

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Studies in Income and Wealth

Volume Author/Editor: Conference on Research in Income and Wealth.

Volume Publisher: NBER

Volume ISBN: 0-870-14167-8

Volume URL: <http://www.nber.org/books/unkn50-1>

Publication Date: 1950

Chapter Title: Uses of National Wealth Estimates and the Structure of Claims

Chapter Author: Albert Gailord Hart

Chapter URL: <http://www.nber.org/chapters/c3142>

Chapter pages in book: (p. 81 - 104)

Uses of National Wealth Estimates
and the Structure of Claims

Albert G. Hart
Columbia University

A USES AND MISUSES OF ESTIMATES OF WEALTH AND CLAIMS

1 *The Swing toward Wealth Estimates*

A few years ago, national wealth estimates were in disrepute—largely because of a well grounded suspicion that the misuses of estimates of wealth and claims did more harm than their legitimate uses could outweigh. The long series of official national wealth estimates, running back to 1850, was not continued beyond 1922. National income estimates, which had barely started before World War I, became more and more fashionable through the 'twenties and 'thirties; and interest in them displaced interest in wealth.

The 1948 meeting of the Conference testified to a reverse swing. Wealth estimation is becoming more respectable and drawing more resources—primarily because we entered the postwar period with a backlog of needs for wealth estimates—needs that went largely unrecognized in the 1930's. These needs are genuine, and the upswing of wealth estimation is deserved. But our previous skepticism had good grounds; and if we forget those grounds for skepticism, much of our work is likely to go to waste.

2 *Misuses of Wealth and Claims Estimates*

Time was when wealth estimates were the crown of economic statistics. In the absence of income measurements, they offered the best yardstick against which to measure quantities. In a less urbanized society, moreover, people may have thought of their affairs more in terms of wealth than income. Wealth is a more natural focus of attention (and income less natural) for a farmer than for a wage earner.

These early uses for wealth estimates faded as society changed and as income figures became available. But the misuses went merrily on. Wealth estimates gave a certain concreteness to the superficial analogies between public and private affairs that make so much trouble in the social sciences. Notably, forebodings of 'national bankruptcy' were based upon

comparisons of wealth with national debt. A variation on the theme was comparison of wealth with 'total debt, public and private', or with 'liquid claims'. National wealth has figured also in the arguments of people eager to scuttle American help to Europe by blowing upon fears of the 'exhaustion of American resources'.

3 *The Backlog of Uses*

Meanwhile, we have discovered a long list of new uses for facts about national wealth and the claims upon it. The wartime accumulation of liquid assets and of 'backlogs of demand' has reminded us that we need to know how current operations of firms and households are influenced by the composition of their assets and liabilities. The gaps in our theories of investment force a search for dependable quantitative relationships linking investment with the stock of capital assets, the flow of output, and financial conditions. With rising interest in the public debt, it is not enough to throw epithets at people who say our debt threatens bankruptcy: economists have to produce down-to-earth explanations of the sense in which internal debt 'cancels out'—not ignoring the qualifications.

Applied economics thus bristles with questions for which we need information on wealth and claims. Speaking as a theorist, I hope that we are ready to correct the over-emphasis of interwar theories on flows by working out the interrelations of flows with stocks—a wealth problem. °

4 *Mechanical vs. Motivating Relationships*

When we look at the relationship between the wealth-claims structure and the current flow of activity, we see two types of connection. These I shall call mechanical and motivating.

A mechanical relationship arises simply from the fact that many flows are in and out of stocks in any of several senses. To illustrate: (a) A firm's stock of machine parts has inflow from purchase and from its own fabrication; and outflow from sales, use in production, and wastage. *Net* inflow plus initial stock must equal final stock. (b) A firm's debts payable are increased

by new borrowing and interest accrual (inflow) and reduced by repayments (outflow); net new borrowing plus initial debt must equal final debt. (c) A firm's backlog of orders grows by the filing of new orders and shrinks by cancellation and delivery; net accretion of orders plus initial orders must equal orders on the books at the end of the period.

These mechanical relationships serve one set of uses for wealth data. That is, they give us control data for estimating income. We estimate a few items in the capital-formation accounts by an inventory method. In more (notably housing) we have fragmentary evidence on both inventories and flows; the two rather unreliable sets of data are then a check on each other.¹ Broadly speaking, to give this sort of check on commodity flow series we need the physical asset side of wealth estimation, with standards of valuation attuned to the problem of filtering out irrelevant price fluctuations. This sort of check on expenditure data gives us uses for the claims side. The materials assembled in this cluster of papers on wealth strike me as on the whole adapted to tracing these mechanical relationships.

The explanatory value of mechanical relationships, though, is only so-so. In principle, these relationships are characteristics of the definitions around which we build our accounting systems. They have the kind of explanatory value we attribute to the balance-of-payments equation in international trade: since they are truistical, any statement inconsistent with them must be false. This sort of truth is a rather useful weeding tool in the garden of economic doctrine. But it does not get us very far into the why of things.

