Further, there are some countries where reliable asset and liability figures are available only for financial institutions and the Government. In these cases it may be preferable to compile complete accounts for financial institutions, based on reliable, definable data, rather than to attempt to wrestle in the morass of estimates of dubious value, as would be required to compile complete accounts for the economy.² Hence, if the records of transactions by financial institutions are viewed against a general background of knowledge on the operations of the economy, they may be of considerable value in assessing current economic developments. While it is true that, in the long run, complete records are preferable to partial data, it is also apparent that, as yet, insufficient use has been made of accounts of financial institutions. Much could be done to develop this part of a complete system of financial accounts.

Analyses extending beyond 'liquidity' statements are based on views similar to the following:

'Each economic unit³ regards the flow of liquid resources accruing to it as forming a single total for expenditure that is

¹ It is significant that the issue of *International Financial Statistics* appearing on March 1, 1960, contained complete Monetary Surveys for twenty-five countries relating to the end of 1959, whereas the UN, *Yearbook of National Accounts*, appearing in mid-1959, contained no 1958 data.

² For example, it is by no means certain that the attempt to provide more complete savings data for Mexico made in the Centro de Estudios Monetarios Latinoamericanos study on *Conceptos y Metodologica de Estimacion de Ahorro* (a paper prepared for the First Regional Conference of the International Association for Research in Income and Wealth, Rio de Janeiro, 1959) provides more useful data than the table of 'Activos Liquidos de Empresas y Particulares' in the Banco de Mexico *Trigesimasexta Asamblea*.

³ The term 'economic unit' is used to mean any complete decision-making entity the activities of which may be identified conceptually (e.g. a bachelor living alone, a family living together, a partnership, a company, a charity, a government).

rationally allocated among different uses. Funds arising from income earned, current transfers received, depreciation allowances, debt maturities, capital transfers, borrowing, the sale of assets, and all other sources provide a single sum of available funds that is distributed rationally between consumption, the purchase of physical assets, the acquisition of financial assets, and redemption of debt.¹

That is, the economy is viewed as being explicable only on the assumption that it is a system of fully interdependent variables. Income, consumption, investment, and changes in financial items are all considered to be interdependent. Within each of these categories, the parts are interdependent. It does not follow that a set of accounts incorporating all transactions will provide all the data needed for economic analysis. Data on prices, interest rates, etc., are necessary. However, it follows that economic accounts² should, if possible, comprehend, within a consistent system, all the aggregates that are subject to economic motivation. That is, a fully integrated accounting structure should be evolved, that, as a minimum, incorporates income-expenditure and financial accounts.³

Even if the interdependence of the economic system be accepted, decisions regarding the most important aggregates must be made. The significance of certain totals may be defended on the following lines:

'Economic analyses are often presented in a form that presents the inflation or deflation problem as one relating to savings and investment. If, *ex ante*, desired investment is greater than the volume of savings that will arise at current income and price levels, it is argued that inflation will result. Similarly the problem of deflation is seen as an insufficiency of investment to match the savings accruing at current income and

¹ Dorrance, 'Balance Sheets in a System of Economic Accounts', *Staff Papers*, October 1959, p. 170.

² For an argument in favour of using the term 'economic accounts', rather than 'national' or 'social' accounts, see the comments by R. Ruggles in *Studies in Income and Wealth*, Problems in the International Comparison of Economic Accounts, Vol. 20, Princeton U.P. 1957, pp. 101-102.

³ There is a further, purely statistical purpose, to be served by an integrated system of accounts. Each of the accounts must be constructed by the incorporation of entries gathered from diverse sources. Some of these entries may well be estimates of doubtful accuracy. Inevitably some of the 'entries' are residual differences. If a complete system of accounts is evolved, with a minimum of residual estimation, the apparent discrepancies should provide some indications of the size and possible location of the errors in the estimates.

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. In a period of inflation, investors are viewed as the devils. In a period of deflation, savers are the devils. . . . This view of the economic system deserves revision. Businesses and other entrepreneurs who finance investment out of their own savings are neutral in their effect on expansion or contraction. Their savings provide the resources from which their investments are financed, while their investment absorbs the resources released by their saving. Net expansionary pressures come from those who wish to borrow, and net contractionary pressures from those who wish to lend. If this argument be correct, statistical analysis should recognise it. Instead of measuring the "balance of resources" in a community, that is, the difference between *ex ante* savings and investment, economic statistics should measure the "balance of finance" in the community, that is, the totals of net lendings and net borrowings by the significant economic sectors.¹

Consequently 'we should attempt to branch out from money and banking statistics and attempt to build up as complete a picture of borrowings and lendings as we can achieve'.² That is, statistics on financing transactions should be developed.

Some, however, wish to go further. There is the view that:

'Lending and borrowing are, in fact, conscious decisions to change assets and liabilities, (hence) it is reasonable to assume that such decisions to modify the values of stocks are partly influenced by the pre-existing values of the stocks themselves. That is, if lending and borrowing are, actually, 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. Again, if this be true, it follows that balance sheet criteria must be incorporated into our economic theory. Consequently the aggregate balance sheets of the significant economic sectors must be essential parts of our economic statistics.'³

¹ Dorrance, 'Consideracion de Algunas Relaciones Keynesianas Fundamentales', *Revista de Desarrollo Economico*, Enero-Marzo, 1960.

² J. J. Polak, *op. cit.*, p. 8.

³ Dorrance, 'Consideracion de Algunas Relaciones Keynesianas Fundamentales', *op. cit.*

The opinion is even heard that: 'Little has been done with identities involving assets, yet these are actually more fundamental, and frequently more illuminating, than the income identities commonly used.'¹ At least, there is a growing body of opinion that 'the theory of the consumption function (should be primarily regarded) as a description of the behaviour of consumers in their effort to adjust the level of their asset holdings over time . . . (and) the investment function (should be primarily regarded) as a description of the behaviour of producers in their endeavour to adjust their productive facilities – fixed and circulating capital – over time'.²

As yet, most of the published financial accounts are measures of flows rather than stocks. Some of these statements are independent analyses.³ However, the majority of them are attempts to extend the existing systems of economic accounts to comprise both traditional income-expenditure accounts and accounts measuring the concurrent financial transactions.⁴

While all the accounts measuring financial flows bear some

¹ K. E. Boulding, 'Asset Identities in Economic Models', *Studies in Income and Wealth*, N.B.E.R., Vol. 14, 1952, p. 231. The author would like to acknowledge here that most of his ideas on the subject matter of this paper were originally inspired by Boulding's lectures in the University of London in 1949.

