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A Note on Negotiable Claims: Who Owns and Who Owes What

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THE EXPLORATORY STUDY OF MONEYFLOWS IN WHICH I have been engaged has been addressed in part to the question, who owns negotiable claims (including trade credit), and whose obligations do these claims represent? A byproduct of the attempt to answer this question is information that can contribute something to the objective that was the special concern of the 1948 meeting of the Income Conference: the development of a national balance sheet.

I shall first sketch briefly the nature of the money circuit measures developed, then deal specifically with the estimates that have to do with liquid and negotiable claims.

A THE MONEYFLOWS PROJECT

For the purpose of tracing moneyflows through the economy, the economy was divided into eleven sectors, and a financial statement specially designed to reveal moneyflows and loan-fund balances estimated for each sector. The period covered by the exploratory study and by these financial statements is 1936-42. The financial statements for the several sectors all conform to a standard pattern. They tell us who paid and who received how much on account of various types of transaction —payrolls, interest, etc. They tell us also who owned and who owed how much on account of various types of claim. A major objective was to relate money, credit, and the financial structure of our economy on the one hand and gross national product on the other.

The economy was divided into eleven sectors. The financial

I Households
II Farms
III Industrial corporations
IV Business proprietors and partnerships et al
V The federal government
VI State and local governments
VII Banks and U.S. monetary funds
VIII Life insurance companies
IX Other insurance carriers
X Security and realty firms et al
XI The rest of the world

statement for each sector, that is, for each group of transactors, is divided into two parts. Part One, the moneyflows account, shows receipts and expenditures on account of various types of transaction. A standard list of transaction types is used for all

eleven sectors. Total receipts from these thirteen types of transaction are called total ordinary receipts. Total expenditures in

Types of Transaction	
1 Gross cash pay	8 Net payments for real estate transfers
2 Cash interest	9 Taxes collected
3 Cash dividends	10 Tax refunds
4 Net owner takeouts	11 Insurance premiums
5 Instalments to contractors	12 Insurance benefits
6 Gross rents	13 Public purpose payments
7 Customer moneyflows	

connection with these thirteen types of transaction are called total ordinary expenditures. When ordinary expenditures exceed ordinary receipts the balancing item in the moneyflows account is called net money obtained through financing. When ordinary receipts exceed ordinary expenditures the balancing item is called net money advanced or returned to others.

Part Two of the financial statement for each transactor group deals with negotiable claims and trade credit claims. These claims are referred to as loanfund balances. Claims owned (loanfunds receivable) include currency and deposits (claims against banks and U.S. monetary funds), loans and securities held, and trade receivables. In the case of banks and U.S. monetary funds there are two special additional types of claims owned, the monetary gold stock and the technical item known as Treasury currency, a major component of which is the monetary silver stock. The monetary gold stock is regarded as a demand claim held by a U.S. monetary fund upon the rest of the world.

The claims owed by the various transactor groups include trade payables and miscellaneous debts—bonds, notes, mortgages, and debentures. In the case of private corporations paid-in capital also is counted as a loanfund payable.[1]

Accrual claims, notably insurance reserves, do not appear on the financial statements. The statements report facts on a moneyflows, not on an accrual, basis. The moneyflows basis is a cash basis for most items in the statements, a book-credit basis for purchases on open account.[2]

1 Since the Exchange Stabilization Fund is treated as a part of the sector, banks and U.S. monetary funds, its paid-in capital also is treated as a loanfund payable.

2 Contract construction work is on a contractor's billing basis.

The balancing item in Part One of each financial statement is, as I have indicated, either net money advanced or returned to others or net money obtained through financing. When a transactor advances funds to others his net claims on others increase or their net claims on him decrease. When a transactor obtains funds there is a converse change in his net claim position. Thus the balancing item for Part One of the statement can be computed from the changes in the claims one owns and in the claims one owes others.

The eleven financial statements constitute what may be called the basic information of the moneyflows study. But two other types of exhibit should be mentioned. One is a summary moneyflows account consisting of four items. Like the detailed

Gross national product expenditures	Net money obtained through financing or net money advanced to finance others
Net receipts from other production transactions	
Net transfer payments or receipts	

moneyflows account, this four-item summary is a balancing account except for statistical discrepancies.

The other type of exhibit is a set of national accounts. Each national account is derived by recapping information from the eleven more detailed financial statements. Some of these accounts recap information pertaining to various types of transaction and some recap information pertaining to various types of claim. Thus there is a national account for customer moneyflows. It shows the receipts by each sector of the economy from its customers and the expenditures by each sector as a customer. This account and the other national accounts, apart from statistical discrepancies and apart from deviations from a uniform system of accounting, are all balancing accounts. It is the national accounts dealing with claims or loanfund balances that are our immediate concern.

B National Loanfund Accounts

In theory at least, every claim has a double aspect: it is an asset to and an obligation for someone. 'Loanfunds', as I shall use

the term, refer not to all claims but to a major subclass, what may be called negotiable and trade credit claims.