Motivating relationships have explanatory value of a higher sort. They are stated in 'meaningful' propositions, not inevitable in the light of the definitions, and are susceptible to refutation if research shows the facts are not as pictured.² By the same

¹ A notable example of this sort of control operation is Simon Kuznets' comparison of capital formation with the accretion of capital wealth (*National Product since 1869*, pp. 193 ff.).

² Cf. Paul Samuelson, *Foundations of Economic Analysis* (Harvard University Press, 1947), pp. 3-5.

token, they are very interesting, if true, because of their prediction value. Examples of such interesting-if-true propositions involving wealth are: (a) firms in industry W will strive to increase inventory whenever it falls below x percent of sales; (b) the number of new housing units built has an elasticity of E_{nv} with respect to the vacancy ratio; (c) public utility concerns will refuse to borrow to expand their plant if their debt exceeds R times their operating revenue.

In short, the motivating relationships that need study lie in areas where we have to forecast, cannot forecast without a theory, and cannot theorize without factual data.

5 *Aggregates vs. Component Estimates*

The misuses of wealth estimates about which I complained above are misuses of 'global' figures. They arise when we are so rash as to publicize aggregate figures of wealth or debt.

The legitimate uses of wealth estimates depend upon the components of the wealth-and-claims structures and their interrelations. If we could fill in the master tables (Exhibits I and II) set up for this project—and now largely blank—the most useful figures would be those *inside*, in the cells. Uses for line totals and column totals would be few. As for the figure appearing in the southwest corner where line and column totals are added, it is there only to verify the arithmetic of the line and column additions; its logical force lies in the check-mark which certifies you get the same figure whether you add across or down, not in the figure itself.

The kind of 'structure' varies somewhat from use to use. For tracing mechanical relationships to control our income figures or fill gaps, type-of-asset classification is what we chiefly need. For the motivating relationships, though, we need type-of-holder (or type-of-debtor) classification. This classification has been and remains very thin—a testimonial to inadequate analysis of wealth in the past, and a handicap to its analysis in the future.

B THE STRUCTURE OF CLAIMS AND ECONOMIC MOTIVATION

I *The Balance Sheet and Motives*

The starting point of the motivation approach to the wealth problem is the balance sheet of the individual firm or household, as it affects operations. The process of economic change is always throwing balance sheets out of equilibrium—giving people motives to take steps to change them. Balance sheets have low pressure areas into which they suck assets (newly created or bought from other economic units), as a shortage of size 15½ shirts on the shelves motivates department store buying. Balance sheets have high pressure areas from which they repel assets, as a household that has recently lost members has lost also incentives to buy new beds.

From the standpoint of the motivation problem, no classification of assets and liabilities is perfect. Liabilities must be regarded as held for the sake of holding assets—and as influencing asset structure. Assets may be held: (a) as operating assets, to help carry out the current operations of the economic unit (household outfit, industrial plant, goods in process, working inventory, shares in companies the owner has to control, etc.); (b) as a source of nonoperating income; (c) speculatively, in the hope of capital gain; (d) for liquidity. Note that identical assets may be differently classified by different people. For the C & O, New York Central stock is a channel for the exercise of power—an operating asset; for most holders, asset-holding motives (b) and (c) predominate. Holdings of spot wheat are an operating asset to a miller, a speculative asset to a Board of Trade member. A Treasury certificate is a source of income and of liquidity to a bank, primarily a source of liquidity to a corporation with accrued tax liabilities, but a speculative asset to the Discount Corporation.

The nearest thing to an all purpose classification of balance sheet items is probably by liquidity. Liabilities have *negative* liquidity, shading off from -1 (liquidity of cash = 1) for debts payable tomorrow to a lower coefficient for debts payable 20 years hence. Arrangement by maturity would do fair justice

to the liquidity of debts *if* we could allow properly for fictitious maturities—where renewal is in substance already provided for. On the asset side, items of high liquidity and negligible income (cash) are at one end of the spectrum; at the other end are assets that are firmly tied into the unit's income- or enjoyment-yielding activity (old clothes; parts of essential machinery). Other assets can be ranged on a scale along which liquidity drops and essentiality to the unit's operation rises. Broadly speaking, if any event increases a unit's liquidity (or reduces its need for liquidity) the result will be substitution along this scale. But the assets at the high-essentiality-low-liquidity end are largely the products of capital formation (buildings, machinery, etc.). So such a shift strengthens the market of durable goods producers.

Unfortunately, this is only one dimension of the classifications we might make. We might classify assets according to the stability of their prospective prices. Highly speculative assets may slide rather fast along the liquidity-essentiality scale as speculative attitudes shift. Or we might classify assets by their speed of attrition under some process we are studying (war, or depression, or obsolescence through technical progress). Assets that evaporate quickly are likely to become low pressure sectors of balance sheets and encourage new production.

Any way you look at this classification problem, it is plain that in principle we need to assemble data in the form of a cross tabulation table (such as Exhibit I)—showing assets and claims by type of *both* asset and holder (or debtor). Our inability to fill this table is an index of the thinness of our knowledge.