² Albert K. Ando and Franco Modigliani, 'Growth, Fluctuations, and Stability', *American Economic Review*, May 1959, p. 501.

³ The following are examples of financial flows accounts that are independent of other statistical statements: Canada, 'National Transactions Accounts' Royal Commission on Canada's Economic Prospects, *Financing of Economic Activity in Canada*; Italy, 'The Flow of Finance Funds and the Money Supply', Bank of Italy, *Abridged Version of the Report for the Year*; Mexico, 'Savings Transactions', Centro de Estudios Monetarios Latinamericanos, *Conceptos y Metodologica de Estimacion de Ahorro*, op. cit.; Netherlands, 'Conspectus of Financing Transactions', *Netherlands Bank Report for the Year*; Norway, 'Movements in the Financial Balance Sheet', Central Bureau of Statistics, *Kreditmarkedsstatistik*; and United States, Flow of Funds Accounts, *Federal Reserve Bulletin*.

⁴ The following are examples of financial flows accounts that are consistent with the associated income-expenditure accounts: Finland, 'Transfers of Income Between Public and Private Sectors', *Economic Survey*; France, 'Lending and Borrowing Transactions', *Statistiques et Etudes Financieres*, 'Les Comptes de la Nation'; Germany, (i) 'The Formation of Wealth and its Financing in the Federal Republic of Germany', Deutsche Bundesbank, *Monthly Report* (June issue); (ii) 'Changes in Assets and Liabilities', Deutsches Institut fur Wirtschaftsforschung, *Vierteljahrsshefte zur Wirtschaftsforschung*; Israel, 'Illustrative Compilation of the Net Funds Raised and Net Advances', Privately circulated; Japan, 'Integrated Accounts of Financial Transactions and Investment-Saving', Bank of Japan, *A Study of Flow of Funds in Japan*; Netherlands, 'Calculation of Savings as Recorded in Monetary Survey', Central Planning Bureau, *Centraal Economische Plan*; Norway, 'The Financing of Private Domestic Investment', *The National Budget of Norway*; Sweden, 'Net Financial Balances', *Reviderad Nationalbudget*; United Kingdom, 'The Financing of Investment', Central Statistical Office, *National Income and Expenditure*; and Yugoslavia, 'Summary of Moneyflow Accounts', Narodna Banka, *Annual Report*.

similarity to each other, they can be divided into two subsidiary categories, additional to those outlined above. According to one view, liquidity balances reflect 'the financing methods to which a monetarily inflationary or deflationary character must be assigned'.¹ Another weaker view considers these balances to arise because 'part of the disposable income is used for consumption while the remaining part equals saving'.²

Thirty years ago, the view was expressed that: 'It is a peculiarity of all systematic treatises on orthodox theory that there is no inner connection of monetary theory with the central theory of prices.'³ In so far as there was a body of income theory existing at the time, its dissociation from monetary theory would have been generally accepted. More recently some authors have felt that 'within the confines of macro-economics . . . a consistent body of analysis has been erected since the mid thirties'.⁴ However, a more tenable view seems to be that: 'We do not agree about all these matters yet; and very important issues of policy are involved'.⁵ That is, general agreement among economists on the form of this consistent body of analysis has still not been reached, and that there is, as yet, no generally accepted explanation of the inner connection between monetary theory and theories of income, employment, and prices. Yet an economic accounting problem must be faced: 'Unless (all) the economic accounts are comparable, their use for administrative or analytic purposes is impaired and possibly misleading'.⁶ Hence it would seem to follow that an attempt should be made to construct a system of accounts in which, at least, the financial accounts are fully integrated with the income and expenditure accounts, even though this integration raises a host of problems.⁷

The disagreement among theoreticians provides an unusual opportunity for the statistical practitioners. The most important role that the latter possibly may play is not to apply theoretical

¹ Netherlands Bank, *Report for the Year 1958*, p. 67.

² Finland, Ministry of Finance, *Economic Survey*, 1957, p. 16.

³ Gunnar Myrdal, *Monetary Equilibrium*, Hodge, 1939, p. 10.

⁴ A. C. L. Day, *Outline of Monetary Economics*, Oxford, Clarendon Press, 1957, p. v.

⁵ Lord Robbins, Review of D. H. Robertson, *Lectures on Economic Principles*, in *Economica*, February 1960, p. 73.

⁶ John W. Kendrick, Introduction to Vol. 20 of *Studies in Income and Wealth*, Princeton U.P., 1957.

⁷ It is possible that these problems may not be as complex in a more widely integrated structure of financing; income-expenditure; input-output accounts.

concepts to statistical data, but to work with statistical concepts in a search for theoretical principles.

So far, most of the efforts towards this integration have been attempts to measure financial flows consistent with the associated income-expenditure transactions. These measures are necessary. However, it is hardly probable that they could provide the most useful method of integrating financial and income theory. As suggested above, financial flows are changes in assets and liabilities, and, as such, are likely to be influenced by the community's total holdings of assets and liabilities as well as by the desires engendered by receipts and wishes to spend. Hence, it can be argued that financial accounts should take the form of balance-sheet statistics rather than be limited to measures of financial flows. In this connection, it might also be noted that, if a completely analysed set of balance sheets¹ is compiled the financial flows which lead to changes in balance-sheet totals can be measured, while balance-sheet aggregates cannot be derived from accounts which are limited to flow data.

As yet, complete (or fairly complete) balance-sheet statistics have been compiled for only a few countries.² Economic statisticians are evidently willing, on certain occasions at least, to wonder:

'... would it not be useful to compile a National Balance Sheet . . . ? Clearly this would be most useful. . . . Due however to the problem of valuation and the difficulties of measuring the stock of physical capital, a National Balance Sheet is more difficult to construct than the National Transactions Accounts, not less.'³

The view expressed by J. R. Hicks, in 1942 (and repeated in his 1952 text) has evidently carried great weight:

'The information which is available for making an estimate of the national capital of Great Britain is much less good

¹ I.e. statistics which differentiate changes in aggregates caused by valuation changes from changes caused by transactions. See the statements of the Netherlands Central Statistical Bureau for an example of balance sheets which provide this type of data.

