Volume Title: Measuring the Nation's Wealth

Volume Author/Editor: Wealth Inventory Planning Study

Volume Publisher: U.S. Government Printing Office

Volume ISBN: 0-870-14185-6

Volume URL: http://www.nber.org/books/unkn64-3

Publication Date: 1964

Chapter Title: Appendix II-C: Households

Chapter Author: F. Thomas Juster

Chapter URL: http://www.nber.org/chapters/c5211

Chapter pages in book: (p. 441 - 469)

APPENDIX II: PART C

REPORT OF THE WORKING GROUP ON HOUSEHOLD WEALTH

Prepared by F. Thomas Juster

MEMBERSHIP OF THE WORKING GROUP ON HOUSEHOLD WEALTH

James C. Byrnes, Population Division, Bureau of the Census.
Charles S. Friedman, Office of Business Economics, Department of Commerce.
F. Thomas Juster (secretary), National Bureau of Economic Research.
Helen H. Lamale, Division of Living Condition Studies, Bureau of Labor Statistics.
Robert J. Lampman, Council of Economic Advisers and University of Wisconsin.
Charles A. Lininger, Survey Research Center, University of Michigan.
E. Scott Maynes, Department of Economics, University of Minnesota.
Milton Moss, Office of Statistical Standards, Budget Bureau.
Jean L. Pennock, Agricultural Research Service, Department of Agriculture.
Dorothy Projector, Consumer Credit and Finance Section, Federal Reserve.
Gertrude Weiss, economic consultant, Somerset, Md.
Arthur F. Young, Housing Division, Bureau of the Census.

PREFACE

The Working Group on Household Wealth met on three occasions: August 2, September 26, and December 6, 1963. The first meeting was given to discussion of existing data and general examination of the problem, the second to detailed discussion of procedures for obtaining data, and the third to discussion of a tentative and incomplete draft, examination of priorities, and detailed discussion of specific survey procedures. Several members of the group, at the request of the chairman, submitted proposals for dealing with certain areas of household wealth; in addition, many of the recommendations in the final report originated with members of the working group.

The report is, of course, the responsibility of the secretary. I have attempted to reflect the consensus of the group, although no member should be held responsible for all of the views and recommendations contained in the report. Individual members of the working group have been free to write supplementary statements, clarifying their individual views or dissenting from recommendations, if they so desire.

F. THOMAS JUSTER.

HOUSEHOLDS

I. Uses of Wealth Estimates

Analysis of expenditure data strongly suggests that an increasing share of tangible wealth in the United States consists of assets that yield consumption services directly rather than indirectly. Such assets (houses, automobiles, household appliances, etc.), are typically owned by households rather than by business firms. Partly for this reason, household tangible assets, except for housing and land, have been largely ignored as a source of national wealth and of real income. Yet the evidence suggests that by the 1950's expenditures by consumers on housing and durable goods exceeded expenditures by business firms on capital goods, continuing a trend that has been observable since the early 1900's.

Further, the variability of household expenditures on tangible assets is now larger, in absolute terms, than the variability in business expenditures on such assets. The evidence thus suggests that not only do we need to know a good deal more about tangible asset formation in the household sector, but we need to know a good deal more than we do about the way in which household behavior is related to the stock of household tangible assets.

A comprehensive census of household tangible wealth would serve a number of analytical and public policy purposes.

1. An accurate estimate of household wealth in the form of tangible assets is of interest per se, since it provides the benchmark against which future trends can be measured.

2. A household wealth inventory would facilitate our measurement of output itself, since a proper measure of output in a country like the United States surely involves the use value of the stock of household assets rather than gross outlays on newly produced assets.

3. Estimates of the distribution of national wealth, now based almost entirely on financial (intangible) wealth would be greatly improved; the distribution of tangible wealth among households is probably quite different from the distribution of financial wealth.

4. By providing accurate data on stocks of goods in the hands of consumers, a wealth inventory would permit economists concerned with the analysis of consumer saving and spending behavior to incorporate the influence of stocks. Much recent work in the field of consumption theory consists precisely in the attempt to integrate stocks into a behavior model that focuses on the explanation of expenditures.

5. A wealth inventory could be used as a vehicle to improve our information about depreciation rates on household tangible assets; hence, it could facilitate better estimates of household wealth for past periods from the combination of known expenditure data and more adequate depreciation estimates.

6. By permitting a more accurate estimate of total tangible wealth, a household wealth inventory would contribute to a better understanding of long-term movements in the capital-output ratio.

II. Review of Existing Data

TANGIBLE WEALTH

A comprehensive survey of household tangible wealth has never been taken in the United States. There have been several attempts to reconstruct wealth estimates on the basis of deflating, depreciating, and then cumulating data on expenditures.[1] The most comprehensive of these studies are those reported by Goldsmith, which provide estimates for the most important categories of household tangible wealth for each year over the period 1897 to 1958. The Goldsmith figures are based on application of the perpetual inventory method to the durable goods expenditure categories in the national income accounts. Hence, they are not estimates of total household wealth as we would define it, although by far the most important components are included. For example, the Goldsmith figures do not include wealth in the form of personal clothing, nor do they include do-it-yourself home improvements, semidurable home furnishings, or inventories of perishables.

More important, the Goldsmith estimates are necessarily aggregates for the entire household sector, since they have been derived from aggregate expenditure data. No information is available about the distribution of tangible wealth among households. Further, the household sector itself is a fairly crude residual; for example, the amount of furniture owned by households as opposed to business firms or other sectors is based on an arbitrary and quite dated breakdown.

Finally, wealth estimates computed in this fashion can only be as good as the depreciation data on which they are based. The procedure is to apply an estimated depreciation rate to relatively broad categories of durables—furniture, household appliances, etc. The depreciation rates are presumably the best and most reasonable ones that could have been used, but they contain an unknown margin of error. In our view, household wealth estimates based on a combination of expenditure and depreciation data should be regarded as a spur for the improvement of our information about household tangible wealth rather than as a source of reliable information that needs only a bit of refinement. In sum, the Goldsmith estimates clearly indicate that household tangible wealth is a large and growing component of total tangible wealth. We need to know much more about it than we do now.

Aside from the perpetual inventory estimates, there exist fairly reliable survey-based estimates for two of the major components of household wealth, and a few scattered survey-based estimates for other commodities. Census data on the housing stock appear to be quite reliable in most respects except that they do not distinguish clearly between the household (direct consumption) and business use of residential structures. Estimates of the stock of passenger cars have been prepared by the Office of Business Economics based on the following: (*a*) Sales of domestic cars and registrations of imported cars; (*b*) sur-

[1] Reavis Cox and more recently, R. W. Goldsmith.

vival rates derived from R. L. Polk data, with adjustments; (*c*) new-car prices, adjusted for equipment, transportation costs, and discounts; and (*d*) used-car prices based on market and alternatively on assumed straight-line and various declining balance depreciation rates. New tabulations of 1960 census data provided the basis for a distribution of the passenger car stock among households by various demographic and socioeconomic characteristics. In addition to these Federal Government statistics on owner-occupied housing and automobiles, the survey of consumer finances (conducted by the Survey Research Center at the University of Michigan) has obtained survey data on the value of housing and automobiles; the most recent such data were obtained in 1962.

A limited amount of wealth information has been obtained for household durable goods and appliances. For example, both the Survey Research Center (University of Michigan) and the Census Bureau have obtained ownership data for washing machines, refrigerators, ranges, dishwashers, clothes dryers, television sets, hi-fidelity equipment, and room air conditioners. The consumer expenditure surveys conducted by the Bureau of Labor Statistics have also obtained some ownership data on house furnishings and equipment. In general, however, these data do not constitute adequate wealth estimates because systematic information is not available on prices paid or age on a few household durables. Plans are currently underway at the OBE to obtain information similar to that already obtained for automobiles.

