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CHAPTER 10

REVIEW AND EVALUATION OF WEALTH DATA: THE COMMODITY-PRODUCING INDUSTRIES AND BUSINESS FINANCIAL CLAIMS

AGRICULTURE

The status of wealth data and estimates in the agricultural sector, or industry, is relatively good. Much information relating to tangible assets is collected in the quinquennial censuses of agriculture. The benchmark data are extended, and sometimes supplemented, by regular and occasional sample surveys conducted by the Department of Agriculture. Nevertheless, indirect data and estimating methods are required for some items, particularly in the financial area.

On the basis of the relatively extensive direct, or indirectly relevant, data, an annual balance sheet of agriculture is prepared by the Economic Research Service of the Department of Agriculture. Table 7 shows the balance sheet detail for the first year available, 1940, and the most recent year, 1963. The subsequent discussion is in terms of the major categories shown in the table.

It will be noted that by far the largest category of wealth in agriculture is real estate, for which the data are relatively good. They are also generally adequate for the next largest category, inventories of crops and livestock. Data are less satisfactory for machinery and equipment, and least adequate for the financial items.

THE AGRICULTURAL SECTOR

Agriculture comprises all "census farms" whose productive activities are primarily those defined as agricultural operations in the "Standard Industrial Classification Manual." (See app. II, pt. E.) Census farms were defined in the 1959 Census of Agriculture as those selling at least $250 worth of products (or only $50 worth if comprising 10 or more acres).

Farms are classified as commercial or noncommercial, the latter referring to institutional farms and to farms that have a primarily residential function for persons who have nonfarm jobs or are partially retired. The working group felt that for some analytical purposes, it would also be desirable to provide for several classes of commercial farms according to size as measured by receipts from marketing.

Ownership and use.—The census data, and the balance sheet estimates, relate to wealth used on farms. Alternative estimates on an ownership basis would be necessary to conform to the general wealth inventory objectives. This means identifying, estimating, and excluding the farm capital owned by nonfarm landlords and rented

to farm operators. No sectoral adjustment need be made for the landlord activities of those farm operators who rent land or other items to other farmers. The adjustment of wealth estimates to an ownership basis would accord with the treatment of gross farm income and product by the Commerce Department, which deducts gross rents paid to nonfarm landlords and transfers these to the real estate industry. In general, it was considered a desirable objective to coordinate the balance sheet of agriculture with the structure of the national economic accounts.

TABLE 7.—*Comparative balance sheet of agriculture, Jan. 1, 1940 and Jan. 1, 1963*

[In billions of dollars]

	1940	1963
Assets:		
Physical assets:		
Real estate [1]	33.6	142.8
Non-real-estate:		
Livestock	5.1	17.2
Machinery and motor vehicles [1]	3.1	19.5
Crops stored on and off farms [2]	2.7	9.2
Household furnishings and equipment	4.2	8.7
Financial assets:		
Deposits and currency [1]	3.2	9.2
U.S. savings bonds	.2	4.4
Investments in cooperatives	.8	4.8
Total [1 3]	52.9	215.8
Claims:		
Liabilities:		
Real estate debt	6.6	15.2
Non-real-estate debt:		
To principal institutions:		
Excluding loans held by and guaranteed by Commodity Credit Corporation	1.5	8.5
Loans held by and guaranteed by Commodity Credit Corporation [4]	.4	2.1
To others [5]	1.5	6.0
Total liabilities [3]	10.0	31.8
Proprietors' equities [1]	42.9	184.0
Total [1 3]	52.9	215.8

[1] Revised.
[2] Includes all crops held on farms for whatever purpose and crops held off farms as security for CCC loans.
[3] Total of rounded data.
[4] Although these are nonrecourse loans, they are included as liabilities, because borrowers must either pay them in cash or deliver the commodities on which they were based. The values of the underlying commodities are included among the assets; hence the loans must be included as liabilities to avoid overstating the amount of proprietors' equity.
[5] Includes individuals, merchants, dealers, and others.

Source: U.S. Department of Agriculture.

On the use basis, it should be noted that publicly owned grazing and range lands are not now included in agricultural wealth, but should be. On the other hand, some lands and other wealth on farms are used for nonfarm activities, such as hunting and fishing, or mineral extraction. In line with statistical usage, it is not necessary to try to separate the income and wealth associated with the incidental or secondary activities on the farm. If part of the wealth owned by farm operators were actually leased outside the sector, however, ad-

justments should be made, but in practice these presumably would be small and possibly negligible.

Farm households.—The item for farm real estate in the balance sheet includes farm residences as well as nonresidential structures and land; household furnishings and equipment are included with other tangible assets; financial assets and liabilities relate to farmers in their dual capacity as householders and farm operators. It is significant that the Working Group on Agricultural Wealth, which included several employees of the Department, felt that it was time to explore the possibilities of altering the traditional treatment of the farm sector; that it would aid analysis as well as conduce to consistent sectoring for the economy as a whole if farm household wealth were treated as part of the broad household sector and the balance sheet of agriculture were confined to the assets and liabilities of the operating business units of the industry.