² The following are examples of available sets of national balance-sheet statistics: Mexico, Liquid Assets of Business and Individuals, Bank of Mexico, *Trigesimasexta Assemblea*; Netherlands, The National Balance, Central Bureau of Statistics, *Statistische en Econometrische Onderzoeken*, 1950, No. 3; and Norway, The Financial Balance Sheet, Central Bureau of Statistics, *Kreditmarkedsstatistik*.

³ *Financing of Economic Activity in Canada*, p. 481.

than that which can be used for most other large-scale economic calculations. . . . This is partly because of defects in our information which could conceivably be remedied. . . . But the fundamental cause lies deeper, and can hardly be removed in the nature of the case.¹

The statisticians have evidently not considered views similar to Hicks' 1952 statement.

'I want to emphasise (partly for the benefit of any economic statisticians who may read these pages) that the construction of a respectable national balance sheet does seem to me, after all, to be a more possible task than has often been supposed. And further that it is well worth having, if we can get it.'²

It might be pointed out that Hicks' 'fundamental cause' (the difference in the valuation placed on the same items by debtors and creditors) may not be a cause of difficulty at all, if the argument presented below is accepted. Finally, statisticians who compile income-expenditure accounts, but refrain from compiling balance sheets might well ponder the views of a group of competent experienced experts: 'The concepts of the national balance sheet and the national wealth statement are essentially not more difficult, indeed, they are probably simpler than those of the national income and product.'³

Before turning to a review of some of the statistical problems indicated by the difference in the presently available accounts, there is one digression that might be made. We are still in the early stages of the development of financial accounts. In many countries complete accounts have not been developed, but accounts for sectors other than the financial system have been compiled. The preparation of balance sheets is more frequent for these individual sectors than for accounts covering the entire economy. It is not clear that the best way to compile financial accounts is to focus attention on the non-financial sectors rather than to branch out from money and banking statistics in an attempt to build up as complete a picture of borrowings and lendings as can be achieved. However, the work in the field of

¹ J. R. Hicks, *The Social Framework*, 1st ed., p. 101.

² *The Social Framework*, 2nd ed., p. 277.

³ Committee on Review and Appraisal of National Economic Accounts, 'Review, Appraisal and Recommendations', published in *Hearings Before the Subcommittee on Economic Statistics, Joint Economic Committee, Congress of the United States*, October 29 and 30, 1957, p. 250.

accounts for the non-financial sectors should not be ignored in any review of presently available financial statistics.¹

III. STATISTICAL PROBLEMS

1. *Introduction*

The statements reviewed here provide examples of the statistical problems which arise in the compilation of financial statistics. These are more serious in the construction of financial accounts which are fully integrated with national income and expenditure accounts than in the preparation of financial analyses independent from other accounting statements. Some of the difficulties are common both to accounts measuring financial flows and to balance sheets, while balance-sheet statistics raise others which are unique to them.

2. *General Problems*

In so far as attention is limited to accounting systems designed to integrate the records of income-expenditure and financial flows, the main problems arise from the reconciliation of the different purposes which income-expenditure² and financial accounts should serve. In the first place, in so far as income-expenditure accounts classify transactions by sectors, they tend to measure the income originating in each sector. The income attributable to a sector is, in fact, the sum of the income payments paid out by the sector. Financial accounts direct

¹ The following are examples of accounts that are available for the non-financial sectors: *The Business Sector*: Australia, Analysis of Company Accounts, (i) Non-financial companies, (ii) Financial Companies, Commonwealth Bank of Australia, *Statistical Bulletin*; India, Analysis of Company Accounts, (i) Public Companies, (ii) Private Companies, *Reserve Bank of India Bulletin*; Japan, (i) Supply of Industrial Funds, Bank of Japan, *Economic Statistics Monthly*, (ii) Analysis of Financial Statements of Main Industrial Corporations, Bank of Japan, *Analysis of Financial Statements of Main Industrial Corporations in Japan*; New Zealand, Combined Balance Sheets for Public Companies, *Reserve Bank of New Zealand Bulletin*; United Kingdom, (i) Company Finance and Investment, Central Statistical Office, *National Income and Expenditure*, (ii) Company Income and Finance, Central Statistical Office, *Economic Trends*, and United States: Sources and Uses of Corporate Funds, U.S. Department of Commerce, *Survey of Current Business*.

The Personal Sector: United Kingdom, The Capital Account of the Personal Sector, Central Statistical Office, *National Income and Expenditure*; and United States, Estimates of Personal Saving and its Disposition, U.S. Department of Commerce, *Survey of Current Business*.

² Throughout this paper, the model of national income accounts presented in United Nations, Statistical Office, *A System of National Accounts and Supporting Tables* (Studies in Methods, No. 2, New York, 1953), is taken as the standard model for national-income accounts.

attention to the income receipts and payments, capital expenditures, and associated financial transactions of each sector. The income of a sector is the sum of its income receipts. In the second place income-expenditure accounts are limited to a measurement of current flows of resources. Financial accounts must also encompass transactions in existing real assets and financial claims. In the third place income-expenditure accounts are primarily designed to account for production, expenditure, and income. Financial accounts are primarily designed to measure receipts and payments by individual economic units, grouped into significant sectors of the economy. Hence, national product and income accounts measure consumption transactions and production transactions, etc., or wage payments and interest payments, etc.: financial accounts measure transactions of consumers, farmers, corporations, etc.

The first general problem which must be faced in the development of an integrated set of financial accounts is the determination of the accounts which should be integrated.

This is really a question of the determination of the form of the main statement linking the financing accounts with the income-expenditure accounts. Income-expenditure accounts are, to a large degree, designed to provide basic data for a domestic product statement.¹ Financing accounts must be based on a receipts and payments statement. The preparation of a joint statement either incorporating these two in a single account or reconciling the two is, perhaps, the most difficult problem in extending the traditional economic accounts so as to develop financial accounts.

In so far as income-expenditure accounts provide for a distribution of transactions between sectors, they usually provide for a distribution of national product originating in individual sectors.² If they contain specific sector data on national income the only income to be attributed to corporations and other business is undistributed profits, rather than more meaningful totals embracing all receipts and expenditures. Neither of these concepts are particularly useful for financial analysis. The independent systems of accounting which include financial transactions have overcome this difficulty by creating an entirely new

¹ Account 1 in UN *op. cit.*

² Table II, in UN *op. cit.* Even the table 'National Income by Industry' in the United States income-expenditure accounts is, in fact, a product originating by industry account.

set of accounts divorced from the income-expenditure accounts, even if individual entries in the two sets of accounts may be reconciled with each other. This approach, likewise, although in some respects appearing to be the most useful yet devised, is not particularly desirable. The income-expenditure accounts have proved to be a most useful addition to the body of economic statistics.¹ Economists are familiar with their content, significance, uses, and weaknesses. This intellectual capital should be preserved, if possible, even if its retention necessitates some changes in the form of the income-expenditure accounts. However, the expression of this hope does little to solve a problem which is still a source of difficulty for statisticians, as a review of existing accounts indicates.