2 *Valuation Patterns*

From the standpoint of liquidity (or of monetary theory), the problem of motivating relationships among balance sheet items turns on current dollar valuations. Comparisons from time to time or from place to place, as far as I can visualize comparisons we may want, can be put in terms of comparisons of ratios, each ratio being a fraction in which the numerator and denominator are expressed in dollars of like date.

For operating assets, replacement cost is the most appro-

priate standard, for technological progress usually opens options of replacing with lower cost equipment of equal capacity, so that replacement of capacity rather than of physical attributes must be the yardstick.³ The reason is that for many analytical purposes we want to treat increments of operating assets as percentages of the stock, so that comparability of valuation between existing and new assets is essential. I venture the guess that the needs of the mechanical relations and motivating relations studies will run parallel.

For debts payable, a satisfactory first approximation is face value. Refinements of valuation lead to puzzles, however. For one thing, debts *receivable* are always (and properly) valued *ex* an allowance for losses. This implies that in a mechanical-relations study some corresponding subtraction should be made from debts payable. In a motivating-relations study, the situation is different. A debtor who sees default as *inevitable* is in a special situation: he has intense motives to 'milk' his enterprise, and if feasible such debtors should be treated as a special class. A debtor who sees default as *possible but undesirable* is in a very different situation: he may have incentives to 'plunge' speculatively if his default can be avoided only by some sort of spectacular success, or to be ultra-conservative if default can clearly be avoided by playing safe but may ensue if risks are run. Since most defaults are probably not taken into account far in advance in debtors' calculations, the rough and ready solution of taking debts payable at face value is probably not too bad. A second puzzle arises on the side of interest. If (say) a corporation has chosen to float bonds at a discount rather than offer a high coupon rate, discounting future repayments

³ Omission of values for human resources of households is not crucial, from the motivating relations standpoint, because *acquisition* of additions or replacements is not ordinarily a matter of business calculation in the household.

In thinking of intangible wealth attached to firms, however, human resources count—as far as *groupings* have been built up (or are to be built up) on which the efficiency of the firm depends. The superiority of a going concern over a mere heap of resources, blueprints, etc. lies in patterns of cooperation, and in specialized technical knowledge—acquired at a cost, reproducible at a cost, and recognized as real by the practice of insuring lives of key men for the benefit of the firm.

of principal and interest at an interest rate truly relevant to the firm's calculations will yield a present value of the debt below the face value. Owing to the prevalence of capital rationing,⁴ 'internal rates' of economic units probably rule a good deal higher than the rates formally embodied in debt contracts; and it may be argued that debts payable are overvalued on the books in consequence. On the other hand, book value as such must be granted a certain importance in business calculations.

For nonoperating assets, the student of motivating relationships has reason to be interested in market values, book values, and the spread between them; also (as far as these assets are debts receivable) in face value if different from book value. An asset whose market value exceeds its book value may be presumed to be a good deal more liquid in the eyes of its holder than an asset whose market value is less than its book value, especially if the market is below par.⁵ It must be remembered that those who decide to acquire, hold, or sell assets are operating largely with other people's money, and in consequence have reason to be less concerned with maximum gain for their clients and more concerned with adherence to convention and avoidance of actions likely to stir up criticism than those who operate with their own money. Public emphasis on market values in these cases tends to keep clients in a nervous state, as witness the relative situations of investment trusts and life insurance. Trustees have a special incentive to be conservative in selecting assets, and to choose the most stable basis of valuation for their formal accounting—and also for public explanations and private rationalizations of their policy (which in turn must have a significant influence on policy itself).

⁴ See A. G. Hart, *Anticipations, Uncertainty and Dynamic Planning* (University of Chicago Press, 1940), Ch. III.

⁵ On a 2.5 percent yield basis, a 3 percent bond selling at a premium is likely to be looked upon as much more liquid than a 2 percent bond selling at a discount. To sell the 2 percent bond at a discount commonly involves giving up hope of recovery and putting the seal upon a loss—a much more painful process than giving up hope of a larger premium on the 3 percent bond.

In important special cases, however, tax incentives may pull the other way. A security holder who has taxable capital gains in the current tax period may prefer to select for sale securities on which he can register losses.

3 *Grouping of Units*

Obviously there is no way to handle every economic unit separately. So we must group units in such a way that we can presume that their situations and their reaction patterns are somewhat homogeneous. But for the study of motivating relationships, we should think of ourselves as summarizing the balance sheets of comparable units, not as grouping the holders of comparable assets.

These considerations are reflected in the headings of Exhibit I. But the groupings there are internally so heterogeneous that our ability to interpret the group aggregates is much weakened. For example, our column 11 (households) should in principle be divided in each of several ways:

By terms of occupancy

- a) Tenants
- b) Owner-occupants with substantial mortgage
- c) Owner-occupants without substantial mortgage

By level of wealth or of income

- d) Richest 1 percent
 - e) Rest of richest 5 percent
 - f) Rest of richest 10 percent
- etc.