Because claims have a double aspect it would seem desirable so far as feasible to define loanfunds receivable and payable in such a way that what appears as an asset on the financial statement of one transactor shall appear as an obligation on the statement of another, and vice versa. It would seem desirable also to have a uniform method of classifying loanfunds receivable and payable so that a separate national account, a separate balance sheet, can be set up for each type of claim, each balance sheet detailing the assets held by the various claimant sectors and the obligations outstanding against the various obligor sectors. Thus our objective might be to estimate the following national balance sheets:

a) Cash (currency and bank deposits)
b) Book credit (trade receivables and payables)
c) Bonds, notes, debentures, and mortgages
d) Capital stock of private corporations
e) The monetary gold and silver stocks

Now if such balance sheets are to be in a reasonably useful form, it must not be too difficult to relate them to established compilations of balance sheet data for the various sectors of the economy. But these established compilations necessarily reflect the diverse practices customary in the several sectors of the economy. Because the objective of tying in with established compilations and the objective of uniform procedures across the board conflict, a compromise must be struck.

The need to compromise has led to the following results. First, the loanfund balance sheets do not balance. In fact, the discrepancies are large. Second, the definitions of loanfunds receivable and payable do not articulate closely. There are some claims for which only one aspect appears in the loanfund balance sheets. Third, we have three accounts instead of five and the separation of even these three accounts is incomplete. The three accounts are [8]:

[8] The tables are numbered 28, 29, and 31 instead of 1, 2, and 3 because they are preprints of tables from the main report on the moneyflows study.

Table 28, Cash, Book Credit, and Gold
Table 29, Federal Obligations and Treasury Currency
Table 31, Other Loans and Securities

Only a few series in these tables are really firm. Among the firmest are the federal cash balance and total federal obligations held by the public. Most of the series relating to households, to business proprietors and partnerships et al, and to security and realty firms et al are somewhat shaky estimates. Other series occupy an intermediate position on the scale of dependability.

The three tables were devised to tie into the moneyflows accounts and the requirements for this purpose and for the purpose of a national balance sheet are different. Nonetheless, I think a reasonably good picture of the broad outlines of our negotiable claims (and trade credit) structure can be obtained from these three tables.

In interpreting the tables we need to specify what we mean by an obligor and by a claimant, or to use a more general term, what we mean by a transactor. In particular, for this type of balance sheet information it is essential to indicate to what extent the information is on a consolidated basis and to what extent it is on a combined basis. For example, if the federal Old-Age and Survivors Insurance fund owns $9 billion worth of securities that are part of the federal gross direct debt, and if we treat the OASI fund and the general fund of the Treasury as separate transactors, these $9 billion will appear in the national loanfund accounts. But if we treat the federal government as a single transactor, that is, present the balance sheet information for it on a consolidated basis, these $9 billion will not appear; they will cancel out in the process of consolidation.

The moneyflows study treats each of the following sectors of the economy as a single transactor:

a) The federal government (hence interfund claims such as federal government obligations held by the OASI fund are not shown).

b) Banks and U.S. monetary funds (hence interbank borrow-

ing and Federal Reserve Bank paid-in capital are not shown).
c) The rest of the world (only the cumulative difference between foreign held or issued claims coming to the United States and U.S. held or issued claims going to the rest of the world is shown. This series is arbitrarily set at zero as of the end of 1935).

The question of the degree of consolidation employed in national claims exhibits is important also in connection with three of the other eight sectors of the economy—industrial corporations, security and realty firms et al, and state and local governments. With regard to the first two, the aim was (except for corporate reorganization) to treat as a separate transactor each corporation that filed a separate federal income tax return in 1939. With regard to the third sector the aim was to treat as a separate transactor, each state, each municipal corporation, and each other unit of local government recognized by the Census Bureau in its compilations.

In interpreting Tables 28, 29, and 31 it would have been helpful to include the full specifications of the methods, but that was impossible in the time at my disposal. They are given in Appendix A to the main report on the moneyflows study, now in preparation. A few are commented on briefly here.

First, the economy was divided into sectors on the basis of an industrial classification of owners or transactors (as distinguished from a classification of establishments). The grouping follows the standard classification as far as that is applicable.