In some accounting systems this problem is avoided by accepting a structure of accounts which, on the basis of other criteria would be considered unsatisfactory. These unsatisfactory attributes may take several forms. The merging of business, households,² and financial institutions in one sector eliminates the need for attributing transactions to any one of these individual sectors.³ If financial accounts are reconciled only with total savings and investment in the economy, most of the problems may be ignored.⁴ If the financing accounts contain only residually derived financial balances, these need not be reconciled with actual transactions.⁵

Some of the earlier ideas regarding the form of an integrated set of accounts envisaged a linking of the financing accounts to the national product rather than the national-income accounts.⁶ Some of the accounts presently available adopt this basis of integration.⁷ They record income originating in each sector (i.e. essentially income payments and imputed income receipts by the sector) as the foundation on which the structure is built.

¹ This remark should be regarded as an understatement.

² In this paper, the term 'household' is used to designate an integrated income receiving and consuming unit of people living together. It may be a bachelor living alone, a family, or other similar group of people. It does not have the connotation attached to 'huishouding' in the Netherlands literature on economic accounting (see M. W. Holtrop, 'Method of Monetary Analysis Used by De Nederlandsche Bank', *Staff Papers*, February 1957, p. 306).

³ E.g. Finland, *Economic Survey*.

⁴ E.g. Norway, *The National Budget of Norway*.

⁵ United Kingdom, *National Income and Expenditure*.

⁶ Morris Copeland, 'The Feasibility of a Standard Comprehensive System of Social Accounts', *Studies in Income and Wealth*, Vol. 20, *op. cit.* p. 27.

⁷ E.g. France, 'Comptes de la Nation', and *Monthly Report of the Deutsche Bundesbank*.

Factor payments are then regarded as transfers, similar to the more conventional transfers in the income-expenditure accounts. The net of income originating in the sector and net 'transfers' received by the sector, less consumption, provides a measure of the saving of the sector. Saving minus investment then gives the measure of the net financial surplus which must be reconciled with the data on financial transactions.¹

Alternatively, the financial accounts may be linked to the national income accounts. This is the procedure adopted in some of the present accounts.² In this structure, factor income receipts provide the foundation whence the accounting system progresses. Integration with the national-income account may ultimately prove more convenient, provided that the business accounts are expanded to include a more detailed statement than the present business component of the national income (undistributed profits).

However, if we look further, towards an integrated set of input-output/income-expenditure/borrowing-lending/asset-liability accounts, there is a strong argument for attempting to integrate the financial accounts with the national product statement. Input-output accounts can only be integrated with income-originating statements, i.e. the national product accounts. If the entire set of accounts could be integrated around one central statement it would be a valuable contribution towards the development of a useful accounting structure.

In any event, the present income-expenditure accounts will probably have to be revised. If it be accepted that each economic unit regards the flow of liquid resources accruing to it as forming a single total for expenditure which is rationally allocated among different uses, and if the final set of accounts is to be satisfactory, some of the present economic accounting records will have to be amended. For instance, the business accounts will probably require extension to become grosser receipts and expenditure accounts,³ and the treatment of interest as a negative receipt, and subsidies as a negative expenditure, should be reconsidered.

¹ This is essentially the proposal made in Dorrance, 'Financial Accounts in a System of Economic Accounts', *Staff Papers*, February 1955.

² E.g. The Israel paper referred to above, and Netherlands, *Centraal Economisch Plan*.

³ This expansion is also necessary for the development of input-output statements.

The second general problem which must be faced, in the development of an integrated set of financial accounts, is the determination of the sectors which should be identified.

There is a general problem of interpreting the term: 'sector'. It is universally agreed that economic accounts should be the accounts of sectors. Morris Copeland has referred to earlier attempts at social accounting, which did not identify functional or institutional sectors, as being based on a 'pre-statistical conception'.¹ It is unfortunate that the term 'sector' has come to be associated with two different principles of classifying data. Income-expenditure accounts, in effect, classify transactions by type of transaction. They apply the term 'sector' to the activities associated with each of these groups of transactions. It has been argued elsewhere, that:

'On the assumption that each economic unit attempts to maintain certain rational relationships between the several economic factors that it is able to influence, it follows that in financial accounts all the transactions, assets, and liabilities of each economic unit must be consolidated in one integrated set of accounts. That is, if any accounts for a unit are included in the accounts for a sector, all its accounts must be included in the accounts of that sector, and none of its accounts may be included in the accounts of any other sector.'²

Hence, the term 'sector' has come to mean a group of similar transactions in income-expenditure accounting, and a group of similar economic units in financial accounting. If an integrated set of accounts are to be compiled these two ideas must be reconciled.

All the accounts reviewed here implicitly, if not explicitly, envisage the identification of the following sectors as a minimum: the private (i.e. business and household) sector, the Government, and the foreign sector (or the international accounts of the economy). Some envisage a more detailed division of these sectors, while certain authors admit that their sectorization is not as detailed as they would wish because the available statistics are inadequate for a fully satisfactory sectorization. There is a significant divergence among the different accounts in the proper treatment of financial institutions.

¹ *Op. cit.*, p. 20-21.

² Dorrance 'Balance Sheets in a System of Economic Accounts', *op. cit.* p. 173.

No attempt is made in many of the accounts¹ to separate the business from the household components of the private sector. Most experts in the field of financial analysis would probably agree with the view that:

'In some respects, the difference between the household and the business sectors are more fundamental for financial analysis than the simple difference that arises from the fact that, for the most part, one sector consumes what the other produces. The desired values of assets relative to transactions differ. The desired composition of assets and the ability to change the desired ratios are different. Hence, the asset-liability patterns of business and households will differ, and the reactions of the two groups to economic changes produce differing financing desires.'²

However, in a number of cases, the available statistics make it impossible to separate the data for these two sectors. Thus, in the explanations of the principles underlying its accounts, the Norwegian Central Bureau of Statistics states that the transactions of wage-earners, pensioners etc., should be identified separately from those of other sectors.³ In practice, the Bureau must be satisfied with an 'Other Norwegian sectors' account derived as residual entries.⁴ The *Radcliffe Report* stated that: 'The statistics relating to the personal sector, more perhaps than any of those in any sector, offer scope for improvement by private enquiry as well as by official action.'⁵ It is possible that, once the accounts of the financial institutions have been properly organized, and suitable accounts compiled for the Government, the most important problem, in the sectoring of statistics, is to separate the data relating to business transactions from those relating to the transactions of households.

