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## CHAPTER 5

### THE DESIGN OF NATIONAL BALANCE SHEETS AND FINANCIAL DATA COLLECTION

The emphasis in sector and national balance sheets is on what the units in the various sectors own, what they owe, and their resulting net worth. Tangible-asset values are included with the financial assets, of course, in order to arrive at the total value of assets and thus at net worth. But our emphasis in this discussion will be on the financial assets and liabilities, and the sectoring useful for financial analysis. In a final section of this chapter, we shall discuss the problems of linking the tangible asset data in balance sheets to the more detailed data obtained from industries of establishments discussed in the previous chapter.

#### THE SAVING-INVESTMENT ACCOUNT AND BALANCE SHEET APPROACH

The link between the national income and product accounts and sector balance sheets lies in deconsolidation of the saving-investment account. As now published by OBE, the saving-investment account is shown only for the Nation as a whole. At the level of the national economy, saving and investment are equal. OBE does show separately the income, outlay, and saving of selected sectors in appropriation accounts. But the explicit sectoring is not complete, and is not carried through the saving-investment account—which would require financial transactions data in addition to saving and tangible investment.<sup>1</sup>

John Gorman, of OBE, in appendix I, part F, shows how the present accounts could be adapted and elaborated to show sector saving-investment accounts, revaluations, and balance sheets in an integrated system. The numbers are hypothetical, and the sectors and types of transactions have been condensed to the basic ones needed to illustrate the structure of the interlocking accounts. After summarizing the basic structure as developed in the Gorman paper, we shall discuss in more detail the chief problems of sectoring and selection of types of financial assets and liabilities to be shown, based on the actual system of saving-investment accounts and partial balance sheets published regularly by the Federal Reserve Board. Reference will also be made to the complete set of national balance sheets, by sector, recently published by Raymond Goldsmith for the National Bureau of Economic Research.

Although the detail can be handled in alternative ways, the basic structure is relatively simple. The sector production accounts show the actual and imputed sales of each sector, and the associated costs

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<sup>1</sup> For a schematic representation of the present OBE national accounting system, see George Jaszi, "The Conceptual Basis of the Accounts," in "A Critique of the United States Income and Product Accounts," p. 37.

plus profit. As noted in the previous section, intersectoral purchases and sales cancel out upon consolidation, leaving the national income and product. Here, the sectoring is chosen with a view to illuminating the subsequent financial transactions and balance sheets. For production analysis, as described earlier, an industry sectoring within the predominant business sector is called for.

The appropriation accounts show as credits the income which the units in each sector receive from production, and from intersectoral income redistributions (transfer payments and taxes). Debits include current final expenditures, transfers, taxpayments, and saving as a residual.

The next account shows saving and investment on a deconsolidated basis by sector as well as consolidated for the Nation. As is well known, on the consolidated national basis (as now published by OBE), saving and investment (domestic plus net foreign) are equal. But when deconsolidated, the saving and tangible investment of each sector are unequal, the difference representing "net financial investment" to use the FRB term, which is the difference between the net acquisition of financial assets and the net increase in liabilities. But there is equality for each sector, as shown in Gorman's table 4, between total investment, tangible plus financial, and total saving plus borrowing. It would be feasible to split the saving-investment account to show tangible and financial components separately, as the Canadians do. Other rearrangements of activity accounts are possible, but the underlying logic is the same.<sup>2</sup>

The changes in all assets and liabilities of the saving-investment account are one of two sets of estimates needed to explain the differences in sector and national balance sheets, expressed in current values, between the end of two successive periods. The other set of estimates needed is a "valuation statement" showing the changes in the values of assets and liabilities held on both dates or acquired in the interim. Increases in value due to price rises are debited to this account, while decreases due to price declines or to depreciation of fixed assets (and other capital consumption) are credited. Then, to the beginning assets of the balance sheet are added net valuation changes plus tangible and financial investments during the period, while net borrowing is added to liabilities. The change in net worth is the result of the net investment plus the net valuation change. When the sector balance sheets are consolidated, according to Gorman's scheme, the national balance sheet shows the value of tangible assets (as the sum of values of assets taken separately), net claims on foreigners, and the excess of the value of firms as going concerns over the sum of the value of individual tangibles.