Second, there are three main types of deviation from a uniform system of accounting:
a) Method of valuation: there are significant differences between the value of a claim in its loanfund receivable and in its loanfund payable aspects.
b) Method of classification: every moneyflow transaction appears on two sets of books: those of the paying transactor and of the recipient. A transaction may be classified differently on the two records; and sometimes a difference in classification may have the effect of making an identifiable loanfund balance change appear on one record and not on the other.
c) Timing: the same transaction may be entered on one set of

TABLE 28

THE NATIONAL CURRENCY

(Millions of

		1935	1936	1937	1938
	ASSETS, DECEMBER 31				
A	Households	29,000	31,800	32,200	32,400
B	Farms	1,600	1,900	1,900	1,900
C	Industrial Corporations	8,500	8,900	8,100	9,000
D	Business Proprietors and Partnerships et al	4,700	5,200	5,400	5,400
E	The Federal Government	2,240	1,980	3,020	3,160
F	State and Local Governments	3,300	3,500	3,400	3,700
G	Life Insurance Companies	800	800	700	800
H	Other Insurance Carriers	400	500	500	600
J	Security and Realty Firms et al	1,800	1,900	1,800	1,900
K	The Rest of the World	1,000	1,300	1,500	1,900
L	All Transactors	53,400	57,700	58,400	60,700
	LIABILITIES, DECEMBER 31				
M	Banks and U. S. Monetary Funds	53,800	58,600	59,100	61,300
N	Discrepancy (Balance Receivable)	-400	- 800	- 700	- 600

THE NATIONAL

(Millions of

		1935	1936	1937	1938
	ASSETS, DECEMBER 31				
P	Industrial Corporations	14,700	16,100	15,600	15,000
Q	Business Proprietors and Partnerships et al	6,300	6,900	7,000	6,400
R	The Federal Government	0	20	20	20
S	All Transactors	20,900	23,100	22,700	21,400
	LIABILITIES, DECEMBER 31				
T	Households	2,600	3,100	3,400	3,400
U	Farms	1,400	1,600	1,800	1,600
V	Industrial Corporations	11,400	12,600	11,400	11,200
W	Business Proprietors and Partnerships et al	5,000	5,500	5,900	4,800
X	The Federal Government	80	80	80	100
Y	Security and Realty Firms et al	200	200	300	300
Z	All Transactors	20,800	23,100	22,800	21,400
a	Discrepancy (Balance Receivable)	200	1/	- 200	1/

THE NATIONAL

(Millions of

		1935	1936	1937	1938
	ASSETS, DECEMBER 31				
b	Banks and U. S. Monetary Funds	10,100	11,300	12,800	14,500
	LIABILITIES, DECEMBER 31				
c	The Rest of the World	0	1,100	2,400	4,100
d	Discrepancy (Balance Receivable)	10,100	10,100	10,300	10,400

COMPUTATION OF DISCREPANCY BETWEEN

(Millions of

		1935	1936	1937	1938
e	Discrepancy (Net Loanfund Balance Receivable)	9,900	9,300	9,500	9,800
f	Increment in Net Loanfund Balance Receivable		- 600	200	300
	VALUATION ADJUSTMENTS a/c BAD DEBTS				
g	Households (Debts Forgiven)		500	500	500
h	Industrial Corporations #		-500	-400	-300
i	Business Proprietors and Partnerships et al #		-200	-200	-200
j	All Transactors		-200	-100	1/
k	Discrepancy (Money Advanced or Returned Less Money Obtained)		-500	400	300

Note: Due to rounding, figures for various lines calculated by formulas given in the source column may differ slightly from the entries shown.
#Receivables recoveries and debts forgiven minus receivables write-offs.

AND DEPOSITS ACCOUNT

Dollars)

1939	1940	1941	1942	Source	
34,900	36,600	40,200	47,200	P&B-I-d	A
2,100	2,300	2,800	4,100	P&B-II-U	B
10,000	11,900	12,800	16,100	P&B-III-a	C
5,600	6,500	7,200	9,400	P&B-IV-a	D
2,580	2,020	3,660	10,680	P&B-V-b	E
3,600	4,000	4,400	4,600	P&B-VI-b	F
900	1,000	900	700	P&B-VIII-Y	G
700	900	900	800	P&B-IX-W	H
2,000	2,400	2,500	2,900	P&B-X-b	J
3,100	3,900	3,500	3,800	P&B-XI-X	K
65,600	71,600	79,000	100,300	Total A thru K	L
66,500	73,300	80,900	102,400	P&B-VII-b	M
- 900	-1,700	-1,900	-2,100	L minus M	N

BOOK CREDIT ACCOUNT

Dollars)

1939	1940	1941	1942		
16,200	17,800 2/	21,200 2/	22,600 2/	P&B-III-b	P
6,700	7,300	8,600	8,200	P&B-IV-b	Q
40	400	400	1,360	P&B-V-c	R
22,900	25,500	30,200	32,200	P + Q + R	S
3,600	3,900	4,200	3,200	P&B-I-h	T
1,500	1,700	1,700	1,500	P&B-II-W	U
12,200	12,800	14,400	14,800	P&B-III-f	V
5,200	5,300	6,300	5,900	P&B-IV-f	W
100	-80	780	4,100	P&B-V-f	X
300	300	300	300	P&B-X-f	Y
22,900	23,900	27,700	29,800	Total T thru Y	Z
100	1,600	2,500	2,400	S minus Z	a

GOLD ACCOUNT

Dollars)

1939	1940	1941	1942		
17,600	22,000	22,700	22,700	P&B-VII-W	b
7,100	11,200	11,800	11,600	P&B-XI-b	c
10,600	10,800	11,000	11,100	b minus c	d

MONEY OBTAINED AND MONEY ADVANCED

Dollars)

1939	1940	1941	1942		
9,700	10,700	11,500	11,400	N + a + d	e
- 100	1,000	800	- 100	Increment in e	f
500	500	500	500	P&B-I-n	g
-400	-300	-400	-300	IC 306 B	h
-200	-200	-200	-200	P&B-IV-k	i
-100	1/	-100	1/	g + h + i	j
1/	1,000	900	-100	f minus j	k

1/Lies between ± $50 million.