For other categories of household tangible wealth, some scattered survey data have been obtained. For example, the Department of Agriculture has taken surveys of clothing stocks and furniture stocks in local areas, obtaining detailed data on ownership but limited information on prices paid and age of item.

Finally, a national but nonrandom sample of 20,000 member subscribers to Consumers Union of the United States was surveyed in 1958–60 with respect to ownership of a long list of household appliances, automobiles, housing, and furniture. Prices paid, age, and condition of stock were requested on this survey, which was conducted entirely by mail. The Consumers Union data have not yet been fully processed. Because of the nonrandom nature of the sample the main use of these data would presumably be in testing behavior relationships rather than in estimating either aggregates or distributions.

The available survey data on household tangible wealth can only be described as seriously inadequate except for houses and automobiles. While it is true that these are the two most important single components of household wealth, other household tangible assets are a large part of the total.

In 1958, for example, the Goldsmith estimates indicated that the stock of household durables was larger than the stock of automobiles, and the figures for household durables exclude at least clothing and semidurable home furnishings.

DEFICIENCIES OF EXISTING SURVEY DATA ON TANGIBLES

Available survey information on household tangible wealth has a number of shortcomings that can be remedied if sufficient resources are available.

(1) None of the available survey data cover more than a small number of major items of household tangible wealth; most surveys are limited to automobiles, major appliances, and TV's.

(2) Available data generally do not cover ownership of multiple items, except for automobiles and housing. The importance of multiple item ownership in the United States is growing rapidly.

(3) Available data do not usually distinguish between the existence of an item of tangible wealth and the question of whether it retains any functional utility. This problem is not serious for the items now covered by surveys, but would be important for any comprehensive survey of tangible wealth. For example, a second refrigerator used to store overflow is an item of wealth with positive value; but one kept in the basement because it had not yet been discarded is not. Similarly, clothing still in existence but not worn because of age or state of repair should not be counted as tangible wealth.

INTANGIBLE WEALTH

Household financial assets and liabilities have been studied nationally in two specially designed survey projects: the FRB-Census high-income project and the Survey Research Center annual consumer finances project. These two projects differ greatly in the amount of detailed questioning for assets and liabilities. The 1963 FRB-Census study investigated a detailed array of items with a sample heavily loaded at high-income levels; much of the detail requested has relevance only to such a sample. Although the samples used for the Survey Research Center studies were not equal probability samples, the high-income loadings were not as heavy as in the FRB-Census project. The Survey Research Center studies of 1953 and 1962 covered much the same asset and debt concepts as the FRB-Census study, but respondents were approached with much less detailed questioning.

The FRB-Census data are not yet available [2] for comparison with data from the Survey Research Center, but the latter have yielded underestimates of aggregate private holdings of assets and debt.

Methodological studies have indicated that problems of gathering these data are substantial. On an individual family basis, both overreporting and underreporting are frequent, although the net result appears to be underreporting of financial assets and debt.[3] The data from financial institutions used to evaluate the aggregate estimates from surveys have never been systematically studied for comparability with the data reported in surveys. For example, it is not known how much of the discrepancy between survey based and institutionally based financial institutions is due to differences in the concepts used by institutions and reporting households.

Considering the apparent reporting errors in the survey data, it will be asked whether it is desirable to collect financial asset and debt information on a wealth inventory mainly concerned with tangible wealth. We think some data on intangibles should be collected. First, collection of intangibles from the same sample for which tangible assets are collected will provide more complete net and gross worth

[2] Preliminary results from the FRB-Census survey were published in the March 1964 Federal Reserve Bulletin.

[3] Lansing, Ferber, and Maynes have done most of the methodological work in this area.

data for consumers than has previously been available. Two, survey methods, though perhaps biased and unsuited for the construction of aggregate intangibles, are believed to indicate relationships with reasonable accuracy. That is, relevant comparisons can be made between subgroups, just as comparisons over time are relevant if based on surveys employing similar methods.

In addition to the survey estimates, Goldsmith, Lipsey, and Mendelson have published sector balance sheets for the Nation for 1945–58, and for selected years from 1900 to 1945. Seven sectors—nonfarm households, nonfarm unincorporated business, agriculture, nonfinancial corporations, finance, State and local governments, and the Federal Government—have been defined. All nonprofit institutions are included in the nonfarm household sector, largely for lack of information on how to do it otherwise. The "nonfarm household estimates are derived almost entirely as residuals * * * the balance sheet of this sector, therefore, includes all items mistakenly omitted from other sectors and the consequences of all errors made in estimating total outstanding for any instrument." [4] No doubt these balance sheets will be prepared for later years. It would be an important contribution of any new program of data collection to make independent estimates for the items estimated by the methods of residuals.

In conclusion, it is apparent that much constructive work has been done in the collection of basic data and preparation of estimates relating to household wealth. The chief problem is that the data and estimates are not comprehensive, nor necessarily consistent. In the subsequent discussion, since we are concerned with developing comprehensive data on a consistent basis, it may appear that we are approaching the whole field de nouveau. To the contrary, much has been learned from the experience to date.

III. Coverage of the Household Sector

How is the household sector to be defined? What are the distinguishing features of household tangible wealth, as compared to wealth allocated to other sectors of the economy? The simplest criterion to use appears to be that of legal ownership. By definition, household tangible assets must yield consumption services directly to their owner, not indirectly via explicit or implicit resale to a user. Thus, a house being lived in by its owner is an asset falling into the household sector, while a rented house is an asset of the real estate industry. The legal ownership distinction, however, will not always constitute a satisfactory basis for a meaningful classification. For example, many individuals use part of their house for what is essentially a business purpose; doctors and lawyers are the most obvious cases in point, but the practice is more widespread than that. We would suppose that a house being used in part for the purpose of keeping an investor's financial records should be considered as partly a business asset in the

[4] Goldsmith, Lipsey, Mendelson, "Studies in the National Balance Sheet of the United States," vol. II, Princeton University Press, 1963, p. 17.
Goldsmith employs 20 intangible assets categories and 13 categories of liabilities. Two of the asset categories (loans on securities and bank loans, not elsewhere classified) and seven of the liability categories are not relevant for nonfarm households, agriculture, or unincorporated business. Goldsmith uses, therefore, 18 asset categories and 6 liability categories for the sectors we are concerned with.

financial sector, partly a household asset. The part of the house serving a business purpose is clearly an asset used to produce money income rather than an asset yielding a direct flow of consumption services to the owner.

On the other side, there are large numbers of tangible assets owned by business firms and used directly by households. For example, a taxi driver who owns his own cab typically obtains some personal consumption services from the automobile. Many individuals are provided with or have access to company cars as part of their conditions of employment. There is little substantive difference between a company car used partly for personal consumption and enjoyment, and a privately owned car used partly for business purposes. In addition, there are respects in which the household sector shades off into the public sector. For example, every family in a community has access to a community swimming pool, while some families own their own pools.

There is no single solution to the problem that would satisfy all users. It seems to us, therefore, that data should be obtained on both a legal ownership and on a use or availability basis. For estimating the flow of consumption services produced by the stock of tangible assets, use or availability is presumably the appropriate criterion. But for analyzing expenditure decisions, legal ownership may be more satisfactory.

We have much more experience with the sectoring problem for intangible than for tangible wealth. We see no concrete reason why satisfactory estimates of tangible wealth, both owned and/or used in the household sector, could not be obtained from a survey-type inventory. However, some of the problems in reconciling financial estimates derived from surveys with those derived independently from other sources may also arise for tangible wealth. These problems, and some proposed solutions for intangible wealth, are discussed in annex A to this report.