AGRICULTURAL SERVICES

Data relating to the agricultural service industries are scanty. With the growing importance of this group of industries as agriculture becomes more specialized, better data on their current operations as well as on their assets are needed. The SIC classifications also need to be brought up to date.

FARM REAL ESTATE

The basic data on this principal category come from the periodic censuses of agriculture in which farm operators, by States and regions, answer the question "About how much would the land and buildings (on this farm) sell for?" Checks by the Department of Agriculture indicate that the reported values approximate market values, although some underenumeration occurs. The estimates are extended annually by sample, mail questionnaire surveys of (1) the regular crop reporters of the Department, and (2) a group of farm real estate dealers and others in contact with the local farm real estate markets.

Estimates of the separate value of farm buildings were last obtained in the 1940 census by State and extrapolated forward by crop reporter estimates of the average value per acre of improved as compared with unimproved land. In addition, estimates of farm buildings, separated between residence and service buildings, are obtained by a perpetual inventory technique. The residential component is deducted from total real estate in a series the Department presents on farm asssets used in production.

Like all perpetual inventory estimates, the series for farm buildings occasionally must be tied into benchmark data. The 1969 Census of Agriculture would seem to provide a good opportunity to obtain a new benchmark for the allocation of the total value of farm real estate between land and structures, and the latter among dwellings, service buildings, and other improvements. The feasibility of obtaining farmers' estimates for several major classes of land could be explored,

possibly prior to the census. A few additional questions, together with appropriate tabulations, would permit allocation of farm real estate by sector of ownership. Valuation of the publicly owned farm lands would probably have to be determined by the administering agency.

FARM MACHINERY AND EQUIPMENT

There has been no benchmark survey of the total value of all farm equipment since 1945. Estimates by major categories have been made by cumulating net capital outlays in constant prices, and then reflating to current values by price indexes compiled by the Statistical Reporting Service, Department of Agriculture. The estimates are adjusted by the periodic census data collected for automobiles and trucks on farms, tractors and major types of farm machinery. The National Survey of Farm Machinery, conducted in 1956 by the Agricultural Research Service, furnished a national benchmark for the minor types of farm machinery on farms. The vehicle but not the farm machinery data are available on a State basis.

It was evident to the working group that a new benchmark survey is necessary for the purposes of the wealth inventory, to provide State data as follows: (1) Counts and original cost (and if feasible, farmers' estimates of market value) of equipment, by type; (2) age of equipment; and (3) ownership and use of equipment if other than by the farm operator. Recurring surveys on a sample basis by region would help provide more accurate current estimates. The age estimates would assist in evaluating present USDA procedures for estimating depreciation and the related values of the stock of farm machinery and equipment. A pilot survey would be required to determine if farmers can provide reasonable estimates of the market value of used equipment, as compared with the "blue book" prices.

The stock of automobiles is now split between farm business and household use on a 60–40 basis. New data are needed with respect to this allocation.

INVENTORIES

Livestock.—Data from the censuses provide benchmark data on the number of each class of livestock. These numbers are extrapolated to January 1 of each year from USDA surveys of livestock and poultry producers. The numbers are multiplied by the average value per head on January 1 as reported by crop reporters. In general, State, and regional data are available.

There are a few gaps in the inventory position as reported. These omitted items could be covered on a one-time survey or estimated roughly by applying stock-to-receipt ratios for similar classes of animals to cash receipts for the uncovered items. The total error from an indirect estimating procedure for the several minor items would be very small.

Crops.—Values of crops stored on farms are gotten in essentially the same way as livestock values, except that farm prices as of the previous December 15 are applied. Crops under Commodity Credit Corporation loans are included in the Balance Sheet of Agriculture.

Both the crops and the offsetting liability entry should be excluded from the Balance Sheet.

Several items are not included in the periodic Statistical Reporting Service reports—notably forest, nursery, and greenhouse products on farms. Again, ratios to cash receipts could be applied. Also, growing crops on January 1 are not included in inventory values. Here, estimates could be made comparably with industrial in-process inventories based on the per acre outlays for major cost items times the acreage planted in crops on January 1.

FINANCIAL ASSETS AND LIABILITIES

Most of the USDA estimates of financial assets owned by farmers are based on indirect measures—such as the per capita deposits in cities under 15,000 population or purchases and estimated redemptions of savings bonds per capita in 600 agricultural counties. Estimated investments in farm cooperatives are of better quality, but exclusion of the net worth owned by nonfarmers is a problem. Some important types of financial assets are not included at all: corporation securities, savings in financial institutions other than commercial banks, and the cash value of life insurance.