2/A substantial part of the item on line Q in Table 31, Government Advances and Prepayments, is properly a deduction from these receivables.

TABLE 29

THE FEDERAL

(Millions of

		1935	1936	1937	1938
	ASSETS, DECEMBER 31				
A	Households	9,300	9,800	10,400	10,000
B	Industrial Corporations	1,800	1,700	1,700	1,600
C	Business Proprietors and Partnerships et al	600	700	800	800
D	State and Local Governments	200	300	300	300
E	Banks and U. S. Monetary Funds	19,500	21,500	20,700	22,100
F	Life Insurance Companies	2,600	3,700	4,400	4,800
G	Other Insurance Carriers	600	800	900	1,000
H	Security and Realty Firms et al	1,100	1,200	1,300	1,400
J	The Rest of the World	0	0	0	0
K	All Transactors	35,700	39,600	40,400	41,900
	LIABILITIES, DECEMBER 31				
L	Federal Government Debt Held by the Public	35,500	39,400	40,500	41,900
M	Discrepancy (Balance Receivable)	300	200	- 100	- 100

THE TREASURY

(Millions of

		1935	1936	1937	1938
	ASSETS, DECEMBER 31				
N	Banks and U. S. Monetary Funds	2,500	2,500	2,600	2,800
P	All Transactors	2,500	2,500	2,600	2,800

COMPUTATION OF DISCREPANCY BETWEEN MONEY

(Millions of

		1935	1936	1937	1938
Q	Net Loanfund Balance Receivable Above Accts.	2,700	2,700	2,600	2,700
	INCREMENT IN BALANCE RECEIVABLE				
R	Above Accounts		1/	- 200	200
S	Table 31		900	- 600	-1,200
T	Total		900	- 700	-1,000
	VALUATION ADJUSTMENT a/c LOANS AND SECURITIES (Chiefly Asset Write-Ups Minus Asset Write-Downs)				
U	Industrial Corporations		- 100	- 100	- 900
V	The Federal Government		- 50	1/	50
W	Banks and U. S. Monetary Funds		100	- 100	- 200
X	Life Insurance Companies		1/	- 100	- 100
Y	Other Insurance Carriers		20	- 40	- 80
Z	Security and Realty Firms et al		100	- 100	- 200
a	All Transactors		100	- 500	-1,400
b	Discrepancy (Money Advanced or Returned minus Money Obtained)		800	- 200	400

Note: Due to rounding, figures for various lines calculated by formulas given in the source column may differ slightly from the entries shown.

OBLIGATIONS ACCOUNT

Dollars)

1939	1940	1941	1942	Source	
10,200	10,700	13,600	22,300	P&B-I-e	A
1,600	1,300	2,700	8,400	P&B-III-c	B
800	800	1,200	2,100	P&B-IV-c	C
300	400	500	800	P&B-VI-c	D
23,500	25,000	29,700	54,100	P&B-VII-X	E
5,300	5,900	6,800	9,400	P&B-VIII-Z	F
1,100	1,100	1,400	1,900	P&B-IX-X	G
1,400	1,400	1,800	3,300	P&B-X-c	H
0	0	200	600	P&B-XI-Y	J
44,100	46,400	57,900	102,900	A thru J	K
44,100	46,400	57,800	103,400	P&B-V-g	L
100	100	100	- 500	K minus L	M

CURRENCY ACCOUNT

Dollars)

1939	1940	1941	1942		
3,000	3,100	3,200	3,600	P&B-VII-Z	N
3,000	3,100	3,200	3,600	N above	P

ADVANCED AND MONEY OBTAINED FOR TABLES 29 AND 31

Dollars)

1939	1940	1941	1942		
3,000	3,100	3,300	3,200	M + P	Q
300	100	200	- 100	Increment in Q	R
- 300	- 200	300	- 200	Table 31, Line a	S
100	- 100	500	- 300	R + S	T
- 200	- 100	1/	0	IC 306 F	U
- 700	300	- 150	- 200	P&B-V-k	V
- 100	- 100	1/	- 100	P&B-VII-g	W
- 100	- 100	- 100	1/	P&B-VIII-d	X
- 40	- 80	- 100	- 20	P&B-IX-b	Y
- 100	- 200	- 100	- 100	P&B-X-m	Z
-1,200	- 300	- 400	- 400	U thru Z	a
1,300	100	900	100	T minus a	b

1/Lies between ± $50 million.