IV. Conceptual Problems in the Measurement of Household Wealth

VALUATION

How should household tangible wealth be valued, in principle? For measuring the value of stock, the discounted flow of consumption services produced by the stock is presumably appropriate. In a perfectly functioning market, the current market price of the asset will appropriately reflect this value. In the household sector, however, markets are far from perfect, especially with respect to the used assets which comprise the bulk of the total. For the most part, therefore, we would presumably have to be content with measuring original cost, adjusting by an index of price change, and depreciating in accordance with estimated service life.

On the other hand, for measuring the current flow of services produced by the stock, it is not so clear that old assets are worth less than new ones; in some cases depreciation can be ignored provided the asset remains in use. Valuation in terms of the discounted flow of future services yields an estimate of the "net" stock of tangible assets,

while ignoring depreciation as long as the asset continues in service yields an estimate of the "gross" stock of durables. Again, it can be argued that both estimates should be obtained since both are useful. The flow of consumption services from many household tangible assets is completely independent of age provided that the asset is in good working order: for example, no one wants a washing machine per se; what is desired is a flow of clean clothes. Similarly, no one wants a vacuum cleaner in and of itself; what is desired is a clean house. For these types of assets, gross stocks seems to provide the best measure of the current flow of consumption services produced. For other assets, like furniture and probably automobiles, the newness or style of the asset is an important part of the current flow of services. In this case, the asset does not provide as large a flow of services when it is old as when it is new.

In our view, an adequate solution to the valuation problem depends on the degree to which two related problems can be managed. First, are there available or can there be constructed good price indexes that make reasonably accurate allowances for quality change? This is an especially serious problem in the household sector; technological change has been exceedingly rapid and there is vigorous disagreement about the adequacy with which existing pirce indexes standardize for quality. Second, can we obtain reliable estimates of service life and the rate of depreciation? Both these problem areas deserve special attention and study prior to embarking on a full-scale household wealth inventory, since the adequacy of the estimates, even assuming away all the data collection problems, depends heavily on satisfactory price and depreciation estimates.

COVERAGE

Which household tangible assets should be included in a wealth inventory? By tangible wealth we presumably mean a stock of goods capable of yielding a flow of future money income or future services. Two questions need to be examined: (1) Conceptually, what should be counted as household tangible wealth?; (2) in practice, which items or groups of items do we want empirical estimates for, given that information has a cost?

Two kinds of cutoff criteria come to mind:

1. Durability or expected service life.
2. Unit cost.

The service life criteria is the conceptually relevant one, since tangible assets used up in less than some minimum time period are clearly best classified as current consumption rather than as part of the stock of assets. Further, it makes economic sense to treat even very inexpensive items of household wealth—cups and saucers for example—as capital assets yielding a flow of real income to the owner. There is after all, a restaurant industry. In purchasing the services of this industry—a meal—one is buying in part the services of cups, teaspoons, and dishes. If these constitute an asset to the restaurant industry, they surely must also constitute an asset to households who prefer to eat in rather than out. In fact, of course, we think it quite probable that cost considerations will dictate a cutoff below the level of "everything". Obtaining a comprehensive inventory of all household assets would be a very expensive and time consuming proposition, and the expense

of obtaining the last several hundred pieces of information may be quite large relative to the value of the information. A case in point is food and fuel inventories, espcially the former. The cost of gathering accurate data is likely to be substantial, and it may be questioned if the information is worth the cost.

V. Problems in Collecting Wealth Data

REPORTING DATA

Which vehicle should be used for a household wealth inventory? In general, two types of procedures are feasible. The first is the perpetual inventory method, the one used in the Goldsmith estimates, for which the necessary ingredients are data on expenditures, initial stocks, and depreciation. It seems to us that this method is better suited to updating the results of a comprehensive inventory than for producing the inventory from scratch. As we have noted before, both the comprehensiveness and the reliability of the available perpetual inventory estimates are very difficult to judge, and we think an alternative approach is necessary. The only other alternative consists of some kind of household survey.

For this purpose, it seems to us that the 1970 decennial census records could be used as a universe for the selection of household wealth inventory sample housing units. There may well be need to use more than one sample from the housing census frame, since there are several highly specialized types of assets where sampling errors will be minimized with unequal weights for the sample. Further, it seems to us quite probable that a good deal of experimentation will be essential in order to get the most from the resources available for the wealth inventory. Many of the problems involved have never been faced before. Judgments about what is feasible are based on intuition rather than experience, and many of the important questions do not presently have clean-cut answers.

The survey procedure has the additional advantage of providing a possible basis for improving our knowledge of depreciation rates, hence for reworking estimates of household wealth based on expenditure and depreciation data. From a wealth inventory, it is possible to construct good depreciation estimates for particular items provided that sales to households of the item are historically available in terms of numbers of units, and provided that the age of each item in the current inventory can be established. The number of units still in existence can be established from the survey. If the age of each item in the inventory is also known, the data show the number of units still in existence that were produced 1, 2, 3, 4, . . . n years ago; that is the data provide one point on a survival curve for each historical year. From future surveys, additional points on the survival curve can be located. Eventually the entire survival curve can be estimated, permitting an estimate of the depreciation rate, as well as changes in the rate, over time. The major difficulty with this approach is that respondents may be unable to estimate age, particularly if the item was acquired used rather than new. Further, the necessary estimates of sales to households can only be obtained by adjusting production estimates for sales to nonhousehold units, and experience with attempts to do this for other purposes has not been encouraging.

An alternative approach, which has been tried in the field for several household tangibles, is to estimate service life from survey data on date of acquisition and discard; [5] that is, respondents are asked when each item in their current inventory was acquired, and whether it was acquired new or used. If an item was acquired during the past year the respondent is then asked whether a similar item was removed from the inventory, and, if so, when the *removed* item had been acquired. From such data independent actuarial tables for new and used items can be constructed and average service life under one owner estimated.

TECHNICAL PROBLEMS

Given that a survey of tangible wealth is desirable, a number of problems need to be explored.

1. What are the limits on interview time? We think it likely that the optimum interview (least cost per unit of data) is likely to be fairly long and is likely to involve some investment in the conditioning of the respondent. Experimentation, review of experience on response rates, and validation studies are necessary to establish the optimum, and we do not think anyone really knows how far the limits can be stretched. For example, to pose an extreme question: Is it really the case that an interview lasting 30 hours, taken over the period of several days, is out of the question?
2. What kinds of wealth information can survey respondents be expected to know, and what is the best technique for obtaining the information?
3. To what extent can inventory information be obtained by leaving forms to be filled out at the respondent's convenience, using the interviewer only to explain the schedule and check the responses? Is it better to do this only for some categories of tangible wealth? If so, for which categories?
4. What criteria should be used to value household wealth that is physically attached to the house—carpeting, for example? Should the house be valued at its stripped cost, or with whatever furnishings were included in the purchase price, or at some specified combination of the two? The problem here is that consistency of treatment among households is essential if the results are to be meaningful, but the valuation problem is simplified if items purchased with the house are valued as part of it.

SURVEY DESIGN

The question of survey design cannot be disentangled from the question of use. As noted before, there are three general uses to which inventory data might be put. First, how large is the stock of household tangible wealth? Second, how is household tangible wealth distributed among the population, and how does its distribution differ from that of intangible household wealth? Third, how does the stock of tangible wealth relate to or influence expenditure behavior?

It seems clear that the most efficient survey design for the first two uses (aggregates and distributions) will be different from the most

[5] See Jean L. Pennock and Carol M. Jaeger, "Estimating the Service Life of Household Goods by Actuarial Methods," Journal of the American Statistical Association, June 1957; and, by the same authors, "Household Service Life of Durable Goods," Journal of Home Economics, January 1964.

efficient design for the third. The first two uses are indispensible for compiling an inventory of national wealth. The third use essentially constitutes a plus that would be nice to have.