Liability estimates are better based, particularly mortgage debt which is reported by the censuses and by lending agencies for intercensal years. Non-real-estate debt is also reported by banks and federally sponsored lenders. That held by nonreporting lenders has been extrapolated from data based on a 1946 sample survey of nearly 2,500 farmers; these estimates are subject to a wide margin of error in recent years, but results of the 1960 Sample Census of Agriculture will improve the estimates.

Clearly, a comprehensive survey of financial assets and liabilities of farmers is needed. A preliminary pilot survey would be desirable, particularly to determine if there is a feasible way to allocate financial assets and liabilities between business and household purposes, and between farm operators and nonfarm landlords, if the sectoring recommendations are to be implemented.

The survey should be large enough to permit and improve regional balance sheet estimates, such as are now made by the Federal Reserve Bank of Atlanta.

Nonfarm Business Financial Claims

Financial claims were studied for this sector as a whole, and will be treated prior to the sections on tangible wealth by the major nonfarm industry groups.

Despite the seemingly large volume of data on financial claims, there are several important areas in which benchmark or current data either are lacking or are of inadequate quality. Other gaps relate to certain sectors or to new types of wealth in sectors presently covered. These areas will become apparent in the following review of the data sources, which will include those for nonprofit organizations.

REVIEW OF EXISTING DATA

The most comprehensive data on business financial claims are found in the tabulations prepared annually by IRS from income tax forms. For the corporate sector, these are found in "Statistics of Income—Corporation Income Tax Returns," at the two-digit industry level, and in the IRS Source Book, at the three-digit level. These data are tabulated from the balance sheets which corporations must file. The balance sheet form contains the familiar asset, liability, and net worth accounts. These classes reflect, primarily, type of instrument, and do not give sufficient indication of the liquidity or the sector with which the transaction was made. Similar data to those of the IRS are found in Quarterly Financial Report for Manufacturing Corporations, prepared jointly and published quarterly by the FTC and SEC. These data are broken down by two-digit industry, with several further breakdowns into important subindustries.

While partnerships are not taxed as entities, they are required to file an information return which includes a balance sheet, calling for information similar to that for corporations. Less than half of the partnerships, usually the larger ones, file balance sheets. Sole proprietorships are not required to file balance sheets. IRS balance sheet tabulations for partnerships are published in "U.S. Business Tax Returns," along with similar data for corporations and income statement totals only for proprietorships.

In addition to the data tabulated for the business sector by IRS, the following special tabulations for particular industries are also available.

1. *Commercial banks.*—Various supervisory agencies collect detailed statistics on loans, investments, reserves, and other balance sheet accounts for all banks for call dates; less detailed data are collected for weekly reporting Federal Reserve member banks and are estimated by the Federal Reserve for all commercial banks.

2. *Mutual savings banks.*—Monthly estimates of broad balance sheet totals are published by the National Association of Mutual Savings Banks.

3. *Insurance companies.*—Individual companies file statements with State insurance commissions which are tabulated, together with other data for the country as a whole, by the Institute of Life Insurance (life companies) and Best & Co. (fire and casualty).

4. *Savings and loan associations.*—Estimates of major categories of wealth are prepared and published by the Federal Savings and Loan Insurance Corporation for both insured and noninsured institutions.

5. *Investment companies.*—Data for open-end companies are compiled by the Investment Company Institute from reports of members.

6. *Finance companies.*—The Federal Reserve collects annual balance sheet data for about 100 sales- and consumer-finance companies.

7. *Credit unions.*—Data for major balance sheet categories are available from the Department of Health, Education, and Welfare.

8. *Pension funds.*—The Department of Labor collects, but does not tabulate, data on every pension plan covering more than 25 employees;

the SEC publishes aggregate data based on its survey of noninsured corporate pension plans.

9. *Labor organizations.*—The Department of Labor publishes highly aggregated data on the wealth of labor unions and their pension and welfare funds.

10. *Hospitals.*—The American Hospital Association publishes annual data on the total assets and plant of nonprofit and proprietary hospitals.

11. *Charitable foundations.*—The Foundation Library Center compiles data periodically on the assets of charitable foundations; these data contain gaps in coverage and inconsistencies in valuation.

12. *Colleges.*—Data on the finances of colleges and their endowment funds are collected in a biennial survey conducted by the U.S. Office of Education.

GAPS IN EXISTING DATA

There are three major gaps in the coverage of the financial wealth of the business and nonprofit sectors. There are no balance sheet data for sole proprietorships. These data should be collected as part of the survey of household wealth. In many cases the assets and liabilities of proprietorships will be indistinguishable from those used in connection with the operations of the households. It is difficult to establish a conceptual basis for separating the two which can be readily implemented. When clearly identifiable, assets used in connection with the proprietorship operations should be shown separately. Some attempt should also be made to allocate commingled bank accounts between household and business uses. An alternative approach is to ask sole proprietorships to file balance sheets with their tax returns in the inventory year. In the absence of very explicit instructions as to how to distinguish between business and household items, this approach would not produce reliable and consistent data.