The currently published FRB flow of funds accounts start with gross saving, gross private domestic investment (tangibles, including consumer durable goods), and net financial investment, arrayed by 11 main sectors. Then, in the subaccount of prime interest to the FRB, net changes in financial assets and liabilities are shown for 20 types of financial instruments.

The FRB also publishes partial balance sheets, showing the amounts of financial assets and liabilities outstanding, by the same categories,

<sup>2</sup> See especially "The Flow of Funds Approach to Social Accounting," pt. I.

as of the end of each period. Except for corporation stock which is valued at market, the assets and liabilities are valued at book so that the flows equal the changes in amounts outstanding (and, indeed, are often so derived).<sup>3</sup>

Complete national balance sheets in current dollars have recently been prepared by Goldsmith, Lipsey, and Mendelson for the National Bureau of Economic Research revising and updating to 1958 earlier estimates by the senior author contained in "A Study of Saving in the United States."<sup>4</sup> His summary balance sheet for the end of 1958 is reproduced in table 2. It shows 2 dozen types of intangible assets as well as tangibles in 6 categories, and equities in addition to liabilities in 13 classes, for 7 major sectors and a combined (but not consolidated) national total. The 1958 summary indicates the relative importance of the various sectors and types of claims, and helps make more concrete the subsequent discussion of structure.

In his recent volumes, in addition to presenting national balance sheets, by years 1945-58, Goldsmith also presents sector balance sheets, by type of claim, for the selected years 1900, 1912, 1922, 1933, 1939, and 1945-58 annually; and also type of claim tables, by sector, for the same years. He further shows the corresponding flow of funds tables annually 1946-58, including detail for 13 financial subsectors.

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<sup>3</sup> The FRB partial balance sheet is shown and described in the Federal Reserve Bulletin for August 1959 in the article "A Quarterly Presentation of Flow of Funds, Saving, and Investment," table 6.

<sup>4</sup> Raymond W. Goldsmith and Robert E. Lipsey, "Studies in the National Balance Sheet of the United States," I, Princeton, 1963.

Raymond W. Goldsmith, Robert E. Lipsey, and Morris Mendelson, "Studies in the National Balance Sheet of the United States," II, Princeton, 1963.

TABLE 2.—National balance sheet, 1958

[Billion dollars]

	Nonfarm households	Nonfarm unincorporated business	Agriculture	Nonfinancial corporations	Finance	State and local governments	Federal Government	Total
<b>I. Tangible assets:</b>								
1. Residential structures	346.81	16.26	19.28	21.31	0.64	6.03	1.01	411.34
2. Nonresidential structures	26.26	25.56	16.75	180.83	4.78	133.20	35.00	422.38
3. Land	92.16	22.74	87.88	63.46	4.04	28.00	12.80	310.78
4. Producer durables	2.07	26.94	18.59	145.53	.85	5.25	.61	199.84
5. Consumer durables	164.73		14.02					178.75
6. Inventories		16.81	26.15	78.81	.03	.20	7.89	129.89
7. Total	632.03	108.31	182.37	489.94	10.34	172.68	57.31	1,652.98
<b>II. Intangible assets:</b>								
1. Currency and demand deposits	61.36	13.46	6.20	33.34	92.59	10.78	41.9	221.92
(a) Monetary metals	1.62	.27	.25	.21	23.06			25.41
(b) Other	59.74	13.19	5.95	33.13	69.53	10.78	4.19	196.51
2. Other bank deposits and shares	140.56		3.07	1.60	1.08			150.22
3. Life insurance reserves, private	99.70		6.71					106.41
4. Pension and retirement funds, private	27.80							27.80
5. Pension and insurance funds, government	65.67	4.70	.43	8.21	33.19			66.10
6. Consumer credit		11.64		83.37	3.64		1.70	100.35
7. Trade credit					9.23			9.23
8. Loans on securities					53.80			53.80
9. Bank loans, n.e.c.	3.10				9.42		19.06	31.57
10. Other loans	22.72				131.22	1.61	5.10	160.65
11. Mortgages, nonfarm	12.79				113.52	1.61	5.10	133.02
(a) Residential	9.93				17.70			27.63
(b) Nonresidential	4.54				4.26			8.80
12. Mortgages, farm	58.57		5.21	17.62	176.01	11.08	2.46	274.31
13. Securities, U.S. Government	3.16			15.20	41.63	6.00	5.82	65.99
(a) Short term					2.43			2.43
(b) Savings bonds	43.02		5.21	1.20	131.95	5.08	5.82	186.44
(c) Other long term	12.39			1.63	31.23	2.44	.97	48.07
14. Securities, State and local	24.79			2.68	74.30	.67		103.44
15. Securities, other bonds and notes	11.12			1.63	4.36			17.13
16. Securities, preferred stock	10.37			3.55	39.10			53.02
17. Securities, common stock	332.62			75.45				408.07
18. Equity in mutual financial organizations	8.04							8.04
19. Equity in other business	98.24							98.24
20. Other intangible assets	.62		3.81	48.14	29.78		42	81.35
21. Total	969.82	29.80	25.43	275.59	693.21	30.16	58.32	2,082.33