TABLE 31

THE OTHER LOANS

(Millions of

		1935	1936	1937	1938
	ASSETS, DECEMBER 31				
A	Households	111,100	111,000	110,700	110,400
B	Industrial Corporations	22,600	21,900	21,300	21,500
C	Business Proprietors and Partnerships et al	2,200	2,200	2,300	2,300
D	The Federal Government	12,000	11,180	10,860	10,880
E	State and Local Governments	4,100	4,300	4,400	4,600
F	Banks and U. S. Monetary Funds	29,400	31,300	31,300	30,300
G	Life Insurance Companies	16,800	17,200	18,000	19,000
H	Other Insurance Carriers	5,000	5,200	5,400	5,400
J	Security and Realty Firms et al	47,000	46,300	45,900	46,200
K	The Rest of the World	0	1,100	2,200	2,500
L	All Transactors	250,200	251,600	252,300	253,100

THE OTHER DEBTS

(Millions of

		1935	1936	1937	1938
	LIABILITIES, DECEMBER 31				
M	Households	21,900	21,900	21,600	21,100
N	Farms	8,700	8,400	8,400	8,700
	Industrial Corporations:				
P	Other Debt	38,600	38,600	39,700	40,100
Q	Government Advances and Prepayments	0	0	0	0
R	Business Proprietors and Partnerships et al	6,600	6,900	7,100	7,000
S	State and Local Governments	19,500	19,600	19,600	19,800
T	Security and Realty Firms et al	31,200	31,000	31,300	32,100
U	All Transactors	126,500	126,300	127,800	128,800

THE CORPORATE PAID-IN

(Millions of

		1935	1936	1937	1938
	LIABILITIES, DECEMBER 31				
V	Industrial Corporations	66,400	66,600	66,400	67,500
W	Banks and U. S. Monetary Funds	7,000	6,900	6,700	6,600
X	Security and Realty Firms et al	36,600	37,400	37,500	37,400
Y	All Transactors	110,000	110,800	110,600	111,500

COMPUTED INCREMENT IN LOANFUND BALANCE

(Millions of

		1935	1936	1937	1938
Z	Net Loanfund Balance Receivable	13,600	14,500	13,900	12,800
a	Increment in Balance Receivable		900	- 600	- 1,200

RECAP OF DISCREPANCIES

		1935	1936	1937	1938
b	Money Advanced or Returned minus Money Obtained, Table 28		- 500	400	300
c	Money Advanced or Returned minus Money Obtained, Tables 29 & 31		800	- 200	400
d	Total, Money Advanced or Returned minus Money Obtained, Tables 28, 29 & 31		300	100	800

Note: Due to rounding, figures for various lines calculated by formulas given in the source column may differ slightly from the entries shown.

AND SECURITIES ACCOUNT

Dollars)

1939	1940	1941	1942	Source	
109,500	108,700	108,300	108,600	P&B-I-f	A
21,600	21,800	22,100	20,300	P&B-III-d	B
2,300	2,300	2,300	2,000	P&B-IV-d	C
10,680	10,840	11,320	10,900	P&B-V-d	D
4,700	4,700	4,800	4,700	P&B-VI-d	E
30,900	32,500	34,800	31,400	P&B-VII-Y	F
19,800	20,800	22,000	22,000	P&B-VIII-a	G
5,400	5,700	5,800	5,900	P&B-IX-Y	H
45,600	46,000	46,100	42,400	P&B-X-d	J
3,500	5,200	4,900	4,300	P&B-XI-Z	K
254,000	258,700	262,400	252,500	A thru K	L

PAYABLE ACCOUNT

Dollars)

1939	1940	1941	1942		
21,800	22,500	22,800	19,700	P&B-I-i	M
8,500	8,800	8,800	8,600	P&B-II-X	N
40,000	41,000	42,300	40,400	P&B-III-g	P
0	600 2/	800 2/	2,000 2/	P&B-III-i	Q
7,700	8,800	10,200	8,800	P&B-IV-g	R
20,100	20,200	20,000	19,200	P&B-VI-f	S
31,800	33,000	33,800	31,000	P&B-X-g	T
130,000	134,900	138,700	129,700	M thru T	U

CAPITAL ACCOUNT

Dollars)

1939	1940	1941	1942		
67,300	67,400	67,000	66,200	P&B-III-h	V
6,500	6,500	6,300	6,200	P&B-VII-c	W
37,700	37,600	37,900	38,100	P&B-X-h	X
111,500	111,500	111,200	110,400	V + W + X	Y

RECEIVABLE IN ABOVE ACCOUNTS

Dollars)

1939	1940	1941	1942		
12,500	12,300	12,500	12,300	L minus (U + Y)	Z
- 300	- 200	300	- 200	Increment in Z	a

IN TABLES 28, 29 AND 31

1939	1940	1941	1942		
1/	1,000	900	- 100	Table 28, line k	b
1,300	100	900	100	Table 29, line b	c
1,300	1,100	1,800	1/	b + c	d

1/Lies between ± $50 million.
2/A substantial part of this item belongs in the national book credit account rather than in this account. See footnote 2/ to Table 28.

books during one year and on the other set during the following year.