These uses are in conflict because some analyses of behavior require that all the relevant pieces of information be obtained for every household: it is not sufficient to assign values to tangible stocks based on averages for categories or classes of households. But for estimates of either aggregates or distributions, it is immaterial whether data are obtained from a single sample of household or from a large number of samples, each of whom is asked about categories of household wealth in considerable detail. Since there are probably limits—albeit unknown ones—to the amount of data that can be extracted from a single household without sharply diminishing returns in accuracy and response rate, the optimal survey design for getting aggregates and distributions is almost bound to include use of a number of subsamples specifically designed to obtain certain types of aggregates.

To get at this problem more precisely, let us spell out some general principles of data collecting, based on experience and theory.

1. It seems to be clearly established that the development of accurate information on intangible assets requires a sample that is heavily weighted with high-income households. Sample loading is required in order to minimize variance. The Federal Reserve Board-Census survey of financial characteristics, which has been completed but not fully processed, is surely the most comprehensive attempt ever made to obtain data on financial aggregates from households. Their experiences suggest, as a minimum, that a survey of tangible household assets simply cannot be added on to a survey that covers household intangible assets completely. The best that might be done is to obtain some highly aggregated information on intangibles from households asked to cooperate in a survey of tangible wealth.[6]

2. Experience indicates that the best way, perhaps the only way, to build up an accurate estimate of tangible wealth for any particular category of goods (furniture, major appliances, etc.) is to build up the aggregate from a detailed listing of the inventory. Expenditure surveys always indicate that the more detailed the listing of products, the larger the aggregate total of expenditures. Theory and casual observations support this empirical conclusion. No one can reasonably be expected to make a good top-of-the-head estimate of his aggregate holdings of any category, but he ought to be able to provide enough information on the details of each individual item so that an aggregate can be constructed.

3. The necessity for building up aggregates from details suggests that a household wealth inventory may be impractical to obtain from any one sample of households. The necessary detail would very probably exhaust the patience of any respondent, and might disastrously affect the accuracy of whatever responses are obtained. This is especially the case for any household whose stock of tangible assets is reasonably large.

4. A survey, or surveys, of the kind we contemplate is much more apt to be successful if respondents are carefully conditioned in ad-

[6] The inclusion of values for houses and automobiles in the wealth estimates available from the Census-FRB survey of financial characteristics provides an additional means of bridging the gaps among various surveys.

vance. Experience suggests that the proper conditioning of respondents can stretch out the limits of interviewing time to a very considerable degree.[7]

5. It is probably not reasonable to expect respondents to provide market value, except for durables with active secondhand markets like housing and automobiles. It is reasonable to expect respondents to be able to approximate year of purchase and purchase price for major pieces of equipment, but it may not be reasonable to expect respondents to approximate age for items purchased secondhand to begin with.

WHAT ARE THE DESIRED OUTPUTS FROM A HOUSEHOLD WEALTH INVENTORY?

Tangible assets

The primary output from the wealth inventory should consist of estimates of the current value of the stock of tangible assets for each of a number of broad categories of goods. The categories should be easily translatable into those used in compiling expenditure data for the national income accounts, so that the inventory will yield the stock equivalents to the currently available expenditure data. As a start, we suggest the following classification:

1. Houses.
2. Automobiles.
3. Major household appliances.
4. Small household appliances.
5. Major recreation durables.
6. Furniture and floor covering not attached.
7. Other major durables, not elsewhere classified.
8. Small household durables.
9. Clothing and semidurable home furnishings.
10. All other, which would include toys and sporting equipment, hobbies, books, jewelry and watches, and ophthalmic products.

Detailed clasifications covering some of these categories are included in annex B. Major household appliances are shown in section 1 of the annex; small household durables and appliances in section 2; major recreation durables as section 3; clothing as section 4; most of the product groups in "all other durables" as section 5.

In addition to estimates of the value of stock in broad categories, we feel that data on a limited number of specific major items of tangible household wealth should also constitute primary output. The items we have in mind constitute a major share of household tangible wealth. Most people expect to see such data in a tangible wealth inventory, and they are of special interest to numerous institutions and individuals. For these items, listed below, we need to know ownership, purchase price, age and general condition:

1. House (owned apartment)
2. Vacation house (apartment)
3. Automobiles
4. Second automobile
5. Other automobile
6. Washing machine
7. Range or stove
8. Refrigerator
9. Clothes dryer
10. Dishwasher
11. Air conditioner
12. Television set
13. Hi-fidelity equipment
14. Boat

[7] It is probable that the real difficulty is not the time of the respondent but his involvement. One useful device is to promise the respondent some results of the survey—perhaps an estimate of the value of his own inventory of tangible wealth—in return for his cooperation.

Intangible Assets

In addition to the desired outputs of aggregate value of stock in broad categories and values for selected individual items of tangible wealth, some information on intangible assets and liabilities should be collected. A comprehensive listing of the desired output is shown in annex C. If resources will not permit this amount of detail, estimates of amounts in each of the major categories (liquid assets, debt instruments, common or preferred stock, other intangible assets, housing debt, and other consumer debt) should certainly be obtained. Even rough amounts picked from a flash card with broad brackets (none, under $500, $500 to $999, $1,000 to $4,999, $5,000 or more) would serve a useful purpose, although such estimates would be valuable mainly for analysis of distributions and subsequent behavior, not for construction of aggregates.

We also think it important (and inexpensive) to obtain some information on the stock of educational capital embodied in the household. This would require data on age distribution, number of years of formal schooling, degrees obtained, family income, and perhaps a few other things. This information is obviously not critical for estimating either the aggregate stock of tangible wealth or its distribution. However, it seems to us comparatively inexpensive to pick up on a wealth survey, and its analytical uses would be considerable. This seems to us one of the few areas in which the analytical needs do not seriously conflict with the objective of getting the best possible estimate of the stock of tangible wealth.

PROCEDURES FOR OBTAINING DESIRED OUTPUTS

There seem to us two general approaches to this problem. The first approach would be use of split samples to build up estimates of aggregate household wealth and its distribution among households. Information on age, ownership, purchase price, and condition of stock would be obtained from a large national sample of households for each of the durable commodities listed below in table 1. The sample would be large enough to permit stratification by geographical area, and perhaps by State or standard metropolitan areas as well. The items included in the detailed listing would cover all of the major consumer durable goods (including housing) that comprise important elements in household wealth, and the list would be short enough so that the burden on the respondent would not be impossibly large.

TABLE 1.—*Inventory information to be obtained from national sample of households*

Product	Number owned	Age or model year [1]	Market value or purchase price [2]	Condition	Method of acquisition			
					Purchased from—		Received as gift	Buy with house
					Commercial dealer	Friend or relative		
House [3]:								
Year-round residence								
Summer residence								
Automobiles:								
Family car								
2d car								
Other cars								
Appliances:								
Washing machine								
Stove or oven								
Refrigerator								
Clothes dryer								
Dishwasher								
Air conditioner								
Vacuum cleaner								
Garbage disposal								
Recreation durables:								
Television set:								
1								
2								
Hi-fi equipment								
Piano								
Boat								
Swimming pool								
Furniture:								
Living room:								
Sofas								
Chairs								
Rugs								
Dining room:								
Table-chairs set								
Rugs								
Recreation room:								
Sofas								
Chairs								
Rugs								
Master bedroom:								
Beds								
Dressers								
Rugs								
Other bedrooms:								
Beds								
Dressers								
Rugs								

[1] Average age, for multiple items not listed separately in stub; i.e., rugs, sofas, etc.
[2] Average price, for multiple items not listed separately in stub; i.e., rugs, sofas, etc.
[3] Including owned apartment.