Any discussion of national balance sheet structure must take account of both the FRB and NBER (Goldsmith) work, as well as possible improvements in both. In the introduction to volume II of his recent study, Goldsmith gives a detailed comparison of his sectors and categories with those of FRB, together with reconciliations of some of the estimates for recent years. In what follows, we shall point out major differences and possible alternatives.

### SECTORING

There is no single general principle or set of criteria which may be relied on in distinguishing economic sectors for which separate transaction accounts should be set up. Since the main purpose of sectoring is to facilitate economic analysis, a major aim must be to group together transactors who behave similarly, have similar transaction and balance sheet structure, and react similarly to given financial or other stimuli. Although terminology is somewhat ambiguous, it has been stated that sectoring is primarily institutional, while the several activity accounts separate the chief functions of the sectors. In general, it is considered desirable to include all the transactions of the units grouped together as a sector, rather than to split them. But in some instances, it may facilitate analysis to show units behaving in different functional capacities in different sectors—as proprietors in their personal and business capacities, or the governmental monetary authorities which the FRB removes from the government sector and places with private financial institutions.

Other considerations, such as data availabilities and the desire for statistical continuity, affect sectoring decisions and may make some of them appear to be arbitrary. But any classificatory system is likely to involve more or less arbitrary decisions in application. In what follows, we shall discuss the broad features of the sectoring now in use, rather than the treatment of detail.

### THE GENERAL SYSTEMS

The OBE national income and product accounts are really not yet sectored for purposes of full saving-investment and balance sheet analysis. Appropriation (income and outlay) accounts are currently maintained for persons (including persons in their capacity as proprietors), governments, and foreigners (which is, strictly speaking, not a sector but an external account). The appropriation accounts for nonfinancial corporations and financial intermediaries are consolidated into the production account. In his hypothetical deconsolidation, Gorman sets up sectors for proprietors, other persons, nonfinancial corporations, financial intermediaries, government, and foreigners.

This approaches the sectoring used by the FRB and NBER. The FRB consumers sector relates to all households (and nonprofit institutions), while NBER's relates to nonfarm households. They both have three nonfinancial business sectors: farming (including farm households in the case of NBER), nonfarm noncorporate business, and corporations. They both have a finance sector, although FRB includes a fourfold breakdown in the summary tables (and additional breaks in subsidiary tables, while all of the NBER breaks are subsidiary); they both have two government sectors, Federal, and State and local; while only the FRB shows a rest-of-the-world account.

## THE HOUSEHOLD OR CONSUMER SECTOR

In Goldsmith's view, it would be desirable to confine the household sector to units which are homogeneous in the sense that their motivations are primarily those of consumers. There are three chief problems from this viewpoint in both his (NBER) and the FRB accounts, as well as in the OBE "personal" account, which should be corrected.

(1) The household accounts include nonprofit institutions, due to insufficient data to effectuate the setting up of a separate sector in the interests of conceptual clarity. The Working Group on the Service Industries strongly recommends the expansion of existing reporting systems to provide benchmark data on the tangible assets and financial claims of the nonprofit institutions. Goldsmith notes that the tangibles can be extrapolated currently by the perpetual inventory method, although improvement of current reporting of financial transactions of this sector would still be needed.

(2) Personal trust funds are included in the household sector due to lack of adequate current data to make it possible to set these up in a separate subgroup of the finance sector. The latter treatment would require the addition of another type of financial claim in the household sector—investment or equity in personal trusts—which would become a liability of the new sector. The Working Group on Nonfarm Business Financial Claims recommends obtaining data on personal trusts from the banks rather than from households.