By type of income

- i) Entrepreneurial
- j) Self-employed professional
- k) Wage earners, unionized
- l) Wage earners, nonunionized, and clerical
- m) Salaried professional and administrative
- n) Primarily dependent on property income
- o) Retired
- p) N.e.c.

By type of property held

- q) Proprietors (11i + 11j)
- r) Nonentrepreneurial assets
 - i) Chiefly cash and insurance
 - ii) The above plus owned home

- iii) The above plus other real estate and/or stock-exchange securities
- iv) The above plus securities held with a view to controlling corporations

Within each group, while we are at it, it would be desirable to build up a picture not only of average positions but of the dispersion of positions. For instance, we might distribute number of economic units and amounts of assets with reference to certain crucial asset-to-operating or asset-to-liability ratios.

The above is utopian. But it is worth stressing how far from utopian is the classification of our Exhibits—which in turn is far beyond what we seem able to fill in. Recognizing only one class of credit institution in Exhibits I and II is in the interest of saving space; it does not reflect lack of hope that we can find data. In my illustrative claims tabulation below (Table 1), I have managed to split out four subgroups, and the figures are among the least flimsy in that table. But business subgroups in either Exhibits I and II or Table 1 are too heterogeneous to make much sense in motivation terms. The absence of a separate group of real estate concerns is the most dramatic symptom of this weakness.

As a gauge of the primitive state of our knowledge of wealth, consider Hicks' modest little Table V in *Social Framework of the American Economy*, (p. 134). Of its 18 entries, not including subtotals and totals, we could probably fill in 6 for the United States from the data pulled together for this volume—with, I presume, about a 10 percent margin of accuracy. I might be able to guess the rest within 25 percent, but I cannot guarantee it.

4 *Effects of Heterogeneity*

In the absence of evidence, it might seem natural to shrug off all this fuss about the structure of assets and claims versus the size of the mass of assets. Admitting that in principle we always learn something from additional detail, is the gain worth while in this case?

A presumption is easily established that important evidence

is thrown away in the process of 'consolidating' wealth accounts down to a national aggregate. This presumption rests on the logic of debt. On the average or in the aggregate there is no debt, for every debt is both a payable and a receivable, and must therefore cancel out in the consolidation process. But everyone knows that debt does not cancel out of people's thoughts about their wealth position; and it is hard to believe that debt cancels out as an influence on capital formation and on the course of prices.

The importance of getting down to fairly homogeneous groups may be illustrated by a very sketchy analysis of corporate debt figures from *Statistics of Income for 1940*. Consider first 'all corporations'—excluding those shown in 'finance' except for the real estate subgroup. Their short term debt position was roughly in balance. They had receivables of \$18.2 billion and payables (accounts payable plus notes etc. maturing within a year) of \$18.4 billion. Besides, they had about \$10.7 billion of cash. Thus one would infer that a drop in the price level would increase their liquidity (as is commonly argued in monetary discussions) by raising the 'real' value of their cash and leaving the 'real' value of their net short term debt position undisturbed. The general inference is that flexibility of price levels would have a stabilizing effect on activity, since a drop would increase investment incentives via this rise in corporate liquidity.⁶

When we go into details by industrial groups, though, this inference is shaken. Consider 'public utilities and transportation'. Here receivables added up to \$1.44 billion and payables due within one year to \$2.12 billion, implying net debtorship of \$0.68 billion. In addition, long term debt was so overshadowing (\$23.3 billion) that maturities beyond 1 year must be taken as a serious negative item in liquidity.⁷ Cash was only \$1.85 billion. Prospects of a gain in liquidity in this sector through

⁶ Figures for households show them in a position to gain liquidity also by a decline in the price level.

⁷ For the inclusive group of corporations delimited above, long term debt stood at \$42.0 billion, or only about 3.9 times cash, as compared with 12.6 times cash for utilities and transportation.

price decline were thus far from bright. But a large proportion of the investment opportunity one would hope greater liquidity would uncover lies in this field.

In the real estate sector, even more damage is done to the general inference. Receivables were \$0.94 billion, payables \$1.87 billion, cash \$0.41 billion. So debts payable within one year exceeded receivables *plus cash* by a margin of \$0.52 billion. Into the bargain, the shadow of long term debt was still deeper—nearly 22 times cash.⁸ Here is another large block of investment opportunities.

These figures suggest that quite possibly in a deflation the increase in liquidity is in one set of hands and the access to investment opportunity in another. This may make quite a difference to the theory of money and business fluctuations. But there is no use pursuing these theoretical inferences here. The point is that we have to look inside the structure of claims before we can get reliable evidence on the motivating relationships of the balance sheet to operations.

C THE UNSATISFACTORY STATE OF KNOWLEDGE ABOUT WEALTH

1 *The Blanks in the Tables*

In view of the amount of spade-work on wealth which this batch of papers embodies, it might be natural to feel we are well on the way to an adequate knowledge about wealth. But this examination of the claims side of the wealth picture, and of the motivating relationships, says that we have barely made a beginning.