In connection with Table 28 we note four deviations from accounting uniformity:

a) Practice with respect to methods of valuation for trade receivables and for payables differs markedly. Trade receivables are commonly reported net of a reserve for bad debts; trade payables are commonly reported gross. This difference in methods of valuation tends to make the receivables balance materially smaller than the payables balance.

b) When Transactor P makes a settlement of an account to Transactor R by mailing a check, he debits his trade payables account and credits his cash balance. The entry on R's books for this settlement, a debit to cash and a credit to trade receivables, is commonly made one or more days later. We may pass over the still later entries on the books of the banks, noting only that on the consolidated statement for banks and U.S. monetary funds the cash involved always appears as a deposit liability either to P or to R. But while the check is in the mail neither P nor R includes it in his cash balance. Thus because the entries made by the R's of our economy lag behind the entries made by the P's, the currency and deposit liabilities of banks and U.S. monetary funds always tend to be larger than the currency and deposit claims on banks and U.S. monetary funds as reported by other transactors. The amount of this excess is known as the mail float. Also, because the entries made by the R's lag behind those made by the P's, trade payables always tend to be smaller than trade receivables by the amount of the mail float.

So far as the relations between trade receivables and trade payables are concerned, these two deviations from accounting uniformity, the reserve for bad debts and the mail float, have effects that at least partly offset each other.

Because the mail float affects both the cash balances account and the book credit account, it seemed advisable to include these two types of claim in a single table.

c) During the war a somewhat novel type of book credit ac-

count became important. Particularly in the early war years the federal government made payments to public contractors in advance of deliveries. These prepayments involved a kind of negative 'accounts payable' for the federal government and a kind of negative 'accounts receivable' for public contractors. In computing accounts payable for the federal government (Table 28, line X), an allowance for these negative accounts payable was made. But the information for industrial corporations on negative 'accounts receivable' is combined with loans by the federal government under the caption 'government prepayments and advances'. This item appears in Table 31, line Q. Since a part of this item properly belongs in the book credit account in Table 28, the separation between Tables 28 and 31 is incomplete.

d) We regard the monetary gold stock as a demand claim on the rest of the world held by banks and U.S. monetary funds. Increments and decrements in this stock are due chiefly to gold imports and exports. But to a smaller extent we must take account of transactions inside our economy, principally of additions to the gold stock from domestic production. Such additions may be thought of as entered in the moneyflows accounts as follows:

On the books of banks and U.S. monetary funds, debit gold stock and credit currency and deposit liabilities;

On the books of the gold producer, debit cash balance and credit receipts from customers.

Because of this deviation from a uniform scheme of account classification in the case of the gold stock, claims held by banks and U.S. monetary funds and obligations of other transactors are not defined in precisely the same way. To the extent that the monetary gold stock has come from domestic production the loanfund accounts show a claim held to which there is no corresponding liability. In point of fact the discrepancy in the gold account is considerably larger than can be explained by this deviation from a uniform method of classification alone, because in computing the liability item for the rest of the world as shown in this account (cumulative net gold imports)

the level was arbitrarily set at zero as of the end of 1935 (see Table 28, line c). For purposes of the moneyflows study differences between the levels at which assets and obligations are valued are not in themselves of great consequence; for these purposes it is the changes during the year that count.

Before considering the computation of money advanced or obtained by various transactors in connection with the cash, book credit, and gold accounts let us take up the other two tables. The top section of Table 29 presents the federal obligations account. As already explained, only obligations in the hands of the public are included in this account. There is a slight difference between the liability item on line L and the total shown as assets of other transactors (line K). Two factors account for this small difference. First, while holdings of other transactors are on a book-value-for obligor basis, holder valuations were used in the case of banks and U.S. monetary funds, and these are not quite the same as the values according to government records. Second, among the items included in the federal gross debt are the non-interest bearing obligations for the retirement of United States notes, Federal Reserve Bank notes, and national bank notes. The counterpart of these obligations is included in 'Treasury currency', an item carried as an asset of banks and U.S. monetary funds. It is for this reason that we include Treasury currency in Table 29.