The second major gap is the lack of adequate data for many types of nonprofit organizations. Since data on tangibles are also inadequate for the nonprofit area (see ch. 11 for a summary of service industries), it is recommended that the entire area be surveyed for both types of wealth data, with major emphasis on tangibles. The survey should be tailored to suit each particular nonprofit area, since the quality and availability of data varies for each of them.

The third major gap has been created because less than half of the partnerships do not file balance sheets. This could be remedied if IRS made a special effort, in the year for which wealth estimates are to be prepared, to enforce the regulation requiring the filing of balance sheets by all partnerships.

THE COLLECTION OF NEEDED DATA

In each of the three areas in which there are gaps, as well as in the rest of the business sector, the existing data collection vehicles should be used to the greatest possible extent. Within this data collection framework, some standardization should be sought, although detail which is important in one sector may be unimportant or irrelevant in

another. Data should be collected in the form of complete balance sheets, with appropriate detail, discussed below, on assets, liabilities, and equity, and separate totals for land, depreciable and depletable assets and their associated valuation reserves, and inventories. The broad totals for tangibles should be collected to insure completeness of the balance sheet and could be useful as controls.

The appropriate reporting unit for financial data is the company. Hopefully, company totals for tangible assets collected in these balance sheets can be linked to the breakdowns of tangibles which can be distributed by industry on an establishment basis.

In the survey year, both beginning- and end-of-year balance sheet data would permit the establishment of benchmarks for flows as well as stocks.

REQUIRED DETAIL ON INTANGIBLES

Like that for tangible assets, detail on intangibles should provide for breakdowns by industry and by asset type—type of instrument for intangibles. Geographical detail, however, is inappropriate for the financial assets of the business sector because of the importance attached to the holdings of nationwide companies. Two additional types of detail are relevant for financial wealth data. The first relates to the liquidity of the claim. The second would permit the classification of holdings of assets and debts by broad sectors of the economy.

Industry classification of holders should be constructed with respect to major holders of intangibles, while still relating to the more detailed industry breaks recommended for tangibles. In general, the detail required for financial claims can be cast along the broader industry classes provided for in the SIC. In some cases, however, new classes need to be established by recombining certain low-order SIC subclasses. A specific class should be established for all companies engaged in leasing to more than one industry and made part of the services industries major group. Classification should begin at the highest level of aggregation and finer detail should be obtained by breaking out only the companies which clearly can be included in the narrower classes. This is a preferable alternative to attempting first to classify each company in fine detail, which may be inappropriate for multiindustry firms, and then aggregating. Specific recommendations for sectoring appear in exhibit C of appendix II, part O, "Report of the Working Group on Nonfarm Business Financial Claims." The working group recognizes that these classifications may require some modification when the wealth inventory is conducted.

Detail by type of instrument should be tailored to reflect adequately the type of financial claims important to each major industry. To achieve this, different balance sheet stubs have been developed for nonfinancial corporations and partnerships, nonbank financial institutions, commercial and mutual savings banks, life insurance carriers, and fire and casualty insurance companies. These stubs are presented in exhibits D through H of appendix II, part O, together with a coding to distinguish new data recommended for collection from those currently available.

These stubs also indicate the desired detail on liquidity and the sectors party to the claim. The detail on liquidity is designed to provide totals for each of three asset maturity classes—original maturity

of 1 year or less, long-term debt or installments due in 1 year or less, and long-term debt due in more than 1 year.

The suggested stubs for financial claims provide for cross-classification of claims by sector. The main sectors for which this detail is suggested are banks, nonbank financial institutions, nonfinancial corporations, unincorporated business, individuals, central governments and agencies, and State, Provincial and local governments and agencies. The detail by type of claim varies by sector.

VALUATION

Book-value data, gross of valuation reserves, should be collected for all balance sheet items. The valuation method should be clearly indicated in a footnote. The collection of book data, consistently valued and gross of valuation reserves, is necessary. It would permit a comparison of assets and liabilities from which an estimate of float could be obtained.

Valuation reserves should be collected in an additional column for those assets which are publicly traded. While the working group was of mixed sentiment on whether equity should be valued at market, it would seem useful to obtain such estimates for those firms with publicly traded securities.

BASIS OF CONSOLIDATION—DOMESTIC AND FOREIGN SUBSIDIARIES

Since the company is to be the basic reporting unit for financial data, the varying degrees of balance sheet consolidation currently employed create a problem. While a standardized basis of consolidation is desirable, it probably is not a feasible goal.