(3) There are difficult problems involved in separating the business activities and associated balance sheets of proprietors from their finances as consumers. Both NBER and the FRB attempt a segregation which seems desirable for analytical purposes. Goldsmith, however, in line with present Department of Agriculture practice, keeps the household and business aspects of farming together in a separate sector. The FRB, on the other hand, attempts an allocation of farm assets and liabilities between household and business use. It is noteworthy that the Working Group on Agricultural Wealth, which included several representatives of the Department, recommended a separation. (See app. II, pt. E, for the details of their recommendations on this point.) They advocated that farm subsectors be maintained in both the household and nonfinancial business sectors, however, so that for some analytical purposes a "farm sector" could be reconstituted.

With respect to nonfarm households, both NBER and the FRB have consumer activities of proprietors in the household sector, their business activities in the nonfinancial noncorporate business sector with income and investment flows between the two sectors. Where possible, they separate business assets and liabilities clearly identifiable as such, put most of the remainder in households, and split only a few predominantly joint-use items, such as demand deposits if the proprietor does not maintain a separate business account, using rough allocation criteria. A main difference between the two treatments is that the FRB puts mortgage debt on rented one- to four-family houses as liabilities of unincorporated nonfinancial business, while Goldsmith treats them as investments of the household rather than as a business activity primarily.

In general, since the household sector consists of almost 60 million units, most analysts have pointed to the desirability of providing some subsectors—at least on an occasional basis. Of particular relevance to the focus of interest of this study are proposals to sector according to size-classes of asset holdings. As is pointed out in appendix II, part C, all assets, tangible and financial, should be taken into account. Such a survey remains to be made.

Up to this time, financial items in balance sheets of households have been derived largely as residuals. This underscores the need for a comprehensive household survey, as proposed by the Working Group on Household Wealth, although checks against institutional records are still needed. The value of a household asset survey is enhanced when the asset data are obtained in conjunction with income and other characteristics of households with which they can be cross-classified. Even the perpetual inventory approach requires benchmark wealth data, particularly for the minor durables.

#### NONFINANCIAL BUSINESS

Both NBER and FRB split the nonfinancial business sector 3 ways—nonfarm corporations, noncorporate business, and farming which comprises both unincorporated enterprises and the few corporations that operate in the industry (and NBER includes farm households with the enterprises). The distinction between corporate and noncorporate enterprise based on legal form is not necessarily the most useful—other subsectors such as asset-size groups, or broad industry groups (discussed below) may be more so.

The treatment by Goldsmith of the corporate business sector is very similar to that of the FRB from which he drew most of his estimates for the postwar period. He includes real estate corporations, which had been classed in the finance sector in his earlier "Study of Saving," and excludes financial and agricultural corporations. The main difference with the FRB is that the Board consolidates corporate balance sheets, netting out most corporate assets with the major exception of trade credit. This virtually removes holding companies and closed-end investment companies from the FRB account, as well as several type-of-claim categories.

Since the basic data come from "Statistics of Income," in which corporate balance sheets are on a consolidated basis, there may be some overlap with the finance sector. Activities of pension, welfare, and profitsharing plans established by corporations are excluded from this sector to the extent they can be identified.

Noncorporate businesses, which fall predominantly in trade, construction, and the services, include mutual organizations, agricultural cooperatives except those in farm credit, and nonprofit organizations, such as trade associations serving business. When a nonprofit institutions sector is created, the latter should be classed as one of its subgroups. Otherwise, the noncorporate sector includes all private assets and liabilities that are not clearly corporate or household, except that a few commingled items are split with the latter sector as noted earlier. Next to the household sector, data for unincorporated businesses are the weakest.

From the standpoint of consistency, the farm sector should be broken down between corporate and noncorporate. For purposes of analysis, however, it would probably not make much difference in national estimates.

The chief recommendation of the Nonfarm Business Financial Claims Group with respect to sectoring is that data be collected for balance sheets by broad industry groupings. Flow of funds and balance sheet estimates by broad industry groups are needed to study typical purchase decisions, financing requirements and patterns, and liquidity needs, as background for more refined economic analysis and policy decisions particularly in the monetary field.