There are three questions in the definition of the government sector:⁶

¹ E.g. the accounts appearing in Finland, *Economic Survey*; Bank of Italy, *Report for the Year*; Netherlands *Bank Report*; *National Budget of Norway*, Norway, *Economic Survey*; Sweden, *Reviderad Nationalbudget*; and United Kingdom, 'Radcliffe Report'.

² Dorrance, *Balance Sheets in a System of Economic Accounts*, pp. 181-182.

³ *Income and Wealth, Series VIII*, Bowes and Bowes, London, 1959, p. 68.

⁴ *Income and Wealth, Series VIII*, op. cit., p. 76. ⁵ op. cit. p. 293.

⁶ In passing it should be noted that the present state of financial accounts for Central Governments is deplorable. These should be among the easiest of financial data to obtain. However, *International Financial Statistics* is able to present data on Central Government transactions for only thirty countries, and some of these are disgracefully in arrear.

- (1) The coverage of the sector.
- (2) The treatment of social insurance funds.
- (3) The place of the Central Bank in the structure of sectors.

As income-expenditure accounts are based on a functional sectorization of the economy, they usually adopt a wide definition of government to include state and local governments and some government agencies. That is, they include, in the government sector: 'Government agencies, whether central, state or local, which undertake all forms of activity, for example administration, education, defence and health services, other than those performed by agencies included in the category of government enterprises.'¹ A number of financial accounting systems retain this definition of the government sector.² However, there appears to be a trend towards the acceptance of a more limited sector for financial accounting purposes. It is becoming recognized that a Central Government, but not a Local Government, is always able to command liquidity and is independent of considerations arising from its own need to maintain desirable asset-liability relations.³ Further, the lending and borrowing decisions of the Government (i.e. budgeting for surpluses and deficits) are usually made with general economic policy targets in view, rather than as reactions to financial stimuli arising from the other sectors. This unique role of the Government is frequently recognized in financial accounts by considering the Government to be a separate sector.⁴ This difference in definition creates a problem for the integration of income-expenditure and financial accounts. Where this difficulty has arisen⁵ the most usual solution is to separate the

¹ UN, *op. cit.*, p. 12.

² E.g. the accounts appearing in: Finland, *Economic Survey*; France, 'Les Comptes de la Nation'; Germany, *Monthly Report of the Deutsche Bundesbank*, and *Vierteljahrsshefte zur Wirtschaftsforschung*; the Israel paper referred to above; Bank of Japan, *A Study on Flow of Funds in Japan*; the Netherlands Central Planning Bureau publications; and United Kingdom, *Radcliffe Report*.

³ In some cases where, for reasons of general economic policy, the Government has voluntarily accepted certain financial restraints, this statement is an exaggeration (e.g. Argentina).

⁴ E.g. the accounts appearing in *Financing of Economic Activity in Canada*; *Bank of Italy Report for the Year*; Netherlands, Netherlands Bank, *Report for the Year*, *Centraal Economisch Plan*; Norway, *Kreditmarkedsstatistik*; Sweden, *Reviderad Nationalbudget*; United Kingdom, *National Income and Expenditure*, *Economic Survey*; and United States, *Federal Reserve Bulletin*.

⁵ Netherlands, *Centraal Economisch Plan*; Sweden, *Reviderad Nationalbudget*; United Kingdom, *National Income and Expenditure*; and United States, *Federal Reserve Bulletin*.

income-expenditure accounts of the general government sector into its Central Government and other components.

In most countries the social insurance authority is organized as a quasi-independent investment fund. In some countries it is an independent agency, with power to acquire assets other than government securities. However, in most countries the receipts on social insurance account flow directly to the Government and approximate to taxation revenue, even though the excess of revenue over expenditure is nominally invested in government securities. While the financial accounts for some countries identify the social insurance sector,¹ most accounts² adopt the treatment recommended for these activities in income-expenditure accounts. There it is suggested that 'it is convenient to include (in the government sector), social security arrangements, even if they are not already formally part of government, if their activities may be regarded as an instrument of the social policy of the government.'³

In almost all countries the Central Bank is one of the central authorities which determine and implement the Government's economic policy. It has been argued elsewhere⁴ that the Central Government and the Central Bank both enjoy independence of action from financial constraints. On this basis it may be argued that the Central Bank is a part of the government sector. However, a Central Bank is an integral part of the nation's monetary system. In fact, its actions must be most immediately directed towards influencing the rest of the banking system. Furthermore, its liabilities are closer to those of the rest of the monetary system than to other liabilities of the Government. Hence, in all the completely integrated systems of financial and income expenditure accounting reviewed here the Central Bank is considered to be a part of the financial sector. Only in a few of the independent statements is it included in the government sector.⁵

¹ E.g. the accounts appearing in *Bank of Italy Report for the Year*; Netherlands, *Centraal Economische Plan*, Central Planning Bureau Publications; and Norway, *Kreditmarkedsstatistik*.

² E.g. the accounts appearing in *Financing of Economic Activity in Canada*; Finland, Economic Survey; France, 'Comptes de la Nation'; *Monthly Report of Deutsche Bundesbank*; the Israel paper referred to above; Bank of Japan, *Monetary Development 1954-1957*; Netherlands Bank, *Report for the Year*; Sweden, *Reviderad Nationalbudget*; United Kingdom, *National Income and Expenditure, Economic Survey, Radcliffe Report*; and United States, *Federal Reserve Bulletin*.

³ UN, *loc. cit.*

⁴ Dorrance, 'Balance Sheets in a System of Economic Accounts', pp. 175-181.

⁵ E.g. in Denmark, National Bank, *Report and Accounts, Economic Survey of*

The French 'Comptes de la Nation' have adopted a unique treatment of government accounts. They record the accounts of the Central Treasury as a separate sector, and the administrative departments of all governments as a sector. This treatment originates in the government accounting practices in France, and is unlikely to be appropriate elsewhere.