However, since data on net foreign claims are to be obtained separately, double counting could result if foreign claims and debts were not deleted from the balance sheets. Accordingly, each balance sheet should have six columns in addition to the three already discussed. The nine columns for which both beginning- and end-of-year totals should be obtained are:

(1) Value carried on books.
(2) Current market value (publicly traded securities only).
(3) Valuation reserves.
Foreign claims included (in dollars):
Of foreign subsidiaries and affiliates.
(4) Book value.
(5) Current market value.
(6) Valuation reserves.
With other foreigners.
(7) Book value.
(8) Current market value.
(9) Valuation reserves.

CONSTRUCTION

Available tangible wealth data for the contract construction industry are inadequate. Review of the Internal Revenue Service program, which is the only program collecting data on the tangible assets of the construction industry, shows that it cannot meet all the data requirements. Aside from the drawback inherent in any company data, which

often refer to more than one industrial activity, the information reported to IRS does not provide geographic detail—except that inferred from the address of the taxpayer—nor detail on equipment.

Contract construction is only one phase of construction activity. Two important groups engaged primarily in construction are classified within the real estate industry. They are the operative builders, who build and merchandise their product, and the investment builders who build for their own account. Construction is also a secondary activity of most other economic sectors. The data-collection programs for many of these sectors will have to be modified to get measures of wealth relating to their construction activities—for example, in connection with the installation of building materials by manufacturers or by retail sales firm; or the force-account construction of business, government, and even, households. Measures of the wealth of these industries should not be grouped with other aggregates, since the construction analyst may wish to combine them with the contract construction sector. Among these construction-related industries are the following (identified by SIC title and code):

Prefabricated wooden buildings and structural members (2433).
Subdividers and developers (6551).
Operative builders (6561).
Engineering and architectural services (8911).

The collection of data from the contract construction industry could best be done through a census of construction. Such a census, of course, would serve also to collect needed nonwealth statistics. The turnover of construction firms is quite high, and the identification of business units is difficult. Not only are business failures more frequent in this sector than in any other, but its firms typically have periods of dormancy and revival.

In collecting data, considerable attention must be given to the rental of equipment by the construction industry since an unknown but probably significant proportion of its assets are in this category. Two related problems arise in the use of certain rental payments (reported by contractors) and rental receipts (reported by lessors) as the basis for allocating the value of equipment from the owning to the using economic sector. In the first place, since "leasing" can be a tax-saving technique by which equipment is purchased, the reporting of associated payments and receipts as rentals complicates the allocation procedure. Secondly, contractors may tend to report such equipment as owned when, in fact, title has not passed.

The sorts of data needed as a basis for tangible wealth estimates are much the same as reviewed in the other sector summaries, and detailed in appendix II, part G.

Manufacturing

The availability of general economic data on the manufacturing sector has grown commensurately with the importance of the sector to the national economy. Responsibility and credit for the improvement and expansion of output and consumption data on manufactures is due in large measure to the Census Bureau, which has established the framework necessary for the collection of data required to prepare wealth estimates. Collection of data on tangible assets of manufacturing establishments was resumed by the Census Bureau on a limited

basis in 1957 and continued in the 1963 census, during which large company aggregates were also obtained after a hiatus of almost 40 years.

In the interim, the IRS and, since 1947, the FTC–SEC have been the source of balance sheet data for the sector. Summary information on land, depreciable and depletable assets, and depreciation and depletion reserves and yearly additions to them, are available annually in "Statistics of Income" on a two-digit industry basis, and in the IRS Source Book, on a three-digit basis. The "Quarterly Financial Report for Manufacturing Corporations" prepared jointly by the FTC and SEC, contains data on roughly the same asset-type aggregates in two-digit detail, supplemented by several further industry breakdowns. The data sources for both FTC–SEC and IRS are samples drawn from the universe of manufacturing firms filing income tax returns (the IRS sample is much larger). FTC–SEC send their own questionnaire to the firms in their sample. Industry classification is by company, based on primary activity.

In 1957, the Census Bureau added supplemental inquiries on assets and rental payments to the annual survey of manufactures. Fifty thousand of the three hundred thousand manufacturing establishments, including all large ones, were asked to report the gross book value of their depreciable and depletable assets as of the end of 1957, accumulated depreciation as of the end of 1956, depreciation and depletion expense during 1957, and total rents paid for buildings and equipment in 1957. These data were tabulated and universe estimates were published at the four-digit SIC level for the United States and at the two-digit level for the individual States.