Due to the skewness of the distribution of financial assets—much more is held by financial companies than nonfinancial—a much broader grouping of industries is indicated in the latter sector. Further, in view of the industry-heterogeneity of multiestablishment nonfinancial companies, the broad groupings are generally much more meaningful than the narrower ones for general purpose analysis. Since the company is the financial decisionmaking unit, this must be the basic unit for industry combinations. Businesses would probably have to be permitted to consolidate their subsidiaries in their reports as is advantageous for tax purposes, although the financial claims group would prefer a standardized basis of consolidation at the 50-percent ownership level for domestic subsidiaries.

The recommended industry subsectoring is shown in exhibit C of appendix II, part O. In general, it comprises two-digit SIC industries, or combinations thereof. In a few cases outside finance, three- or four-digit industries or combination thereof are recommended. In all, 54 private nonfinancial industries are distinguished. These generally conform to industry groupings shown in the new Standard Enterprise Classification, but with less detail and some different combinations. In a few cases, however, groups are formed from portions of SIC industries, while the Standard Enterprise Classification combines only entire SIC industries. For some special purpose analyses greater detail may be desired than the group recommends. When greater detail is to be obtained, the group points out that companies should be classified "from left to right." (See app. II, pt. O.) After balance sheet data have been tabulated by industry, examination of the financial patterns may suggest some different arrangements, of course.

Subsectoring by company asset-size classes is another possibility the group advocates, but with class limits varying from one industry to another. This would throw light on the financial problems of small business and indicate differing patterns of concentration by industry. A sectoring by geographical regions is not generally advocated for purposes of balance sheet analyses, although in industries where single establishment firms prevail, as in agriculture, regional sectoring would have meaning.

#### FINANCIAL BUSINESS

The finance sector, as defined by both NBER and the FRB (with a few differences to be noted later) includes not only those institutions whose liabilities are regarded as money or near money (a possibly

narrow definition) but all institutions whose assets consists primarily of intangibles other than securities of subsidiaries and affiliates, and whose primary business is to act as intermediary between ultimate lenders and borrowers.<sup>5</sup> The groupings of subsectors used by the FRB are presented below, as a basis for further discussion.

Commercial banks and monetary authorities:

Commercial banks (United States).

Monetary authorities (consolidated account for the Federal Reserve System, ESF, and Treasury currency accounts).

Savings institutions:

Mutual savings banks.

Savings and loan associations.

Credit unions.

Insurance:

Life insurance.

Noninsured pension plans.

Other insurance companies.

Finance, n.e.c.:

Finance companies.

Security brokers and dealers.

Investment companies, open end.

Agencies of foreign banks.

Banks in U.S. possessions.

Other.

The NBER, in subsidiary tables, shows much the same groupings, except that fire and casualty companies are separated from "other insurance companies," and several of the "finance, n.e.c.," subgroups are merged. The NBER includes agricultural credit organizations in "finance, n.e.c.," whereas NBER also covers closed-end and face-amount investment companies in addition to open-end investment companies. Finally, NBER has a separate subsector for Government pension and insurance funds, which the FRB keeps in the Federal, and State and local government sectors. The FRB procedure is preferred by the Wealth Study working groups in both the financial claims and government areas.

The Working Group on Nonfarm Business Financial Claims would have data collected to make possible balance sheet estimates for still finer industrial subdivisions of the finance sector. (See app. II, pt. O, exhibit C.) In essence, relative to the present FRB subsectors, the group would break down the "finance companies" category into consumer finance companies, sales finance companies, mortgage companies, commercial finance companies, and miscellaneous. Like NBER, they would show "other investment companies" in addition to open-end management investment companies.

Finally, the working group would set up an additional sector for personal trusts. This accords with the view of the Household Group.

<sup>5</sup> See Goldsmith and Lipsey, *op. cit.*, p. 32. The definition is somewhat less inclusive than used by Goldsmith in his volume "Financial Intermediaries."

## GOVERNMENTS

The NBER and FRB treatments of the State and local governments are virtually the same. The sector contains all the general government and enterprise activity of States and the District of Columbia, cities, counties, special districts and authorities, and other local government units. These governments' own trust and sinking funds are included, but NBER had shifted the employee pension and retirement funds to the finance sector. The sector account is a combined statement of consolidated accounts for individual government units, although the consolidation is not complete with respect to debt and interest transactions between government units and their own trust and sinking funds.