One of the important aims of financial accounts is to measure the borrowing and lending transactions between, or the assets and liabilities of, the significant economic sectors contributing to production, consumption, and investment. The economic system may be viewed as two sub-systems. One comprises the financial institutions (perhaps together with the Government) which create liabilities for others to hold as assets, and accept the liabilities of other sectors as their own assets. The other is the rest of the economy, members (or sectors) of which react to changes in their own assets and liabilities, or borrowing and lending opportunities, by attempting to alter their receipts and expenditure patterns. It is undoubtedly true that the main interest of the financial analyst must be centred on the reactions of the non-financial sectors to changes in financial policy. Some of the present systems of financial accounts¹ reflect this view by making no provision for the accounts of financial institutions. In these accounts, financial institutions as a separate group of records are viewed as intermediaries, through which inter- and intra-sector transactions are channelled. However, the majority of the accounting systems provide for, at least, the presentation of the accounts of financial institutions. It would seem that, if financial policy is considered to have any effect on the transactions by the non-financial sectors, then it is essential to provide separate accounts for the financial institutions. Once it is accepted that this sector creates assets which are held by others, hence enabling them to incur expenditure financed out of the issue of liabilities, it follows that the former are a significant sector in the economic structure of the community and that their accounts should be identified.

The omission of separate accounts for these institutions raises another problem. One of the purposes of financial analysis is to

Denmark; Norway, Bank of Norway *Report and Accounts, Economic Survey*; and United Kingdom, *Radcliffe Report*.

¹ E.g. the accounts appearing in Finland, *Economic Survey*; Germany, *Viertel-jahreshefte zur Wirtschaftsforschung*; Netherlands, *Centraal Economische Plan*; and United Kingdom, *National Income and Expenditure*.

identify the causes of inflation or deflation. This must inevitably be, in part at least, an attribution of responsibility to one, or more, of the sectors comprehended in the accounting system. If there is no provision for the accounts of financial institutions; that is, if they are viewed only as intermediaries linking the other sectors together; then all the responsibility for inflationary or deflationary impulses must be allocated to the non-financial sectors. A complete lack of provision for attribution of inflationary or deflationary pressures to the financial system can be premised only on the grounds that these institutions do not exert pressures. This view appears to be tenable only on the assumption that financial policy has no effect on the economy. Accounts which make no provision for a financial sector would appear to be based on the view that the hypotheses concerning the usefulness of financial accounts are, in fact, incorrect.

A related problem arises with respect to the treatment of the banking system. This is done in the French 'Comptes de la Nation'. If money is regarded as an asset with certain specific attributes, and if monetary policy is considered to be a readily identifiable part of financial policy, the monetary system should be identified as a separate sector, or sub-sector, in the structure of accounts, as is done in most of the systems reviewed here. In these latter accounting structures there is further identification of other major groups of financial institutions.¹ Some of the accounts contain identifications of these institutions which depart from the traditional separation of the financial system into the monetary system and 'other financial institutions'.²

There is one minor problem in the treatment of financial institutions. Their contribution to national income and expenditure is small,³ and by nature, is closer to the contribution of other service industries than to the main business of financial

¹ E.g. accounts appearing in *Financing of Economic Activity in Canada* (life insurance); *Monthly Report of the Deutsche Bundesbank* (insurance companies, and building and loan associations); and United States, *Federal Reserve Bulletin* (savings institutions, insurance).

² E.g. the Israeli paper referred to above (Bank of Israel, commercial banks, other institutions); Bank of Japan, *A Study of Flow of Funds* (Bank of Japan, other institutions); Netherlands, *Centraal Economische Plan* (non-bank financial institutions, but not banks), publications of the Central Bureau of Statistics (banks, but not other financial institutions); and Norway, *Kreditmarkedsstatistik* (Bank of Norway, accounts with the Post Office, State Banks, commercial and savings banks).

³ This contribution is not as small as might be thought. In 1957 the income originating in finance in the United States was equal to approximately 80 per cent of that originating on farms.

institutions – the creation of assets and acceptance of liabilities. Hence, in an integrated system of accounts, provision for all their transactions involves the inclusion of small relatively insignificant entries in the income-expenditure accounts. In *Financing of Economic Activity in Canada* the income-expenditure accounts of these institutions are not identified. Instead they are consolidated in the general business sector account. This treatment has certain advantages, although it introduces a certain lack of symmetry into the accounts and hinders the reconciliation of the income-expenditure transactions with the borrowing and lending transactions of certain sectors.

The third general problem which must be faced, in the development of an integrated set of financial accounts, is the 'split personalities' problem.

This problem arises because income-expenditure accounts have as yet not envisaged relations similar to those which financial accounts should clarify. The former, quite usefully, split the transactions of individual economic units into components of separate sectors, according to the type of transaction. The latter must, to be meaningful, include, in each sector, all the transactions (production, consumption, saving, investing, lending, and borrowing) of each economic unit comprising the sector. This dichotomy in the aims of the two types of account arises most frequently in the treatment of the earnings of self-employed persons, the allocation of rent of owner-occupied homes, and the allocation of the current income of financial institutions.

Obviously, in those cases where the personal and business sector are combined in one private sector these problems do not arise. Nor need they be faced in those cases where financial institutions are considered to be no more than intermediaries. In all other cases it is fair to say that, as yet, the treatment of this problem has been less than fully satisfactory.

In income-expenditure accounts the productive activities of self-employed persons are usually included in the business sector.¹ If a useful personal sector account is to be derived these operations must be included in the account. In some of the present financial accounts² estimates are made of all the trans-

¹ UN, *op. cit.*, defines the enterprise sector as including all unincorporated private enterprises such as farms, retail shops, craftsmen established for their own account, and independent professional men.

² E.g. the Japanese and United Kingdom accounts.

actions of self-employed entrepreneurs and entered in the personal sector accounts. In some respects this appears to be the most attractive treatment of the problem.¹ However, the statistical problems to be faced in these calculations are very great. Most product and consumption estimates are derived largely from production and consumption data which do not identify the producers as corporations or self-employed persons, nor do they identify the type of consumer. Any separation of these flows would, for the present at least, probably have to be on the basis of arbitrary and perhaps unreliable guesses. A neat system of accounts may be presented, but the significance of the figures must be dubious.

Several of the accounting systems² record the net profits arising from the operations of self-employed persons as transfers from the business sector to the personal sector. This treatment is not fully satisfactory, because it leaves the production and business expenditure activities of self-employed persons in the business account, hence excluding these transactions from the full accounts of the personal sector. Such treatment would only be legitimate on the assumption that all self-employed persons were truly able to separate their personal hopes and fears from their business successes and worries (in other words, that they, in no way, regarded the flow of liquid resources accruing to them as forming a single total for expenditure). However, this treatment has the virtue of recognizing personal investment in one's own business as a form of financial investment.