The information we think necessary to estimate the value of tangible wealth in the form of major durables (as shown in table 1) covers ownership, number owned, age, price, general condition, and method of acquisition. For the kinds of items listed (all involving large unit cost) we feel that most respondents would be able to provide the information with reasonable accuracy, although it might be difficult to obtain age for items originally bought secondhand. In most cases respondents would be asked for purchase price rather than market value; housing is the only clear-cut exception. In addition, we think it would be useful, for items acquired during the year preceding the survey, to find out whether a similar item had been removed from the inventory, and if so, either its age or the number of years that it had been owned and how it had been disposed of (sold, scrapped, given away, moved downstairs to the cellar, etc.). As noted earlier, from information of this sort service life estimates can be constructed.

The wealth estimates would be filled out by a number of special purpose surveys covering in detail such areas as:

1. Financial assets (as in annex C).
2. Furniture and major appliances (appliances as in annex B, sec. 1).
3. Small household durables (as in annex B, sec. 2, CES 3275 and 3276).
4. Miscellaneous small household durables (as in annex B, sec. 2, CES 3277).
5. Miscellaneous durables (as in annex B, sec. 5, CES 3716, 3713, 3715, 3722, 3732, 3735).
6. Books, records, and art objects.
7. Clothing and semidurable home furnishings (clothing as in annex B, sec. 4).
8. Jewelry and ophthalmic products.

For some of the special purpose surveys, less detailed information about individual assets would probably be satisfactory. For many of these items, it is likely that the only obtainable information consists of numbers of each type of item in the inventory (dishes, clothes, most semidurables). For these items, service life can be estimated by an inventory-acquisition ratio, providing that inventory can reasonably be assumed constant through time; if the price of acquisitions obtained during the preceding year is also obtained, value of stock can be estimated on the assumption that all items in the inventory should be assigned the price of new acquisitions. Estimates based on these assumptions should be adequate for the most part, and adjusted estimates can always be constructed by varying the assumptions.

Since the population distributions differ markedly for assets in the various categories covered by special purpose surveys, sampling errors would be minimized by selecting samples with differential "loading," e.g., the survey of financial assets and liabilities would be heavily weighted with high-income households, the survey of clothing weighted about like the population as a whole.

Because some inventory questions would be common to both the national sample and the special purpose samples, and because the most efficient "loading" would be different, separate samples would be drawn for each survey. A common set of classification variables—age, income, education, occupation, etc.—would be included in all samples.

Information would thus be available on major items of tangible wealth for each household in the national sample, and a comprehensive total built from considerable detail would be available for one category of tangible wealth for each household in the special purpose samples. Total wealth estimates could be obtained by a simple weighting and summing procedure applied to a few of the elements in the general purpose surveys (houses and automobiles) and to all the special purpose surveys, which should be designed so as to achieve complete coverage of household wealth. Alternatively, total wealth in the form of major pieces of household wealth would be available from the national sample; these figures could probably be extrapolated to approximate the total value of all tangible wealth. This procedure presents no difficulties for the construction of aggregates and distributions, but it makes it difficult to use the data for some kinds of behavior analysis. On the other hand, no one household would be faced with an impossible burden of reporting on all of its tangible asset holdings in great detail.

The second approach is somewhat more sophisticated than the first. It is not clear to us that it would be either cheaper or more accurate, although it may well be both. The general idea is to use statistical techniques to estimate the value of wealth for each household from key indicator items for that same household. First, we would start with a pilot sample—a relatively small sized one—from which an exhausive picture of household wealth would be obtained, using whatever methods (payments, etc.) are necessary to persuade households to cooperate to the extent that would be required. Along with the exhaustive inventory of tangible wealth, we would obtain information on educational attainments, demographic status, income, and anything else which might reasonably be associated with the stock of tangible wealth. Having obtained the exhaustive inventory (literally running down to the tea cups) we would construct aggregates for each of these households in the kind of output classifications we thought desirable in principle. That is, we would construct an "ideal" set of estimates of household wealth for each of the households in our pilot sample, based on an expensive and painstaking construction of the aggregates from the details. Because the pilot sample would be small, the total expense might not be very great although the cost per completed interview might be high.

Having constructed the aggregates, we would then try to predict them. We could try to predict separately each of the desired output categories, or simply the total, or some of the categories in addition to the total, etc. The predictor variables would be those which seem sensible a priori and also give good results empirically. If it turns out that the variance of the known wealth values can be reduced very substantially by a fairly simple set of predictors obtained from the same household, we have a vehicle for predicting the total tangible wealth of any household for whom values of the predictor variables are known or can be obtained. In addition to the predictor variables, it might be useful to obtain estimates of particular items in the durables inventory for every household, as discussed earlier.

The regression procedure would obviate the necessity for obtaining detailed estimates of wealth holdings from every household in a large national sample, and would eliminate the necessity for any of the special purpose surveys. The only information required from the

entire sample would be the necessary indicator data—the predictors that emerge from the regression analysis—plus whatever information about tangible wealth is desired for its own sake as primary output.

There are, of course, some risks involved with this procedure. In any statistical analysis that relates the value of household wealth to, for example, value of house, income, age of head, value of dining room table, presence or absence of an air conditioner, etc. there are bound to be a large number of items that predict well in a pilot sample but which have no real relationship to the value of inventory. There must be a high degree of intercorrelation among the potential explanatory variables, and it may be quite difficult to pick out the variables that are substantively important from those which, by chance, appear to be important in any given sample. One way of reducing the risk is to split the pilot sample in half, estimating the relationships from half the sample and testing it on the other half.

If this procedure turns out to yield sensible looking results, it may constitute a relatively inexpensive method of obtaining accurate estimates of national wealth in the form of household tangible assets. It would also go a long way toward reducing the potential conflict between the aggregates-distributions and the analytical uses of the data. If a limited number of predictors turn out to give sufficiently good results (i.e., not much residual variance), the regression-sample procedure would be less burdensome to the bulk of the respondents than would any alternative. (It is true, of course, that the procedure puts a very heavy burden on households in the pilot sample from which the predictor variables are selected.) Consequently, the limits of respondent cooperation and patience would probably not be stretched for the large national sample for whom only the indicator data plus other primary output would be obtained; hence additional information—of purely behavioral significance—might also be obtainable from the sample. In our view, experimentation with the regression procedure is well worth while and should be started quickly in order to test feasibility.

ACCURACY AND VALIDATION

Assuming that household wealth estimates can and will be collected, the question arises: How accurate are the data that have been obtained? The usefulness of wealth data, like any other data, is drastically reduced if the data are inaccurate. Accordingly, we feel that some portion of the resources invested in the collection of wealth data should be invested in methodological studies of two types. The first type, to be undertaken before large-scale data collection is begun, would have as its purpose the selection of data collection methods most likely to be accurate. The second type, to be undertaken concurrently or after large-scale data collection, would be used to measure the accuracy of the data-collection techniques actually used. The second type of methodological investigation would correspond in intent and achievement to estimates of sampling errors which accompany any respectable investigation utilizing survey methods.

Resources probably would not permit the undertaking of accuracy studies for all variables for which data are collected, nor would this be desirable. Accuracy studies should be attempted for variables

roughly representative of each major class of information, e.g., house values (representative of real estate), television sets (large household durables), savings accounts (intangibles), etc.

In terms of current technology, accuracy studies fall under three headings: (1) validation studies or record checks, (2) differential performance studies, (3) aggregative comparisons. Of these three the validation study is most precise: errors in survey reports are measured directly by making case-by-case comparisons of individual responses to survey questions with records of (presumably) known accuracy. This technique has been utilized for such variables as savings accounts, automobile installment debt, personal loans, and house values. For the first three of these items the comparison is between the "true" value—obtained from the records of financial institutions, with the owner's estimate of value. In the case of house values the comparison is between owner estimates and those of professional appraisers, since there is no necessary presumption that "truth" is synonymous with appraiser estimates.