The impact of the resistance of respondents to the collection of wealth information at the establishment level following adoption of group-depreciation guidelines by IRS in 1962 was somewhat mitigated by an earlier decision of the Census Bureau to collect such asset and rental information for all large companies in connection with its enterprise statistics program. Only the gross book value of depreciable and depletable assets and rents for buildings and machines will be obtained from the 1963 annual survey of establishments. However, through its company summary form, Census will collect from all large manufacturing, minerals, and business firms, data on gross and net book value at the beginning and end of 1963, together with the elements of change in these company totals between the two dates—capital expenditures for plant and equipment, other acquisitions (due to mergers, etc.), depreciation and depletion charges, and other deductions such as scrappage. An aggregate figure for the book value of all other domestic assets and of foreign assets will also be obtained. These large companies also will report rental payments for buildings and structures, and for machinery and equipment. These company data will be collected from less than 3 percent of all enterprises (but they account for over two-thirds of the employment of manufacturing firms) and will be published as part of "Enterprise Statistics."

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WEALTH ESTIMATES

Various estimates of manufacturing wealth have been made. The characteristics of these estimates are summarized in table I of appendix II, part H, the report of the Working Group on Manufacturing Wealth. The estimates are based either on enumerations of book-value data primarily from the sources just described, or on the perpetual inventory method using plant and equipment investment series. For purposes of comparison, both the Census and IRS wealth data and perpetual inventory estimates of Patrick Huntley of BDSA are found in table 8. The data, in two-digit detail, are presented gross and net of depreciation for 1957 in historical-cost dollars. These three series were selected since they are fairly comparable in many respects except for the method of estimation—enumeration versus perpetual inventory and the basis of classification—company versus establishment. These differences are important to wealth estimates.

TABLE 8.—*Fixed asset data and estimates for the U.S. manufacturing sector, SIC major groups, 1957* [1]

[Millions of historical-cost dollars]

SIC major group	Gross stocks			Net stocks		
	Census (1)	IRS (2)	Huntley (3)	Census (4)	IRS (5)	Huntley (6)
20	$11,731	$9,783	$12,430	$5,723	$5,428	$6,804
21	400	456	415	217	257	236
22	4,984	4,790	5,030	2,605	2,622	2,673
23	1,006	643	976	444	313	526
24	2,917	2,519	2,956	1,332	1,636	1,653
25	1,041	717	930	535	402	563
26	7,165	6,798	6,915	4,113	4,185	4,312
27	3,698	3,098	3,569	1,914	1,778	2,164
28	13,105	14,528	11,818	6,475	7,872	7,436
29	7,936	28,567	7,673	3,808	14,721	5,273
30	1,782	2,066	2,167	781	988	1,320
31	467	412	471	203	206	242
32	5,153	5,329	5,294	2,700	3,077	3,416
33	17,329	20,578	18,110	8,069	10,249	12,044
34	5,713	4,859	5,663	2,946	2,810	3,372
35	9,421	8,732	7,781	4,440	4,733	5,072
36	4,089	4,051	4,864	2,098	2,459	3,072
37	9,303	12,133	9,562	4,716	6,862	6,388
38	1,263	1,661	1,250	744	903	809
39	1,987	1,732	1,649	1,026	908	1,017
Total	110,489	133,452	[2] 109,359	54,899	72,409	68,236

[1] Census and IRS totals include both depreciable and depletable assets while those of Patrick Huntley are for depreciable assets only; based on IRS data for 1957, depletable assets were 4.7 percent of the gross book value and 5.2 percent of the net book value. The estimates vary as to exact date in 1957.

[2] A totaj of $115,481,000 (historical cost) was obtained by Jaszi, Wasson, and Grose in connection with their tabulations using the perpetual inventory method. Some of these tabulations appear in the Survey of Current Business, November 1962.

Source: Shown below in connection with the explanation of each stock estimate.

EXPLANATION OF DATA

Column 1: "Supplementary Employee Costs, Cost of Maintenance and Repair, Insurance, Rent, Taxes, and Depreciation and Book Value of Depreciable Assets: 1957," 1958 Census of Manufactures. These data are on an establishment basis. SIC 39 includes SIC 19, ordnance.

Column 2: "Statistics of Income, 1957–58." These data are the sum of the depreciable and depletable asset totals shown for corporations filing returns with net income. The SIC classes comprise industries of companies filing such returns.

Column 3: "Capital Assets: The Wellspring for Economic Growth" by Patrick R. Huntley, BDSA, Department of Commerce. The data are perpetual inventory estimates of depreciable stocks only, based on Census plant and equipment expenditures series on an establishment basis.

Column 4: Source same as column 1. Derived by subtracting depreciation and depletion reserves at the end of 1956 and depreciation and depletion expenses during 1957 from gross book value of depreciable and depletable assets at the end of 1957.

Column 5: Source same as column 2. Derived by subtracting depreciation and depletion reserves from gross book value of depreciable and depletable assets. The total, derived from the returns of corporations with positive net income, is 14 percent less than the total shown for all active manufacturing corporations at that time.

Column 6: Same as column 3.

The differences between Census and IRS data arises in large part because the establishment, the Census reporting unit, is not always coterminous with the company.