As mentioned above, the blanks in our master tables tell the story. We have a lot of bits and pieces, but they do not add up well. If we drew only upon the evidence assembled for this meeting, we could not fill in the key balance sheet items for

⁸ The situation was slightly better for profitable real estate corporations, which showed cash of \$0.23 billion, receivables of \$0.39 billion, accounts payable of \$0.33 billion, and other debt maturing within the year of \$0.26 billion. Long term debt stood at about 13.3 times cash. But this is still not a picture of a group of corporations that stands to gain liquidity from a price decline.

more than one or two major groups. Obviously we cannot afford to identify this set of reports with the sum of professional knowledge. At some points various byproducts of Morris Copeland's moneyflows study will fill in;⁹ at others we can use evidence from Federal Reserve studies of liquid assets; at others evidence from the National Bureau financial research program. But even taking all this into account, I still assert the evidence does not add up.

2 *Weakness in the Theory of Assets*

Part of the responsibility for our sad state of ignorance comes home to my own field of economic theory. In theory as in factual research, the interwar period was one of growing preoccupation with economic flows to the neglect of the problems of stocks. It was high time we discovered the income effect, and its pervasiveness in all the lines of work theorists have lately taken up (except monopolistic competition, where it is perhaps underrated), shows that theorists are trying to make up for lost time. But now it is high time we discovered the balance sheet effect.

Some work has been done in this direction—notably by Marschak and Hicks, and on a plane closer to policy lately by Homer Jones.¹⁰ I hope I am making some contribution in a recent book on money.¹¹ But having tried last year to run a seminar in this field, and having been forced to prune back some of the more ambitious growths in the money book, I have the feeling that we theorists have not yet found the right way to set this knotty problem up so that we can get our axes into it.

⁹ His very illuminating paper below, which fills several gaps I complain of for a few recent years, was not available when this was drafted.

¹⁰ Jacob Marschak, 'Money and the Theory of Assets', *Econometrica*, Vol. 6 (1938), pp. 311-25; Makower and Marschak, 'Assets, Prices and Monetary Theory', *Economica* (New Series, V, 1938), pp. 261-88; J. R. Hicks, 'A Suggestion for Simplifying the Theory of Money', *Economica* (New Series, II, 1935), pp. 1-19; *Value and Capital* (Oxford University Press, 1939), passim; Homer Jones, 'Investment Prospects', *Journal of Finance*, Vol. 2 (1947), pp. 15-33.

¹¹ A. G. Hart, *Money, Debt and Economic Activity* (Prentice-Hall, 1948), Ch. VIII.

3 *Lack of Evidence on Motivation*

I venture the guess that much of our trouble in this field springs from trying to theorize without enough evidence how motives actually tie together. We have little systematic knowledge how business men and consumers frame their estimates of the future. We have little systematic knowledge what happens when there are strategic changes in business plans—who is called in conclave, what evidence is pulled together, what arguments are given weight.

The time is ripe for trying to assemble and systematize a lot of interview information on business and household decisions. There seem to be several exploratory studies going on, and procedures for getting this sort of information have improved greatly in the last decade or so. But it will clearly be some years before economic theory (and thus the terms of reference of factual inquiries) can get the full benefit of such studies.¹²

4 *Need for an Economic-Unit Focus*

Having just filed what amounts to a petition-in-bankruptcy on behalf of economic theory, I may be in a poor position to suggest redirection of research. Yet I think some rather elementary theoretical considerations can help us stumble forward.

The starting point of theoretical inquiry is the notion that economic events are things done on behalf of economic units (households and firms). The post-Marshallian reorganization of economic theory rests upon the insight that forces affecting private operations must act via the decision-making of these units. Thus we can never go wrong in taking these units as a focus of analysis.

The inference for wealth studies is that we need monographic treatment of the wealth position of various classes of economic units, and its role in their operations. For some areas (especially banking, life insurance, transportation, and manufacturing), we have prefabricated source book material that

¹² On this problem of evidence see my 'Liquidity and Investment', *American Economic Review*, Supplement, May 1949.

makes it fairly easy to build up a rough picture. At the other extreme, we have only fragmentary evidence on the wealth position of private households (especially on the dispersion of such positions), and on the position of unincorporated business. In both these fields there is room for exploratory studies devoted to piecing together this fragmentary evidence.¹³ Even more urgent, though, is the invention of ways to get certain key pieces of evidence to fill gaps.

If there is to be a fresh set of assignments on wealth under the Conference, I would like to urge that they should divide the field by type of economic unit rather than by type of asset, and aim to yield balance sheets for each main type such as we now have for agriculture and for banking. If the Conference decides to adjourn its wealth inquiries to more favorable times, I would like to urge that individual workers try to work on the weakest type of unit areas (households and unincorporated business) as a contribution to hastening those more favorable times.

D THE STRUCTURE OF CLAIMS

The information on national wealth assembled for this volume is designed primarily to yield an inventory of physical assets in the United States. An inventory of claims upon wealth is supposed to arise as a byproduct.