In the differential performance approach the same type of data are collected by alternative techniques under circumstances where there is a strong presumption as to which technique is superior. The study provides evidence with respect to the effect of technique on accuracy. This approach is of greater value for initial selection of techniques of data collection than for ex post evaluation of accuracy.[8]

Comparisons of survey-implied aggregates with independent estimates—presumably from production data or from financial institutions—are of less usefulness for a wealth inventory study because information on distributions constitutes a major objective. Annex A discusses some of the major problems encountered in arriving at comparable universes for survey and independent estimates of intangible wealth items.

While it is impossible to suggest specific methodological studies in advance, it is clear that we would fail in our responsibility to users of wealth data if we failed to recommend a substantial investment in accuracy studies.

VI. Summary of Recommendations

1. A comprehensive survey of household units is needed in order to obtain better estimates of both the aggregate value and the distribution of tangible wealth in the household sector.

2. The optimal survey design cannot be determined from the information presently at hand. Consequently, a sizable portion of the available resources should be devoted to pilot studies of survey design and accuracy studies of the wealth data obtained from surveys, before a full-scale survey is put into the field.

3. It is probable that the most efficient survey design will involve use of a number of different samples of households, each concentrated on a particular category of wealth. As a minimum, it seems clear that very differently structured samples will be necessary to obtain efficient estimates of tangible, as compared to intangible, wealth; because of the

[8] The approach was used by Neter and Waksberg to measure the impact of length of recall period, telescoping (placing an event in an incorrect time period), different respondents in the household, and other factors on the accuracy of reporting of expenditures for additions, improvements, and repairs to houses.

heavy demands on respondents made by a comprehensive wealth inventory, it is also likely that a number of samples will be needed for tangible wealth alone.

4. Further study should be given to the possibility of estimating the tangible wealth holdings of individual families from specified characteristics of the family. That is to say, it may be possible to predict tangible wealth with reasonable accuracy from data on house value, age of household head, ownership of particular items, etc. In that event there would be no need for multiple samples, since only the data needed to predict would be obtained from each household.

5. In general terms, a survey of tangible wealth would collect data on ownership, age of item, purchase price when acquired or current market value, and possibly condition and method of acquisition. To make the maximum use of this information it is necessary to have accurate data on price changes and depreciation rates for items of tangible wealth. Since reliable price and depreciation data probably do not exist at present, supplementary studies are necessary and should be actively encouraged.

6. The longer range usefulness of wealth estimates would be furthered if purchase data could be obtained by reinterviewing a year or so after the wealth survey. Although this would constitute a further drain on available resources, it would permit a more accurate investigation of the role of accumulated stocks in purchase decisions than permitted by existing data, and greatly enhance the usefulness of the inventory data.

7. The long-range usefulness of wealth estimates would also be furthered if the data could be made quickly and easily accessible to qualified academic research people. This has not always been the case for basic statistics produced by the Federal Government.

ANNEX A

PARTITIONING OF WEALTH ESTIMATES AMONG SECTORS[1]

Accurate partitioning of wealth estimates among sectors is desirable for two reasons: (1) to give an accurate picture of the distribution of wealth by sectors (however defined), and (2) to facilitate the testing of survey-implied aggregates. The latter requires elaboration. Much of our data on wealth in the household sector comes from personal interview surveys. We are greatly concerned with the accuracy of information collected by this technique. One conceptually simple method of testing the accuracy of survey data is to compare survey-implied aggregates with aggregates based on records of all savings institutions for the same universe. In the financial area—savings accounts, for example—aggregates pertaining to the entire universe obtained from the balance sheets of savings institutions tend to be highly accurate. To use these estimates for comparison purposes, however, savings accounts (for example) held by owners not part of the survey universe must be subtracted. In the past, estimates of the excluded universe have been made on the basis of rather fragmentary evidence.

Information on ownership of assets should be obtained in sufficient detail from aggregate sources so that both the objectives above can be achieved. In what follows, the partitioning problems are discussed with reference to two illustrative assets—savings accounts and stockholdings. Analogous problems are encountered in dealing with other assets.

---

[1] Prepared by E. Scott Maynes, University of Minnesota and U.S. Bureau of the Census.

Detail required for accurate partitioning

The following categories would represent an ideal extent of detail:

A. Assets Owned by Foreigners (even if elsewhere classifiable).

B. Financial: Banking—includes commercial and mutual savings banks, credit unions, savings and loan associations.

C. Financial: Nonbank business:
1. Corporate.
2. Noncorporate.

Includes sales finance companies, mortgage companies, security, and commodity brokers and dealers, insurance companies, investment companies, holding companies, mutual funds.

D. Nonfinancial business:
1. Corporate.
2. Noncorporate—include here accounts used *jointly* for business and personal purposes.

Includes manufacturing and mining, contract construction, transportation, communications, other public utilities, wholestale and retail trade, real estate companies, insurance agents, forestry and fisheries, services including professionals.

E. Farming:
1. Corporate.
2. Noncorporate—include here joint business-personal accounts.

F. Nonprofit organizations and institutions:
1. Educational and research organizations and institutions.
2. Religious and charitable organizations and institutions.
3. Hospitals, sanatoriums, convalescent and rest homes, etc.
4. Clubs, trade associations, etc.

G. Assets held in formal trust by fiducial individuals and organizations.

H. Assets of deceased persons—include assets where *all* listed owners are deceased

I. Persons living in institutions—include persons in prisons, mental institutions, hospitals, on military reservations, etc.

J. Personal assets—all assets not counted in A through I above.

Category J, it should be noted, is the universe utilized in most sample surveys.

In partitioning, different problems are encountered for different assets. Therefore, bank accounts and stockholdings are discussed separately.

BANK ACCOUNTS [2]

To attain accurate partitioning, it is necessary (1) to draw sophisticated samples of account owners and then (2) to allocate this sample accurately to the categories above. As soon as the problem is posed, we are confronted with several important questions: (1) Can the required information be obtained from existing institutional files? (2) Where is the allocation to be done and by whom—in the offices of banks by their clerks, or in the Census Bureau or Federal Reserve Board by their clerks? (3) If more information must be obtained, who is to collect it, and how? We will consider these questions in turn.

Can the required information be obtained from existing files?

My judgment, based upon examination of samples of accounts from mutual savings banks and savings and loan associations, is that with the exceptions mentioned below the names and addresses of account owners are sufficient to permit accurate allocation of accounts to categories A–J above.

Personal versus business-professional versus joint use.—Clearly, instances exist where wholly business accounts are listed as though they are personal accounts. For example mutual savings banks are prohibited by law from accepting business accounts. It is not uncommon, I am told, for a person seeking a business savings account to be told to take out an account in his own name. Thus, an account with "George Papastathopoulis" listed as owner—apparently a personal account—may, in fact, be the business account for the Orange Grocery Store, owned by Mr. Papastathopoulis.

[2] Includes checking accounts and savings accounts of all types in all types of savings institutions.

It is also likely that some accounts used by farmers chiefly for "farm business" purposes may be listed with no hint of the business usage.

On the opposite side, ostensibly business accounts may be used, to a greater or lesser extent, for personal purposes.

I would propose that a pilot study be conducted in several cooperating financial institutions, designed to ascertain whether these types of problems are quantitatively trivial or important. The object could be accomplished by having the banks send postcards inquiring about account usage to samples of (1) apparently personal owners, and (2) apparently business-professional owners. The simple postcard questionnaire would ask the owner to indicate the extent to which the account was used for personal versus business purposes. Naturally one would use a telephone followup to keep nonresponse at an acceptably low level.

Corporate versus noncorporate businesses.—In some instances the fact of incorporation may not be apparent from the business name as it appears on bank records. The "solution" would appear to be simple: consultation of some directory or a telephone inquiry to ascertain the correct status.

Accounts owned by deceased persons.—This category is pertinent only to the comparison of institutional and survey aggregates.