In other systems, the financing activities directly associated with the operations of self-employed businesses are recorded as part of the business³ or of a separate self-employed⁴ sector. This treatment assumes that financial investment by an individual, in his capacity as an entrepreneur, can be unequivocally separated from his financial investment as an individual.

¹ Thus, it is not conceptually difficult to envisage the identification of a self-employed sector throughout the accounts. Gross domestic product could, without too many conceptual difficulties, be separated into product originating in companies and product originating from self-employment; consumption could be separated into that by the families of employees and that by families receiving income from self-employment. In the same way, other aggregates could likewise be divided. However, given present sources of data, the validity of any such distribution would be subject to doubt.

² E.g. the accounts appearing in *Financing of Economic Activity in Canada*; France, 'Comptes de la Nation'; *Monthly Report of the Deutsche Bundesbank*; and United States, *Federal Reserve Bulletin*.

³ E.g. the German accounts.

⁴ E.g. the Canadian and United States accounts.

As might be expected, the acceptance of this assumption leads to some rather unrealistic accounts.¹

It is easy to criticize the existing treatments of the self-employed-person problem. To suggest a feasible solution is more difficult. For the present, perhaps the best that can be done is to draw attention to this problem as one which must be added to the agenda facing the national accountant.

In principle, the problem of owner-occupied housing is a specific part of the general problem of self-employment. In income-expenditure accounts all house ownership is regarded as an 'enterprise activity'. In most of the accounts this activity is incorporated with other self-employment activities. However, in the accounts appearing in *Vierteljahrshefte zur Wirtschaftsforschung* housing is treated as a separate sector. This treatment has the advantage of identifying the problem, but otherwise it is subject to general criticisms regarding the treatment of self-employment as discussed above. It might be noted, in passing, that landlords of properties occupied by tenants are assumed to be self-employed persons in their capacities as landlords.

Income accruing to financial intermediaries is attributed, in the income-expenditure accounts, to the creditors of the institutions.² This treatment is consistent with the income-expenditure account view of these institutions as intermediaries. Nevertheless, this flow of income is an important part of the liquid resources accruing to many of these institutions (e.g. life insurance companies) and influences their decisions. The investments associated with these flows of resources may be attri-

¹ The following table on savings, investment, and financial transactions by sectors (in millions of dollars), taken from *Financing of Economic Activity in Canada*, is an example of the type of result.

	1950	1951	1952	1953	1954
Consumers:					
Saving	662	1,334	1,291	1,312	809
Gross financial transactions	1,668	1,448	2,326	2,095	1,748
Unincorporated business:					
Saving	877	993	1,045	1,111	1,170
Investment	1,865	2,070	2,118	2,288	1,998
Gross financial transactions	29	-13	41	23	21
Non-financial corporations:					
Saving	1,089	813	2,249	2,271	2,063
Investment	1,475	2,239	2,118	2,436	1,102
Gross financial transactions	1,364	992	1,313	1,365	1,377

² UN, *op. cit.*, defines interest to include 'all actual interest payments receivable by households and private non-profit institutions including interest on government bonds and imputed interest receivable from life insurance, banks and similar financial intermediaries'.

buted to the policy-holders and thus be recorded in the total of the community's financial investment.¹ However, there is no reason to assume that if these investments had been made directly by the policy-holders they would have taken the same form as the one which resulted from the decisions of the financial institutions. In some accounts² the increase in the assets of financial institutions, resulting from their retention of income, is recorded as an additional claim imputed as accruing to the creditors of the institutions.³ *Financing of Investment in Canada* sidesteps the income aspects of this problem (on some reasonable logical grounds) by incorporating the current transactions of financial institutions in the general business sector. As a general proposition, it does not seem unreasonable to suggest that the existence of this problem provides further argument for the identification of a separate financial institutions sector, and the full identification of these flows. In most countries complete data are available for these institutions, and hence the statistical problems which would have to be faced in the identification of a self-employed sector do not arise.

3. Balance-sheet problems

The two most important groups of problems in the field of balance sheet statistics refer to:

- (1) The extent of the data.
- (2) The problem of valuation.

Up to the present, the Netherlands Central Bureau of Statistics is probably unique among official agencies in that it publishes complete national balance-sheet statistics. Private individuals have compiled complete statements for individual countries.⁴ However, all the other balance-sheet statistics published by official agencies are partial statements of the community's assets and liabilities. In the first place they omit entries

¹ E.g. see United Kingdom, 'Capital Account of the Personal Sector', *National Income and Expenditure*.

² E.g. those appearing in *Financing of Investment in Canada* and United States *Federal Reserve Bulletin*.

³ For life insurance companies, whether this imputation should be measured by the increase in actuarial reserves (e.g. the United States treatment) or by the increase in total assets of the companies (e.g. the Canadian and United Kingdom treatment) is a moot point.

⁴ E.g. the work of Raymond Goldsmith for the United States, a sample of which is reproduced in Committee on Review and Appraisal of National Economic Accounts, *op. cit.*

for physical assets, presumably because it is felt that serious problems arise in measuring the value of these assets.¹ That is, they are, at the best, statements of financial assets and liabilities. In the second place, some of the available statements are not even complete tables of financial assets and liabilities. Thus, the tables in the *Federal Reserve Bulletin* include corporate equity securities, at market values, in the asset accounts, but do not provide any entries for them in the liability accounts, because it is considered difficult to arrive at meaningful liability values for these items.

It cannot be denied that the development of financial balance sheets is a useful step forward. Notwithstanding, the adequacy of balance sheets limited to financial items may be questioned. If balance sheets are considered valuable for economic analysis there must be some theoretical postulates envisaging their use. Some postulates among others have been suggested elsewhere:

- ‘1. An economic unit will divide its assets rationally between physical assets, nonliquid financial claims, and liquid assets, and will also attempt to make rational distributions within these groups.
- ‘2. The desired ratios between these groups will be determined by desires for liquidity, the relative rates of return on different types of asset, and the income and wealth of the unit.
- ‘3. The total wealth, the ratio of total assets to total liabilities, and the structures of both assets and liabilities, which each economic unit seeks to achieve will alter with changes in expectations regarding the future.’²

If any one of these postulates be accepted, it follows that the most desirable form for sector balance sheets would be one providing for the recording of all financial and all physical assets, all liabilities, and the residual values of equities. Even some of the authors of accounts limited to financial items recognize the need for complete accounts. Thus, the authors of the accounts contained in *Kreditmarkedstatistik* include entries for physical capital and equity values in their equations showing how balance sheets may be fitted into a complete accounting picture,³ although their tables contain no entries for physical capital.