Major group 29, petroleum and coal products, is an extreme example of this divergence; many of the tangibles of petroleum companies are at nonmanufacturing establishments. For manufacturing as a whole, both IRS gross and net stocks exceed those of Census. Huntley's perpetual inventory calculations of gross stock, on an establishment basis, correspond closely to those of Census; the two aggregates are within 1 percent of each other. However, his net stock totals exceed those of Census by 24 percent; also, they are greater for each two-digit industry. The excess indicates a difference between the depreciation rates actually used by the firm and those assumed by Huntley. That depreciation rate assumptions are crucial can be seen from the perpetual inventory net stock estimates of Jaszi, Wasson and Grose (Survey of Current Business, November 1962). For 1957 these range from $55 billion constant 1954 dollars based on assumed lives 20 percent shorter than those prescribed in Bulletin F lives and using declining balance depreciation, to $83 billion constant 1954 dollars, based on Bulletin F lives and straight line depreciation.

GROSS BOOK VALUE DATA

The census of manufacturers and the sample annual survey of manufacturers are well suited to the collection of gross book value data on an establishment basis. The design of the census and the annual survey both permit the tabulation of data by four-digit industry with appropriate geographical detail down through standard metropolitan statistical areas. These gross book-value data should be broken down by asset type for the broad categories of land, structures, improvements other than structures, and producers durable goods. Further breakdowns, at least equivalent to those asset-type classes established in the new IRS guidelines, should be obtained. Beyond this, conferences with industry representatives and feasibility tests should be undertaken to determine what specific asset-type detail is reportable for purposes of revaluation as well as intrinsic interest. The more detailed breaks should be based on subsamples. For each of the breakdowns finally decided upon, the sample should be designed to provide gross book-value data arrayed by groups of years of acquisition.

Procedures patterned after those outlined above would provide coverage of the manufacturing establishments in appropriate industry, geographical, and asset-type detail on an ownership basis. Two gaps would still remain—leased assets and the tangibles of central offices and auxiliaries. Estimates of leased assets would require that the data currently collected on rental payments be expanded on a sample basis, to obtain detail on asset-type classes, similar to that obtained for owned

assets. Additional questions on rents received and the value of assets outleased in the same detail would have to be added to the survey in selected industries. These data would enable the estimation of the value of leased assets, by industry and by type. Geographical detail may prove impossible to obtain for producers durable goods, but should be collected for structures if possible.

For central offices and auxiliaries, gross book-value data should be obtained on a basis consistent in asset-type and geographical detail with those of establishments. Industry detail should provide a maximum breakdown although it is recognized that four-digit industry breaks are often inappropriate for the central offices and auxiliaries of multi-industry firms. Nevertheless, it is possible, by means of the available "Enterprise Statistics" company-establishment, four-digit cross-tabulation to allocate these overhead tangibles among the industries-of-*use* in which the establishments they serve are classified.

REVALUATION

The revaluation of reproducible fixed assets to a gross replacement cost basis calls for an age distribution of gross book values by asset type, and for appropriate price indexes. The collection of the former has been discussed above. A discussion of price indexes appears in chapter 7. Estimates of depreciation are needed to arrive at net stock totals. A detailed study to determine the useful lives of structure and equipment classes is important and overdue. This might be done in conjunction with the sample surveys on fixed assets by type, by age. The findings of the studies conducted by the Treasury and IRS should not be overlooked in the initial phases of such a depreciation study. It might be necessary to use their results, if the larger study recommended here is not completed at the time of the first wealth inventory.

While these procedures will yield depreciated replacement cost estimates for fixed reproducible assets, they should be checked against market value estimates made by the owners of the tangibles. These estimates, collected on a sample basis for various types of assets, could prove to be a useful check on the depreciated replacement cost estimates which, under certain assumptions, are their proxies.

LAND

IRS is the most comprehensive source of gross book-value data on land. However, these data must be augmented by a considerable amount of supplementary information to be useful. As currently reported, the gross book-value data are not broken down by type; subtotals for site, productive and vacant land would be useful.

To value land through the same approach as that described above for use in connection with fixed reproducible assets might require the collection of more land price data than can reasonably be obtained. An alternative which should be explored is to collect acreages broken down by major type, and value these at estimated current market prices.

INVENTORIES

Inventories are fairly well covered in the census of manufacturers. Perhaps some additional detail, especially for raw materials inventories, would be desirable.

The major problem presented by current inventory data is the lack of uniformity in valuation. The census of manufacturers' totals are a mixture of current market and FIFO- or LIFO-based cost. The departure of cost from market value is particularly acute when the LIFO method is used.

The data requirements for the revaluation of all inventories to current market need further study. Previous attempts to obtain establishment inventory data by type of valuation have been discouraging. Whatever needs emerge may best be filled, therefore, by the collection of data on a small-sample basis.