I have already voiced my protest against this way of looking at things. The central point is simply that our inquiry was not designed so that it could yield the desired byproduct, since it was organized by types of assets rather than by types of economic units holding the assets. According to forecast, our inquiry has in fact not yielded an inventory of claims. Specifically, only the papers of Copeland, Burroughs, Kosh, and Sammons provide figures in usable form that go beyond those

¹³ My experience ten years ago in working out *Debts and Recovery* (Twentieth Century Fund, 1938) convinced me that ingenuity applied to these fragments could do a good deal—and could focus the uncertainties on a few crucial questions of fact which might be approachable by field study techniques.

available in print, and Kosh's happen to be only for 1946—a year for which other data are still fragmentary. Any gesture at filling in the forms we optimistically called 'Exhibits' I and II would be quite futile.

Could a rough picture of the structure of claims be pieced together from outside sources? At some risk to my professional reputation, I have attempted a sketch (Table 1) of claims existing in 1939. Some of the figures have direct evidence behind them; others are strongly indicated by fairly rigorous procedures of subtraction and cross-comparison; some are rank guesses. The only merit I can claim for the table factually is that I have tried to avoid contradicting known facts. Analytically, it has the merit of showing what kind of thing we would know if we put resources into a well coordinated study of claims; this is its real justification.

1 *Transactor Groups*

In building a brick house without clay in this fashion, it is essential to keep the structure simple. So I have pared down the number of transactor groups to (or perhaps past) the irreducible minimum. Working from right to left in the headings of the table, I have recognized two groups of 'ultimate' holders of wealth. Households must obviously be included. But since the wealth of governments and of private collectives (universities; mutual associations in respect of their unappropriated surplus) is not allocated to specific households, they also have to appear as ultimates; here they are lumped together.¹⁴ If we included, besides claims, an inventory of the physical assets owned by each transactor group, the total of such assets directly owned by ultimates plus net claims owned by ultimates would be the total of national wealth. All other transactor groups are treated as 'intermediaries', through claims upon which physical assets are indirectly owned by ultimates.

¹⁴ By a useful if artificial convention I have treated mutual life insurance companies, mutual savings banks, and savings and loan associations as credit institutions but carried their equity over as an asset of a (fictitious) collective.

The intermediaries are split into two major groups. Credit institutions are organizations that deal almost entirely in debt claims—physical assets and equity claims being incidental. The main subgroups are banks and life insurance companies. ‘Other private credit institutions’ include savings and loan associations, brokers, installment finance houses, etc. (Insurance other than life is treated as ‘business’ in the narrower sense.) For clarity, government ‘corporations and credit agencies’ are split off and treated here; the government’s debt claims against them and ‘net proprietary interest’ are carried over to government in the ‘ultimates’ column. (Taxes accrued but unpaid, etc. are treated as assets of ‘governments and private collectives’.) The Federal Reserve is treated as a government credit agency.

The domestic business group is split only three ways—corporations, farms, and noncorporate enterprise. The ‘rest of the world’ is treated as a business subgroup; a case could be made for setting it up as a major group rather than a subgroup, but this would complicate the table.

The ‘gross total’ figures which ornament the top line and left columns are mere operators with little analytical significance of their own. The more significant totals are the ‘net’ figures at the bottom of the main sections of the table and the ‘total ultimates’ figures at the right.

2 *Table Layout*

The table is laid out in four parts—cash and short term debt claims, long term debt claims, equity claims, and net claims. In each, the column headings are for major and minor transactor groups. In each of the first three, the stub is also for transactor groups. Thus the table is a cross-tabulation (with ‘stuffings’ which measure amounts of claims in billions of current dollars).

This cross-tabulation form is intended to help crystallize the concept of ‘structure’ in claims. It emphasizes the two-ended nature of a claim, and shows balance sheets of individual transactor groups as line and column crosses in a claims matrix. It

is helpful also for the detective work involved in research. Since each claim has two ends, it can always be found on two balance sheets. Estimates from both can be compared and figures from one balance sheet adjusted by figures from the other. As long as we lack direct evidence on balance sheets of individuals, we are slaves to residual estimation for many key figures; and here the rigidity of the cross-tabulation aids in guessing shrewdly.

Once we have data, sorting out balance sheets for separate groups will be helpful for further analysis. Furthermore, in view of differing motivation patterns, evidence can often be better presented with somewhat diverging balance sheet forms. But for fact finding, standardized forms and a cross-tabulation are essential—their absence is one reason for our poor success on the claims side in this study.

3 *The Short Term Structure*

In the short term section of the table, two monetary accounts appear on the debtor stub, without corresponding spaces in the creditor heading. This gives monetary gold and silver stocks a chance to come into the national wealth; and of course it brings cash plus receivables out above payables. Gold certificates are taken as evidence of Federal Reserve ownership of gold rather than as Treasury debts; but 'Treasury currency' and Federal Reserve Notes are treated (line M2) as debts for the issuers.

In the business columns a substantial short term creditorship appears, owing chiefly to the inclusion of cash (lines M2 and C1) among receivables. Noncash receivables for business roughly canceled short term debts payable. For corporations n.e.c., short term payables were roughly \$29 billion and receivables \$30 billion. On the other hand, these figures (based on *Statistics of Income*, excluding banking, etc.) presumably overstate receivables relative to payables and to cash, because of transit items debtors have charged off from both payables and cash but creditors have not yet transferred from receivables to cash.