We may first note that there exists a considerable lag between time of death and receipt of notification of death by banks. In the Savings Account Evaluation Study, being conducted by the Census Bureau, persons listed as account owners were found to have died as long as 10 years earlier. What's more, banks acknowledge the existence of permanently unclaimed accounts with certainty; they are usually, by definition and in practice, excluded from the survey universe.

A similar type of problem exists with respect to estates in probate. I do not know whether banks are informed of all probate actions involving their depositors. On the survey side, no survey yet conducted has *explicitly* collected information on *bank accounts* constituting a portion of the assets of an estate in probate. The aggregate value of accounts in this category could be ascertained only by a study which sought to track down all owners and their heirs.[3]

As far as estates in probate are concerned, we have no knowledge on the survey side concerning the extent to which respondents report *as their own* savings accounts which they expect to inherit, but which have not yet been legally transferred to them.

Thus, institutional data will tend to underestimate the accounts owned by deceased persons and/or in probate. For the most part, such accounts will by definition be excluded from the survey universe. The problem of how to estimate the total amount of such accounts is complex and deserves further study.

Who classifies and where?—To perform the necessary classification three items are required for each sample account: (1) The name of the account owner(s), as shown by institution records, (2) the owner's address, and (3) the account balance. These clearly constitute confidential information which banks must protect. The statistical output, aggregated tables shorn of names, is however, not confidential. The problem: How to achieve accurate classification and summarization without violating confidentiality.

One alternative is to ask sample institutions to provide sample lists (names, addresses, and balances) to an organization such as the Census Bureau. Here the institution relays confidential information; the information is protected by law and by well-developed confidentiality procedures. From the viewpoint of accuracy this alternative has the advantage that clerks can be carefully selected and trained so as to assure uniform treatment of data.

The second alternative—that utilized in the FRB's demand deposit surveys, incidentally—asks the institutions to perform the classification and summarization tasks themselves. The advantage: Information in its confidential form never leaves their hands. Further, clerks can utilize local knowledge. The disadvantage: Statisticians have no control over selection and training of clerks, nor over the quality of their performance.

Given a choice, I would opt for the former. Whether institutions would be willing, I do not know.

---

[3] Experience with surveys of bank depositors suggests that a small group of depositors—maybe as high as 10 percent—cannot be located.

The collection of additional information.—Who does it? For the personal versus business case and the deceased persons case, it appears that only the financial institutions themselves would have the requisite entree to carry out a thorough investigation of the type needed. The planning, of course, should be the responsibility of professional research people.

Sampling

For saving institutions with automatic data-processing systems (computers or punchcard systems), the most satisfactory way of drawing a sample of accounts is by specifying the terminal digits of account numbers. For institutions with manual bookkeeping systems, samples may be specified either in the terms of terminal digits of account numbers or in terms of the segments of the alphabet in which depositors' names fall. I would propose to specify a sampling plan in terms of terminal digits, where possible, and by alphabetic segments elsewhere.

The cost of drawing a sample would be nominal for any automatic system and probably not excessive for manual systems.

Lists of financial institutions for sampling purposes are readily available, as follows:

Institution	Source of list	Measure of size available?	Coverage
Commercial banks	Federal Reserve Board	Yes	Complete.
Mutual savings banks	National Association of Mutual Savings Banks.	Yes	Complete.
Savings and loan associations.	Federal Home Loan Bank Board	Yes	Covers 96 percent of associations, 99 percent of deposits.
Credit unions	Presumably from Credit Union National Association, Madison, Wis.	(?)	(?).

Our interest here lies in estimates of aggregates. It can be shown that different size-of-account classes should be sampled with different sampling fractions, so as to make the following ratio constant: [4]

$$\frac{\sigma_i}{f_i}$$

where σ_i equals the standard deviation of a particular size class and f_i equals the probability of selection of accounts in size class i. In other words, sampling fractions should be varied in proportion to the standard deviation of accounts in that class. This, of course, implies extensive "oversampling" of large accounts.

The number of institutions to be drawn—and the appropriate number would have to be worked out—could be minimized by drawing institutions with probabilities proportional to some measure of size (e.g., aggregate deposits).

STOCKHOLDINGS

Three times since 1956 (1956, 1959, and 1962) the New York Stock Exchange in collaboration with the Alfred Politz Organization has conducted "censuses" of shareowners. The two major outputs have been (1) estimates of aggregate value of stockholdings, for certain important classes of owners, and (2) descriptive data regarding the characteristics of stockholders. The vehicle for this study has been an alpha-segmental sample of the files of public corporations, brokerage houses, and mutual funds.[5] To obtain information on shareowners

[4] Hansen, Hurwitz, and Madow, "Sample Survey Methods and Theory," p. 209.

[5] For a description of the methodology of the study, see New York Stock Exchange, Department of Research and Statistics, "Methodology and Sample Design of 1962 Census of Shareowners" (obtainable from Eugene Price, Director of Market Research, New York Stock Exchange).

(each of whom may own more than one "batch" of stock) rather than stockholders of record (each of whom owns only one "batch" of stock in one corporation), the stock exchange undertook an elaborate matching operation to unduplicate the names in its sample. Since the study was conducted partly to promote the "stockholder democracy" image, information on the value of stock owned by individuals was not collected.

In the censuses of stockholdings, aggregates were obtained for the following categories of owners:

1. Foreign stockholders.
2. Domestic stockholders:
   (*a*) Male individuals (males owning stock in their own names).
   (*b*) Female individuals.
   (*c*) Joint accounts—individuals (more than one person holding stock in their own names).
   (*d*) Fiduciary individuals (individuals constituting guardians for other individuals; executors and administrators of estates).
   (*e*) Fiduciary institutions (banks and other nonindividuals acting as fiduciaries).
   (*f*) Stockbrokers and securities dealers (persons or organizations except banks, who purchase and sell securities for their own account or for the account of others).
   (*g*) Nominees (partnerships, individuals, and organizations other than stockbrokers and securities dealers who hold stock on behalf of beneficial owners—either individuals or institutions).
   (*h*) Institutions (corporations, foundations, colleges, and universities, insurance companies, investment companies, pension funds, and other financial and nonfinancial organizations).

Can these categories be translated into the categories listed at the beginning of this memorandum? The answer is that for categories 2 (*e*) and (*h*) above, relatively minor modifications in the questionnaire addressed by NYSE to sample corporations would achieve the necessary translation. For categories (*f*)–(*g*) a more drastic departure would be necessary. What is needed is a breakdown of the securities held by brokers and nominees on behalf of other persons. It would be necessary for them to classify each holding, value the holding, and then sum the numbers and values for each category. The workload would be considerable, and it would seem feasible only on a sample basis. Further, it is clear that steps would have to be taken to assure no violation of confidentiality.

In sum, categories (*e*)–(*f*) represent a formidable problem while categories 2 (*e*) and (*h*) appear readily solvable at minimum cost, assuming that the NYSE continues this program.

ANNEX B

LISTING OF TANGIBLE ASSETS

The following comprise a listing of the sort we think will be necessary to build up estimates of household wealth. These lists are neither complete nor wholly consistent, since we do not view our role as setting forth detailed specifications as to exactly which pieces of information must be obtained on a wealth inventory.