Nonagricultural Natural Resources

The scope of the working group's report extends to all natural resources except agricultural and site land. Agricultural land is included in the scope of the Agricultural Working Group; site land, in the various other sector working groups on an ownership basis. The various natural resources were divided into five major types, each of which was considered by a subgroup of the overall working group. The five major types were minerals, timber, water, fish and wildlife, and public lands.

Review of existing data

For each of the major classes of natural resources, there usually is a separate source of data. There are three sources of data on the mineral industries. IRS collects balance sheets from companies in the industry. Depletable assets and depletion reserves, and depreciable assets and depreciation reserves are shown separately at book value. The depreciable assets account does not provide a basis for the necessary distinction between tangibles used in mining and those used further to refine and manufacture mineral products. In addition, IRS classification on a company basis, by primary activity, often results in the inclusion of mining assets of primarily manufacturing companies in the manufacturing sector. The various censuses of mineral industries do not present this latter problem, since they are conducted on an establishment basis. However, no direct data on wealth are collected in these censuses. Only capital expenditures data are obtained, broken down into development and exploration, preparation plants constructed, other construction, new machinery and equipment, and used plant and equipment. A separate classification gives the value of purchased machinery installed. The Federal Government estimates the present-day values of its mineral holdings, based on a discounting of future returns.

Physical data on the reserves of mineral resources are available from several sources. The most comprehensive of these are the "Minerals Yearbook" and periodic editions of "Mineral Facts and Problems" published by the Bureau of Mines, based largely on data collected by the Geological Survey. Trade associations, such as the American Petroleum Institute, publish data relating to areas of their concern.

Data on timber resources in 1952 were published in "Timber Resources for America's Future," prepared by the Forest Service, Department of Agriculture. These are physical-unit data, broken down

by State, type and size of tree, rates of growth, etc., and by ownership—public or private—and use—commercial or noncommercial.

No adequate data, physical quantities or dollar value, are available for fish and wildlife. Data on the cost of boats used by commercial fisheries will be available for 1964 from a special Census Bureau survey. Fragmentary data exist on the fees paid for access to game fishing and wildlife preserves.

"The Federal Real and Personal Property Inventory Report" provides data on the acreage, State in which located, major use, and present-day value, for public domain and donated land, and cost for purchased land. Data on the number and acreage of State parks and municipal parks (for cities of 100,000 population and over) were compiled by Marion Clawson in 1958 in "Statistics on Outdoor Recreation" published by Resources for the Future, Inc.; annual data are published by the U.S. Bureau of Outdoor Recreation and the National Recreation Association. No comprehensive data on other State and local government lands are centrally available, although the various governments probably have some records which contain such information.

Physical data on water, and cost figures for capital expenditures related to water resources, are available for some, but not all locations, and in varying detail.

DATA OBJECTIVES AND METHODS FOR VALUING NATURAL RESOURCE WEALTH

The bulk of the data on natural resources are physical measures of supply. Filling the gaps in such data identified above should be the first step in the wealth inventory. Book-value data, where available, are totally unrelated to current market, and a suitable basis for adjusting them to reflect current value does not exist. Book-value data on the tangible assets employed to transform the resources to usable form can be revalued to depreciated replacement cost using the same methods as those recommended for other tangibles. The value of some tangibles, however, which are inseparably bound to the resource they are used to exploit, such as mine shafts, cannot be valued separately. In these cases, the best approach is to ask respondents for their estimates of the value of the whole property or to estimate this value using sales prices of similar properties as a guide. These values could be updated through series on capital outlays and depreciation and depletion allowances. This approach is recommended mainly for mineral resources and forest acres containing growing timber, the value of which is not separable from that of the land. The data required from respondents could be obtained through the mineral industries censuses and the Forest Service survey.

In the case of mature timber, the Forest Service's inventory multiplied by current market prices would produce current-day value estimates.

For public lands, regional appraisal boards could establish current-day values. To do this they would need a full physical inventory of the land, currently lacking for much land owned by State and local governments. These appraisal boards should make every effort to value land only, apart from its other aspects, such as mineral content or timber. Sales of comparable tracts and revenues charged for the

use of these lands would enter into the valuation procedure, guidelines for which should be determined centrally to achieve consistency.

The method recommended for valuing fish, other than game fish, is to capitalize the excess of actual capital investment in the industry over the minimum amount of capital needed to obtain the same catch if all capital were fully utilized. This implies the existence of excess capacity in the industry due to the free nature of the resource. Data on both the actual and minimum-needed investment will have to be estimated. An inventory of game fish and wildlife, together with value estimates based on access charges, would provide a picture of this sector.

Further study and research are required and suggested to develop an approach to valuing water. Water values would be omitted from any near-term inventory. Capital investment data on water-related tangibles need to be more comprehensive than they currently are, but the cost of filling the gaps is not deemed to be high. The same is true of data measuing the physical attributes of water. A complete listing of data requirements is found in the report of the Water Resources Subgroup.