The Federal Government sector includes all legally owned and/or controlled activities except for the monetary authorities. It covers all the departments, other agencies and trust funds (with exceptions noted), all corporations, credit agencies, and other enterprises, as well as Federal land banks and home loan banks even though these banks have passed into private ownership.

The Treasury monetary funds and the Federal Reserve System banks are shifted to the banking subsector of the finance sector. NBER, but not the FRB, separates out Federal pension funds. The FRB also does not treat OASI and unemployment trust fund assets as a Federal Government liability to the household sector. NBER has supplementary tables for the postal savings system, lending and credit agencies, and the Federal land banks. While excluded from the balance sheet, NBER also presents estimates of the value of military equipment and structures and Atomic Energy Commission assets, in order to make possible alternative estimates of total national assets including military.

It has been advocated by the working groups, and by others, that enterprise subsectors be set up, with a separate account for financial activities, and possibly other divisions.<sup>6</sup> Before this is done, however, it would be desirable if the statistical agencies in the national economic accounting field first reconsidered the boundaries between general government and Government enterprises, and possible divisions within these groupings, with particular respect to differing patterns and criteria of decisionmaking.

It would, of course, be possible to allocate the various governmental enterprises to the appropriate industry groupings of the business sector. But as Goldsmith has pointed out, this treatment "would run counter to the principle that assets and liabilities under the control of one decisionmaking unit should be kept together."<sup>7</sup> By the same argument, it is desirable that the monetary authorities be kept in a separate sector, as is done by the FRB, so that it can be recombined with the Federal Government sector for certain analytical purposes, as recommended by the Working Group on Federal Government **Wealth.**

It is also feasible to separate State governments from local governmental units. While some more or less arbitrary allocations would be

<sup>6</sup> See Stanley J. Sigel, "An Approach to the Integration of Income and Product and Flow of Funds National Accounting Systems," "The Flow of Funds Approach to Social Accounting," p. 25.

<sup>7</sup> Goldsmith and Lipsey, op. cit., p. 33.

required, size and diversity of the sector is such that a breakdown would be desirable. Considerable additional work is required, but progress in this direction has been made at the Office of Business Economics.

### TYPES OF FINANCIAL ASSETS AND LIABILITIES

The objectives of asset-type detail are to present totals for important types of instruments, minimize the size of "all others" categories, provide data on maturity classes necessary for liquidity analysis and allow for cross-classification of instruments by major economic sectors.

The importance of each instrument will, of course, vary from sector to sector. This raises the question of whether or not the detail obtained from each sector should vary as well. If the surveys conducted in each sector are designed to vary with respect to detail, it is obvious that a full matrix of claims, by type and by sector, cannot be constructed without interpolation. This procedure, however, is currently employed in filling some cells in the flow of funds matrix. It is clear that this will have to be done in a financial claims inventory as well, since to ask for information in the same detail in all sectors would involve costs too high in relation to the usefulness of the data.

An important aspect of the asset-type classes recommended by the Nonfarm Business Financial Claims Working Group is the emphasis on detail concerning the liquidity of the various instruments. For relevant asset and liability classes suggested line items serve to distinguish among claims with original maturities of 1 year or less, claims with longer maturities on which installments are due no more than 1 year from the balance sheet date, and claims due in more than 1 year.

#### BALANCE SHEET ASSET ITEMS

While each of the sector balance sheets will differ in detail, there are certain common elements which will appear in each. These are discussed next and major exceptions applicable to specific sectors are noted.

Cash should be separated from deposits wherever possible so that the total for deposits in financial institutions is clean. Deposits should be broken down into demand and time, with a further breakdown of the latter by financial institution where appropriate.

Securities of central governments should be shown separately from issues of governmental agencies. Separate totals should be obtained for holdings of State and local government securities. The liquidity classes referred to above should be used for all governmental issues whenever appropriate.

Notes and accounts receivable should be broken down into current and noncurrent. However, all credit advanced to consumers by non-financial business should be regarded as current, which is the approach now used.

Some detail, designed to meet the needs of each sector, should be obtained for other short-term securities such as commercial paper and bankers acceptances.