¹ See the quotation given above from *Financing of Economic Activity in Canada*.

² Dorrance, *Balance Sheets in a System of Economic Accounts*, p. 170.

³ ‘Financial Accounting within a System of National Accounts’, *Income and Wealth, Series VIII*, p. 65, Bowes and Bowes, London, 1959.

It is evident that workers in this field have been intimidated, in part at least, by the rumoured difficulty in measuring physical capital values. It cannot be denied that this problem is serious. However, the papers reproduced in *Income and Wealth, Series VIII*, provide evidence that it is not an insuperable problem.

Most of the balance-sheet studies which attempt a wide coverage of the economy are being based on face value, or transactions value, principles of evaluation. They generally assume that a set of sector balance sheets should consolidate to a national real-wealth statement. If balance sheets are considered as nothing more than subsidiary statements to financing accounts financial claims might be handled most conveniently if valued at actual transaction price. If balance-sheet data are regarded as economically significant, *per se*, the problem is more complex. In the latter case, it may be argued that 'insofar as economic units attempt to maintain asset-liability ratios, they attempt to maintain relations between items at the values currently placed on them. That is, balance sheets that are intended to provide a series of data explaining the reactions of economic units, should comprise items valued at current prices'.¹

In the valuation of financial assets, it might appear that, because a financial asset is a liability, the sum of the values of all such assets, except equities, should equal the sum of all liabilities, and that the sum of equity values should be equal to the real wealth of the community.² For financial analysis, however,

¹ Dorrance, *Balance Sheets in a System of Economic Accounts*, p. 195.

² This is the view of most writers on this subject. Thus, Stamp, in *Wealth and Taxable Capacity* (London, 1930), and *The National Capital and Other Statistical Studies* (London, 1937), used essentially the capitalized value of equity income as a measure of the national wealth. Hicks is specific on this point: "The balance sheets of "companies" and of "government" must frankly be adjusted so as to maintain consistency with the personal sector. The shares and bonds, as they appear in the balance sheet of the "companies" sector, must be entered at the values which have been given them in the balance sheet of the personal sector, not at the values given them by the companies. In spite of this, we must hold to the principle that the net assets of companies are nil. This means that we must not attempt to value the real assets of companies directly. We must accept the "shareholders' value" of these real assets - not the value which is set upon them by the company, but the value which is implied in the market value of the shares" (*The Social Framework*, Oxford, 2nd ed., 1952, pp. 277-278). Copeland accepted the thesis that items should be consistently valued in creditor and debtor records. In outlining the principles on which sector balance sheets should be compiled, he proposed to 'either adjust the holders' statement to agree with that of the obligor, or adjust the obligor's statement to agree with that of the holder' (*loc. cit.*, p. 72). Goldsmith states that a set of sector balance sheets should be compiled so that 'When all intergroup and intragroup relationships are eliminated we obtain instead of a combined national balance sheet a national wealth statement' (*A*

this apparent truism is false. The sum of financing flows in any period must be nil (or the sum of domestic borrowings minus lendings must equal net borrowing from foreigners.) Yet it does not follow that the sum of the values of assets, as valued by their holders, must be the same as the sum of the values of liabilities, as valued by those who have accepted them. A holder of a marketable security may intend to sell it before maturity. If so, the eventual redemption value of the security will be only of remote significance to him; the only value which is of importance to him is the current market value. To the issuer, in contrast, this latter value may have only a remote significance; he will assess his liability at an amount directly related to his eventual obligation to redeem the security. Although these two values are different, they are the significant values in the accounts of the asset holder and the liability acceptor, respectively. Hence, they are the values which should be recorded in financial accounts. In brief, this argument leads to the conclusion that, in most cases, marketable assets (including inventories) should be valued at market values, fixed assets at depreciated cost, all liabilities at face value, and for annuities both the cash surrender and the face values should be incorporated in the accounts.¹

The authors of the *Kreditmarkedstatistik* analysis recognize that this argument may be valid but they prefer to use 'face value' valuations throughout their accounts, partly because this method 'provides good opportunities for arriving at statistical consistency'.² On the one hand, arguments in favour of statistical methods which permit complete estimation, through the judicious use of residuals, and which provide internal checks on the validity of independently estimated entries, should never be minimized. On the other, care should be taken to ensure that arguments based on the relative ease of calculation are not

Study of Saving in the United States, Princeton, 1955/56, Vol. III, p. 4). Edey and Peacock refer to differences in creditor and debtor valuations as 'inconsistencies (which) do, of course, occur, and we have to accept the fact that this is one of the aspects of life not susceptible to satisfactory treatment in accounts' (*National Income and Social Accounting*, London, 1954, p. 214). The United States National Accounts Review Committee went as far as to say: 'Statements, to make economic sense, must be based on balance sheets of the component units which are uniform with respect to scope of assets and liabilities and to their valuation' (*loc. cit.*, p. 28-29).

¹ This problem is discussed at greater length in Dorrance, *Balance Sheets in a System of Economic Accounts*, pp. 195-201.

² *Income and Wealth*, Series VIII, op. cit., p. 73-4.

allowed to overshadow arguments based on the use of statistics for economic analysis.

There is one corollary to the view that useful sector balance sheets should be based on current values. In one sense, the development of balance-sheet statistics is a reversion to the period before the income-expenditure days of economic accounting, when interest was largely directed towards the measurement of national wealth. However, the new approach should be directed towards the measurement of economically meaningful sector balance sheets. If they be constructed on principles intended to demonstrate economic motivation, there is no inherent reason to support a belief that they should consolidate to a national real wealth statement.

IV. CONCLUSION

This review covers a wide range of statistical statements based on different theoretical premises. A number of problems have been faced in the construction of these statements. As yet, many of the solutions to these problems are inadequate. If the present status of work in the field of financial accounting may best be regarded as one of expectancy rather than of general agreement it would appear that we may reasonably expect progress to be made on two fronts:

- (1) the development of a more general theory of the role of finance in the economy; and
- (2) the solution of the purely statistical problems which arise in the attempt to extend traditional national accounts so as to develop financial accounts.