As already indicated, Treasury currency includes also the monetary silver stock. Since silver imports and exports are classified as ordinary receipts and expenditures for the rest of the world, and since additions to the monetary silver stock from domestic production represent ordinary receipts for industrial corporations, the monetary silver stock is a claim that has only an asset aspect; no corresponding obligation appears in Table 28, 29, or 31.[4]

Table 31 includes all bonds, notes, debentures, and mort-

[4] The situation is somewhat more complicated than these statements indicate. A portion of the monetary silver stock is customarily treated in current statistics as part of the general fund balance of the Treasury but on the records of banks and U.S. monetary funds is not included in Treasury currency.

gages except federal obligations,[5] and the paid-in capital of industrial corporations, banks and U.S. monetary funds, and incorporated security and realty firms et al. It is unfortunate, particularly for our present purpose, that the asset information in the moneyflows study was not divided to show the bonds, notes, debentures, and mortgages separately from the stock.

The desirability of such a separation in the loanfund asset information arises in part from the following considerations: The difference between the asset figures and the face value of bonds, notes, debentures, and mortgages is presumably relatively small. A fortiori year to year changes in the book value of such items are relatively small. On the other hand, there is a marked disparity in level between the asset valuations and the obligor valuations in the case of corporate stock, and even year to year changes in the book value of corporate stock held are presumably substantial. If we are to allow for deviations from a uniform method of valuation, we must be able to deal separately with holdings of corporate stock. We shall find these considerations intensified when we come to the problem of discrepancies in the method of valuation as between claims and tangible assets.

In Table 31 the assets listed as 'other loans and securities' (lines A through K) and the liabilities listed on lines M through X refer to approximately the same set of claims. The discrepancy shown on line Z is very largely due to valuation differences. And these differences arise chiefly in connection with stock. The amounts included for holdings of bonds, notes, debentures, and mortgages in line L presumably do not differ greatly from the liabilities total on line U. The outstanding obligations of private corporations on account of capital stock (lines V through X) are rough estimates of the value of paid-in capital. The asset figures reported in Table 31 are on a similar valuation basis for households but on a holder book value basis for most other sectors of the economy. Two of these other sectors—industrial corporations and security and realty firms et al—have very large holdings of stock. The holdings by security

[5] This is not a complete list of types of other debts payable.

and realty firms et al are substantial because they include those of holding companies and investment trusts. The stock holdings included in lines C through H and in line K are small. The valuation discrepancy problem focuses on the relation between the valuation basis for stock used in lines V and X on the one hand and in lines B and J on the other.

As stated above, the balancing item in the financial statement for each transactor is the amount of money advanced or returned to others or the amount obtained through loanfund financing, and the amount of money so obtained or advanced can be computed from the changes in the loanfund balances. A transactor's net loanfund balance receivable increases when he advances or returns money to others and decreases when he obtains money through financing. However, changes in a transactor's net loanfund balance are not due exclusively to obtaining or advancing money. They may be due to changes in book value. In computing the money obtained or advanced from loanfund balance information it is therefore necessary first to compute the increment in the net loanfund balance, then to correct this increment so as to exclude the estimated influence of changes in book value.

If Tables 28, 29, and 31 were each a completely separate account and if we had adequate information on book revaluations, the amount of money advanced, returned, or obtained through each category of claims by all transactors would be zero. In other words, money obtained by one transactor is money advanced or returned by another, and money advanced or returned by one transactor is money obtained by another. Since the three accounts are not entirely separate, only two computations of the amount of money obtained or money advanced or returned have been made—one in Table 28 and one in Table 29. The latter is a combined computation for Tables 29 and 31. The amount of money advanced or returned, Table 28, line k, Table 29, line b, and the sum of these two lines, Table 31, line d, records the statistical discrepancy in the estimates of moneyflows due to loanfund transactions.

The three tables present the principal information in the

moneyflows study pertinent to the development of a national balance sheet. The only series that have as yet been brought down to date are those pertaining to banks and U.S. monetary funds. Information for recent dates and for several earlier dates for this sector will be found in the *Federal Reserve Bulletin,* January 1948.

Although the federal government is treated as a single transactor in the tables, the financial statement for it is a consolidation of five subsidiary statements.[6] Three of these subsidiary statements are for social insurance funds. A significant aspect of our national balance sheet is brought out if we attempt to combine some of the information on these subsidiary statements and information available in connection with other sectors into an exhibit of claims that represent what may be called institutional savings. These claims are held mainly by or on behalf of households (Table 1).

Table 1
Institutional Savings Claims Held Mainly By or on Behalf of Households
(billions of dollars; as of December 31, 1939)

A	Life insurance companies, policy reserves	25.8
B	Other insurance carriers (incl. fraternal orders & private pension funds), loans & securities	6.4
C	Federal social insurance funds, loans & securities	4.5
D	State and local government social insurance funds, loans and securities	2.0
E	Time deposits in banks & postal savings system held by individuals	24.1
F	Savings & loan associations, repurchasable shares	4.0
Total		66.8

To some extent the loan and security holdings of other insurance carriers reflect obligations of an accrual nature to sectors of the economy other than households. In connection with Table 1 there is also a very slight qualification of a similar character applicable to life insurance company policy reserves. On the other hand it may be argued that some individual holdings of demand deposits should be counted as institutional savings. It seems safe to say that claims held by households that repre-

[6] See *Technical Paper 5,* 'Concerning a New Federal Financial Statement' (NBER, 1947).

sent institutional savings amounted to at least $65 billion at the end of 1939; currently they amount to well over $100 billion.