Credit institutions appear as substantial short term debtors

because virtually all their liabilities (deposits, insurance cash values, savings and loan redeemable shares) are short term, while bonds and mortgages loom large among their assets. Households also appear as heavy net creditors, but only in virtue of cash assets. Better accounting for accrued wages and salaries, etc. would add to their apparent receivables; but not enough to outweigh installment debts, etc.

4 *The Long Term Debt Structure*

In the long term section, the monetary debtor accounts are missing. Besides, the credit institutions appear only as creditors. Business and government show up as net debtors; households (thanks to their holdings of bonds) as net creditors.

Here even more than in the short term table we miss information on finer subgroups. Surely many households as of 1939 must have been net debtors on long term account because of mortgages. And as already noted, real estate and utility corporations were heavy net debtors (besides being smaller net debtors on short term). The transactor group classification is too coarse for much use.

5 *The Equity Structure*

Almost by definition, the equity structure has to be curiously tilted. As business and credit institutions are not self-owning, their equities end up in the ultimates columns. Almost all the equity claims of households of course arise in 'business'.

Here we are particularly at a loss for information on what Mr. Goldsmith calls the 'valuation difference'. In the debt accounts, our chief worry is about the creditor's reserves for bad debts; though there are interesting puzzles about fluctuations in the market value of bonds. But in the equity accounts the market value of stocks is of the essence. The table is based on book values of concerns valued (*Statistics of Income*, chiefly). We might well lay out another table in the same form and stuff its cells with valuation differences instead of book values. But where are we to go for data?

6 *Minimum Requirements of Wealth Estimates*

A calculation of the sort just outlined, somewhat refined, could serve the purpose of the Hicks-Campion table. A series of such jobs for individual years could be the basis for some interpretation. A claims table can probably be worked out annually from 1928 onward—with a moderate improvement of data beginning during the war. If a physical assets table to match could also be worked out annually, we could get some clue to the shift of economic motives resulting from the cumulative effect of transactions, and from (*beziehungsweise* reflected in) revaluations of assets and claims. Unfortunately, an annual series of physical assets data may be hard to get.

The amount of interpretation one can base on this sort of table, though, depends on further cross-classification to increase the number of transactor groups. This will involve a curious sort of cut-and-try in using the cross-tab, since the borders of the table can be cross-classified more finely than the stuffings, and some of the stuffings data are lumpy.

7 *Research Agenda for Claims*

If we aim to get an adequate analysis of national wealth, as I pointed out above, we need further research on the claims side. Here is a list of specific projects that need working:

Credit institutions. Compilation of credit institution balance sheets set up to fit national wealth accounts, annually, with special regard to who holds the other end of the claim string (so as to facilitate use of bank, insurance, etc. data to fill in balance sheets of other transactor groups). Differences between bank book value and value on the books at the other end of the string may prove measurable.

Corporations. A similar job for corporations by major groups, using *Statistics of Income* supplemented by SEC data, Standard Statistics estimates, market values of shares, etc. Utilities and credit institutions should be pulled out of the *Statistics of Income* compilations and figures from direct sources put back in. As a special problem, the interbusiness float needs analysis.

Table 1: Balance Sheet for the Economy, Illustrative Cross-tabulation of Claims, 1939
(billions of current dollars)

CAUTION: As may be seen from the lack of detailed annotation, the figures below are very supposititious; many, in fact, are rank guesses. In the preliminary version of this paper, it was thought best to present tables containing such supposititious figures rather than mere blank spaces surrounded by headings and stubs. It was intended to replace these figures with more solid estimates from the related papers; but the related papers failed to yield the needed data. Against the advice of several very competent critics, I have taken the responsibility of reproducing the supposititious figures (which at least illustrate the kinds of relationship the claims-structure embodies) rather than leave the tables blank or invest the enormous amount of work it would take to satisfy myself that each figure was the best estimate I could make for the magnitude it purports to represent. *Few of the individual figures are very good estimates, and none should be used out of the context provided by the others.*