The "other current asset category" should be analyzed and major components isolated. Prepaid insurance premiums are known to be an important item which should be shown separately.

Noncurrent assets should be presented in substantially more detail than is done currently. Investment in nonconsolidated subsidiaries should be shown at book value in the balance sheet. In a memo entry, the respondent should be asked to state the parent company's equity in its subsidiaries, if this differs from the value at which the subsidiaries, are carried on the books.

Holdings of long-term securities, other than those of nonconsolidated subsidiaries, should be broken down further. Stocks, bonds, mortgages, and "all others" would be generally appropriate. Stocks could be divided further into those publicly traded and those for which there are no public markets. For the former category, market values could be obtained.

In addition to the data on investment in nonconsolidated subsidiaries and long-term securities, the noncurrent category should also include totals for deferred charges, goodwill, and the noncurrent receivables item mentioned above.

The remaining entry on the proposed balance sheet would be the plant and equipment account aggregate. The use of the total as a control has been discussed earlier in connection with tangibles assets.

#### LIABILITIES AND EQUITY

On the liability side, short-term borrowings from banks, governments, suppliers (broken down into credit from subsidiaries and affiliates, and others) finance companies, officers or stockholders, the open market, and others, are the general categories which are widely appropriate. Deposits, CCC loans, life insurance and consumer debt, for banks, farmers, insurance companies, and households, respectively, are examples of specialized accounts which must be provided for certain sectors.

Aside from installments due within 1 year on long-term debt, the remaining categories of current liabilities which will have widespread application are accrued Federal income taxes, dividends payable, and accrued payrolls.

The major categories of long-term liabilities are mortgages, term loans from banks, bonds, notes, and debentures, and other long-term loans. Mortgages should be broken down into those obtained from commercial banks, insurance companies, other financial institutions, and "all others." Subtotals for both publicly offered and privately placed bonds, notes, and debentures would be useful. Other long-term loans should be divided into those placed with financial institutions, officers and stockholders, and others.

The liabilities of uninsured pension funds and the corresponding assets of the beneficiaries deserve special mention. The potential liabilities of the social security system, for example, are considered by most to be in excess of the net asset value of the fund available for distribution. Thus, if householders were to include their potential claims as assets, the balance sheets of the fund would have to be adjusted to show a deficit, which would be a special liability item. Rather than do that, it seems appropriate to carry the claims of beneficiaries as an asset, the value of which does not exceed the net asset value of the fund. An alternative approach is to omit them entirely and net the holdings of the system against outstanding Federal debt.

This would increase the consistency in the householders' equity accounts and facilitate the analysis of household wealth by size-class.

Equity or net worth is the remaining balance sheet entry. For non-financial corporations, this should be divided into three categories: (1) Reserves not elsewhere reflected; (2) preferred stock; and (3) common stock, capital surplus, and earned surplus. For certain financial corporations more detail is appropriate.

The foregoing balance sheet items only can be viewed as tentative. Final determination of the categories must be delayed until the inventory year approaches because of the continual changes in the composition of claims. The recent rise in the importance of savings accounts at savings and loan institutions and Euro-dollars are familiar examples of the recent changes of this nature.

While there are many data available on financial claims, gaps still remain. The sectoring of many types of claims is done by methods which could be vastly improved if better data were available. For some series, benchmarks need updating. The recommendation that balance sheets be collected for both the beginning and end of the survey year will provide new benchmarks for flow of funds analysis.

#### LINKAGE BETWEEN INDUSTRY WEALTH AND SECTOR BALANCE SHEET APPROACHES

The divergence between wealth data on a producing-industry basis and on a decisionmaking sector basis arises chiefly with respect to the industry divisions of the nonfarm business sector. The government sectors are largely self-contained in both approaches, although the "monetary authorities" subsector would have to be recombined with Federal Government for some analytical purposes. Whereas the FRB keeps the public corporations and other enterprises within the Government sectors, it would seem desirable to class these by industry, so that for some purposes of production analysis they could be combined with the corresponding private industry groups. Perhaps the chief adjustment required for production analysis is to shift out the tangible assets leased to private industries, and to bring in those which are leased from private industry. Both government working groups recommended the estimation of wealth on both ownership and use basis, with separate enterprise subsectors.