I. Major Household Appliances

Mechanical refrigerator
Icebox
Freezer
Cookstove:
  Gas or electric
  Kerosene, etc.
  Wood, coal
Electric waxer-polisher
Garbage disposal
Dehumidifier
Room-type air-conditioning units
Dishwasher
Space heaters, heating stoves
Washing machine
Mechanical clothes dryer
Vacuum cleaner
Sewing machine:
  Electric or treadle

II. Small Household Durables and Appliances [1]

Category and item	CES code	National accounts equivalent category
Minor appliances	3275	Household operation.
Hot plate	3275-10	Kitchen and other household appliances—china, glassware, tableware and utensils.
Electric	3275-11	
Gas	3275-12	
Other	3275-13	
Electric toaster	3275-18	
Other electrical kitchen equipment: Frying pan, deep fryer, rotisserie, coffeemaker, mixers, waffle irons, etc.	3275-19	Other durable housefurnishings.
Electric iron	3275-39	
Heaters	3275-40	
Electric	3275-41	
Gas	3275-42	
Other	3275-43	
Electric fans	3275-59	
Other housewares:		
Glasses	3276-18	
Dishes (sets)	3276-20	
China, earthenware	3276-21	
Plastic	3276-22	
Other	3276-23	
Dishes (separate pieces)	3276-30	
Cups and saucers	3276-31	
Plates	3276-32	
Others	3276-33	
Serving pieces (bowls, pitchers)	3276-40	
China	3276-41	
Glass	3276-42	
Silver	3276-43	
Other	3276-44	
Knives, forks, spoons, etc	3276-50	
Silver, sterling	3276-51	
Plate	3276-52	
Stainless steel	3276-53	
Other	3276-54	
Cooking utensils, nonelectric (pots, pans, skillets, etc.)	3276-68	
Bottles, nipples, sterilizers, bottle warmers	3276-69	
Kitchen wares	3276-70	
Crockery and glassware	3276-71	
Kitchen knives, forks, spoons	3276-72	
Beaters, spatula and others	3276-73	
Miscellaneous items:		
Baby perambulators	3277-10	
Carriages	3277-16	
Strollers	3277-17	
Other nursery equipment	3277-29	
Lamps	3277-39	
Typewriter	3277-49	
Fireplace equipment (shovels, poker, screen, etc.)	3277-58	
Clocks, pictures, vases, figurines, bric-a-brac, etc.)	3277-59	
Luggage	3277-60	
Hand	3277-61	
Trunks	3277-62	
Lockers	3277-63	
Scissors, scales, thermos bottles, lunch kits, etc	3277-78	
Blinds, window shades, rods, etc	3277-79	
Household items:		
Lawn mowers	3277-91	
Other hand and power tools, garden hose, rakes, spades, carts, sprayers, etc.	3277-92	
Other outdoor household items, garden tractor, snowplow	3277-94	
Other miscellaneous housewares	3277-99	

[1] Prepared by Division of Living Conditions Studies, Bureau of Labor Statistics, U.S. Department of Labor.

III. RECREATION DURABLES [2]

Recreation:		
Television	3711-10	Radio and TV records and musical instruments.
Radio	3711-20	
Phonographs and tape recorders	3711-30	
Hi-fi components, kits and parts	3711-48	
Phonograph records and recording tapes	3711-50	
Musical instruments:		
Piano and organ	3711-60	
Violin, clarinet, etc.	3711-78	
Other: Sheet music, music stands	3711-88	
Trailer		
Boat:		
Powered		
Other		
Swimming pool:		
Built-in		
Movable		

[2] Same source as above.

IV. CLOTHING

MEN AND BOYS

Overcoats, heavy storm coats
Topcoats
Raincoats
Heavy jackets
Lightweight jackets for outdoors
Year-round and winter suits
Summer suits
Separate suit coats, sports jackets
Separate trousers and slacks, by fiber
Sweaters
Shirts
Street and dress shoes
Work shoes
Sport shoes (participant)
Clothing for sportswear

WOMEN AND GIRLS

Heavy coats, no fur
Blouses, shirts
House dresses
Sweaters
Slacks, shorts, etc.
Lightweight coats, capes, toppers
Heavy coats with fur
Separate skirts
Separate suit coats
Extra jackets
Shoes for street or dress
Fur coats, jackets, capes, stoles
Heavy sports jacket
Suits
Dresses other than house dresses
Shoes for participant sports

V. MISCELLANEOUS DURABLES [1]

Category and item	CES Code	National accounts equivalent category
Toys and sporting equipment:		
Tricycles	3716-03	Recreation—wheel goods, durable toys, sports equipment, boats, pleasure aircraft.
Wagons, skates, sleds	3716-04	
Mechanical toys	3716-05	
Children's playground equipment	3716-07	
Other toys and equipment	3716-08	
Sporting equipment:		
Hunting and fishing equipment	3713-04	
Other sports equipment (exclude uniforms and shoes)	3713-05	
Hobbies:		
Camera	3715-01	Included in durable toys and sport equipment.
Other photographic equipment (films, etc.)	3715-02	
Collections (coins, stamps, etc.)	3715-03	
Electronic instruments and amateur radio (except hi-fi)	3715-04	
Crafts, woodworking, model building	3715-05	
Other hobbies	3715-07	
Books and art objects:		
Books, nonschool, nontechnical:		
Pocket edition	3722-01	Books and maps.
Hard-bound books	3722-03	
School and technical books, supplies and equipment	3732	
College and professional	3732-01	
Other school levels	3732-02	
Schoolbooks and supplies (away from home)	3735-02	
Art objects (see small household durables, 3277-59).		
Tools and home maintenance tools (see small household durables, 3277-92).		Tools included in other durable house-furnishings.
Jewelry and watches:		
Men and boys, 16 and over	3317-49	Jewelry and watches.
Boys, 2 to 15	3327-49	
Women and girls, 16 and over	3337-69	
Girls, 2 to 15	3347-59	
Children under 12	3357-49	
Other durable items, not auto, not house furnishings and equipment, not furniture, not clothing:		
Eyeglasses	3524-12	Ophthalmic products.

[1] Same source as above.

ANNEX C[1]

LISTING OF INTANGIBLE ASSETS

Intangible assets	Nonfarm household	Unincorporated business, except farm	Farm household
Liquid assets:			
Currency	(2)	(2)	(2)
Checking accounts (demand deposits)		X	X.
Savings accounts		X	X.
In banks	X	X	X.
In savings and loan associations	X	X	X.
In credit unions	X	X	X.
In postal savings	X	X	X.
U.S. savings bonds	X	X	X.
Debt instruments:			
Other U.S. bonds, bills, notes, certificates	X	X	X.
State or local bonds or notes	X	X	X.
Foreign government or corporation bonds or notes	X	X	X.
Private U.S. corporation bonds, notes, debentures	X	X	X.
Mortgages on land contracts	X	X	X.
Loans to businesses	X	X	X.
Loans to nonprofit institutes	X	X	X.
Loans to related individuals	X	X	X.
Loans to unrelated individuals	X	X	X.
Trade credit		X	X.
Consumer credit		X	X.
Other loans			
Common or preferred stock	?	?	?.
Preferred stock:			
Publicly traded	X	X	X.
Not publicly traded	X	X	X.
Common stock:			
Publicly traded	X	X	X.
Not publicly traded	X	X	X.
Equity in mutual finance organizations	X	X	X.
Other intangibles:			
Life insurance paid up value	(2)	(2)	(2)
Other intangible assets	(2)	(2)	(2)
Pension and retirement funds	(2)	(2)	(2)
Liabilities:			
Consumer debt—			
On houses			
Mortgages and land contracts	X		X.
Home repair and modernization	X		X.
Other	X		X.
Auto debt	X		X.
Durable goods other than autos	X		X.
Medical	X		X.
Other	X		X.
Loans on securities	X		X.
Trade debt	X	X	X.
Debt to individuals	X	X	X.
Other debt to institutions	X	X	X.

ADDITIONAL CANDIDATES FOR ASSET CATEGORIES

Cash value of annuities.
Commodity contracts.
Beneficial interest in estates in probate.
Cash value of royalties.
Oil or real estate syndicates.
Value of patents, copyrights.
Value of "going concern" (business or professional practice, trade, farm operation).

[1] Prepared by Charles Lininger, Survey Research Center, University of Michigan.
[2] Collection possibility uncertain.