HOLDERS OF ASSETS	GROSS TOTAL (TB+TC+TU) TG	BUSINESS				CREDIT INSTITUTIONS				GOVT.				ULTIMATES				
		Corp. n.e.c. B1	Farms n.e.c. B2	Non-corp. n.e.c. B3	Rest of world B4	Subtotal TB	Banks CI	Life insur. ance C2	Other priv. cred. C3	Govt. corp. & Fed. Res. total C4	TC	Govts. & priv. collect. U1	Households U2	Subtotal TU				
DEBTORS																		
TG Gross total	188	46	4	11	3	64	34	1	2	11	48	11	65	76				
<i>Monetary Accounts</i>																		
M1 Gold & silver	19	0	0	0	0	0	0	0	0	0	15	4	0	4				
M2 Other money, net	0	1	1	1	*	3	1	*	*	-5	-4	-2	3	1				
TM Subtotal	19	1	1	1	*	3	1	*	*	10	11	2	3	5				
<i>Business</i>																		
B1 Corp. n.e.c.	29	19	*	3	*	22	5	*	*	1	6	1	*	1				
B2 Farms	3	1	0	*	*	1	2	*	*	*	2	*	*	*				
B3 Noncorp. n.e.c.	13	8	*	2	*	10	3	*	*	*	3	*	*	*				
B4 Rest of world	1	*	*	*	0	*	*	*	*	*	*	*	*	*				
TB Subtotal	46	28	*	5	*	33	10	*	*	1	11	1	1	2				
<i>Credit Institutions</i>																		
C1 Banks	61	13	3	4	3	23	0	1	*	*	1	4	33	37				
C2 Life insurance	23	2	*	*	*	2	*	0	*	*	*	0	21	21				
C3 Other priv. cred.	8	*	*	*	*	*	3	*	*	*	3	*	5	5				
C4 Govt. corp. & Fed. Res.	12	*	*	*	*	*	12	*	*	*	12	*	*	*				
TC Subtotal	104	15	3	4	3	25	15	1	*	*	16	4	59	63				
<i>Ultimates</i>																		
U1 Govts. & priv. collect.	5	1	*	*	*	1	2	*	*	*	2	*	2	2				
U2 Households	14	1	*	1	*	2	6	*	*	*	8	4	4	4				
TU Subtotal	19	2	*	1	*	3	8	*	*	*	10	4	4	6				
TNS Net short term creditorship	19	17	1	-2	2	18	-27	-22	-6	-1	-56	6	51	57				

	125	6	*	*	LONG TERM DEBT CLAIMS										51	55
					6	33	21	5	5	64	4					
TG Gross total	125	6	*	*	*	6	33	21	5	5	64	4	51	55		
<i>Business</i>																
B1 Corp. n.e.c.	45	4	*	*	*	4	6	9	*	*	15	*	26	26		
B2 Farms	7	*	*	*	*	*	1	1	*	3	5	*	2	2		
B3 Noncorp. n.e.c.	5	*	*	*	*	*	3	2	*	*	5	*	*	*		
B4 Rest of world	3	*	*	*	*	*	1	*	*	*	1	*	2	2		
BT Subtotal	60	4	*	*	*	4	11	12	*	3	26	*	30	30		
<i>Ultimates</i>																
U1 Govts. & priv. collect.	41	1	*	*	*	1	16	6	*	*	22	2	16	18		
U2 Households	24	1	*	*	*	1	6	3	5	2	16	2	5	7		
TU Subtotal	65	2	*	*	*	2	22	9	5	2	38	4	21	25		
TNL Net long term creditorship	0	-39	-7	-5	-3	-54	33	21	5	5	64	-37	27	-10		

EQUITY CLAIMS (AT BOOK VALUE OF CONCERN VALUED)

	254	42	*	3	6	51	2	*	*	2	8	193	201
TG Gross total	254	42	*	3	6	51	2	*	*	2	8	193	201
<i>Business</i>													
B1 Corp. n.e.c.	126	37	*	3	6	46	*	*	*	*	*	80	80
B2 Farms	44	*	0	*	*	*	*	*	*	*	*	44	44
B3 Noncorp. n.e.c.	60	*	0	*	*	*	*	*	*	*	*	60	60
B4 Rest of world	9	5	*	0	0	5	1	*	*	1	*	3	3
BT Subtotal	239	42	*	3	6	51	1	*	*	1	*	187	187
<i>Credit Institutions</i>													
C1 Banks	8	*	*	*	*	*	1	*	*	1	1	6	7
C2 Life insurance	2	*	*	*	*	*	*	*	*	*	2	*	2
C3 Other priv. cred.	1	*	*	*	*	*	*	*	*	*	1	*	1
C4 Govt. corp. & Fed. Res.	4	*	*	*	*	*	*	*	*	*	4	*	4
CT Subtotal	15	*	*	*	*	*	1	*	*	1	8	6	14
TNE Net equity	0	-84	-44	-57	-3	-188	-6	-2	-1	-4	-13	193	201

NET CLAIMS (EQUITY AT BOOK VALUE OF CONCERN VALUED)

	19	17	1	-2	2	18	-27	33	21	5	-1	-56	6	51	57
TNL Net long term creditorship	0	-39	-7	-5	-3	-54	-6	-6	-2	-1	-4	-13	-37	27	-10
TNE Net equity	0	-84	-44	-57	-3	-188	-6	-2	-1	-4	-13	-13	8	193	201
TNC Net claims	19	-106	-50	-64	-4	-224	0	-3	-2	0	-5	-5	-23	271	248

0: zero by convention.

* Less than 500 million.

Unincorporated Nonfarm Business. Shrewd guesses may be made from sample data at the National Bureau of Economic Research and Dun and Bradstreet.

Households, Trust Accounts, etc. While data are fragmentary, it would pay to array them and see how near they come to giving information (capitalized income tax data, trust account data, etc. are samples of the fragments).