The household sector has been viewed as a consuming sector (although basically it produces services and processes goods for its own use). Households are also listed as a service industry by the SIC to take account of the wages and salaries it pays, largely for domestic servants. It would hardly seem useful, however, to attempt to segregate that part of household wealth used by domestic servants. It would seem useful to estimate the value of the goods leased by households from private industry, as recommended by the Working Group on Household Wealth.

Aside from the leasing problem, virtually all of the tangible wealth owned in the government and household sectors, and carried on their balance sheets, are used in those sectors as defined. This is not true of almost half of the multiestablishment companies. Of the 91,000 multi-establishment firms covered in the 1958 economic censuses, 41,000 had establishments engaged in more than one of the 855 different Census

four-digit industries. This is not a large proportion of the 3.2 million firms covered, but they account for over 44 percent of all the employees reported, and probably a larger percent of assets.

As a result, IRS (and FTC-SEC) industry data in which whole companies are classified by industry do not match industry totals built up from Census establishment data. For certain purposes, it would be highly desirable to have a link between the company and establishment reports—showing a summary of Census data for the establishments of matched IRS corporations, classified by IRS industry, with separate data for all establishments of the matched corporations by four-digit industry. This information would, first of all, have an important use in revaluing book data on depreciable assets to current value. The reflators developed for Census industries could be appropriately weighted in order to obtain a composite reflator for the book value of depreciable assets by IRS industry. Beyond this, the distributions make it possible to allocate data gotten by IRS, but not by Census (primarily financial data), to Census industries. This would also make possible geographical distributions of IRS data by location of the productive activities. Whether or not distributions by industry of company financial data according to relationships between common items in the two bodies of data are sufficiently meaningful would have to be judged by the analyst in the light of his objectives.

Just such a link has been provided by the Census Bureau as part of the 1958 enterprise statistics program. In addition to summarizing Census data for matched corporations, classified by IRS industry and distributed by four-digit industry, the Bureau also indicated the portion of the corporate universe in each IRS industry that was successfully matched with Census records in terms of number of enterprises, business receipts, net income, inventories, and total assets. Of the 3,600 IRS tax transcripts falling within the industrial scope of the 1958 censuses, 3,300 were considered to be successfully matched to their equivalent organizations in 2,700 Census companies. Census companies are defined to include all subsidiary corporations under the ownership or control of a parent corporation, which is also the definition of Moody's and the FTC-SEC survey, while many complex companies report to IRS on a deconsolidated basis due to tax considerations.

Complete matching did not prove feasible in part because of these differences in definition of organizational units. Even when a company reported on a consolidated basis to IRS, there was no separate identification of subsidiaries engaged in foreign operations, which are statistically significant in some industries. Matching was also made difficult by differences in industry classifications assigned by each agency to the same corporation. Whereas Census is able to classify each corporation by four-digit industry codes of its constituent establishments, IRS coding of companies is based on their own description of principal business activity, supplemented by some outside evidence. Differences are significant at the three-digit level. Matching was also complicated by the fact that more than 40 percent of companies failed to report their social security employer identification numbers to IRS, although requested to do so on form 1120. The EI number is the central means of identification by Census; hence, it was necessary to determine the appropriate missing EI number associated with each IRS transcript. Mr. Murray D. Dessel of the Census Bureau believes

that with the complete computerization of the IRS income-tax-return processing system, many of the informational gaps referred to could disappear before the end of the decade.<sup>8</sup>

Actually, the 3,300 successfully matched corporations accounted for almost half of the \$575 billion corporate business receipts of all Census-covered industries. In addition, by indirect estimation techniques, it was possible to match implicitly the Census and IRS business receipts of all other single-industry corporations, thereby increasing the matched coverage to 89 percent.

It is evident that the 1958 Census-IRS match covered a large enough portion of the corporate universe involved to provide a useful link between establishment and company data. With the increased coverage likely by 1968, it would be most helpful for purposes of wealth and balance sheet estimation and analysis for the Census-IRS link project to be repeated regularly, at least quinquennially at the time of the economic censuses into which extensive asset data should be tied.

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<sup>8</sup> See Murray D. Dessel, "Statistical Problems in Measurement of Real Wealth in the Business Sector," 1963 "Proceedings of the Business and Economic Statistics Section," American Statistical Association, pp. 280-300. Much of this section was based on Mr. Dessel's paper.