Institutional savings have come to play a very substantial role in the equity structure of our economy and if our present practices with respect to such savings are continued, it will be enhanced.

C Loanfunds and the National Balance Sheet

What place should the claims information considered above have in a national balance sheet, and what changes in this claims information would add to its usefulness for such a balance sheet purpose? As an initial step toward answering this question we may note that in confining our attention largely to negotiable and trade credit claims, we have slighted three chief types of claim: accrual claims, noncorporate proprietorship equities, and international titular claims.

If we use the word 'accrual' broadly we may say that in their asset aspect accrual claims include various deferred charges to income as well as items of accrued income receivable. And in their liability aspect they include both accrued expenses payable and deferred credits to income. Most categories of accrual claims are relatively small in relation to national wealth. The largest category of accrual claim is insurance policy reserves. The next largest is probably accrued taxes payable.

The second major category of claims we have slighted is the proprietorship or residual equities of unincorporated businesses. In the case of businesses organized in the sole proprietorship form the residual equity is a liability of the proprietor (in his business capacity) to himself (in his capacity as a householder).[7]

The items in the third class of slighted claims are, properly speaking, not claims at all. They are direct titles held in the

[7] Although not in accord with preferred accounting usage, 'liability' is used for brevity in the sense in which it is widely used on balance sheets—it includes both debts and proprietorship equities.

United States (or held abroad) to tangible assets outside (or inside) the United States. They represent direct international ownership of wealth. But it is convenient to treat such titles exactly as we treat foreign bonds held here or domestic bonds held abroad.

In general we shall not here try to estimate most of the claims omitted from Tables 28, 29, and 31. We shall merely indicate where they fit into the picture in relation to the estimates for negotiable claims and trade credit claims.

It will help toward this objective if we attempt first a recapitulation—and in some respects an adjustment—of the negotiable claims figures for the end of 1939. Most of the figures in Table 2 will be found in Tables 28, 29, and 31. However, rough subdivisions of two economic sectors have been attempted. The advantage of these regroupings for purposes of a national balance sheet will appear shortly.

a) Business proprietors and partnerships et al have been subdivided to show separately (i) business proprietors and partnerships including the professions and (ii) private nonprofit institutions; subdivision (i) has been combined with farms.

b) Corporate security and realty firms et al have been segregated from noncorporate enterprises.

In addition to these regroupings several technical changes have been made for the purpose of eliminating certain deviations from accounting uniformity.

1) The part of Treasury currency that represents the monetary silver stock has been included in Table 2, column 1, as an asset of banks and U.S. monetary funds. The remainder of Treasury currency has been included with loans and securities in column 3.[8]

2) For the rest of the world, figures from Sammons' paper have been substituted for the figures on cumulative capital movement in Tables 29 and 31 (Table 2, col. 3, 6, and 7).

[8] The monetary silver stock in Treasury currency does not include silver bullion in the General Fund of the Treasury; most, but not all, of the remainder of Treasury currency is treated by the Treasury Daily Statement as part of the federal noninterest-bearing direct debt.

Table 2
Summary of Liquid and Negotiable Claims Classified by Holders
(billions of dollars; as of December 31, 1939)

		Currency & deposits (1)	Accounts receivable (2)	Loans & securities (3)	Total loanfunds receivable (4)	Accounts payable & monetary liabilities (5)	Other debts payable (6)	Paid-in capital (7)	Total loanfunds payable (8)	Net loanfunds receivable (9)
A	Households	34.9	0	119.7	154.6	3.6	21.8	0	25.4	129.2
B	Business proprietors & partnerships (incl. farms & the professions)	6.8	6.7	.4	13.9	6.7	16.2	0	22.9	−9.0
C	Nonprofit institutions	.9	0	2.7	3.6	0	0	0	0	3.6
D	Industrial corporations	10.0	16.2	23.2	49.4	12.2	40.0	67.3	119.5	−70.1
E	Federal government	2.6	*	10.6	13.2	.1	44.1	0	44.2	−31.0
F	State & local govts.	3.6	0	5.0	8.6	0	20.1	0	20.1	−11.5
G	Banks & U.S. monetary funds	19.9[a]	0	55.1[c]	75.0	66.5[d]	0	6.5	73.0	2.0
H	Private insur. carriers	1.6	0	31.5	33.1	0	0	0	0	33.1
	Security & realty firms et al:									
J	Corporate	1.2	0	37.2	38.4	.2	22.9[f]	33.6[f]	56.7	−18.3
K	Noncorporate	.8	0	9.8	10.6	.1	12.9	0	13.0	−2.4
L	Rest of the world	3.1	0	8.8[b]	11.9	17.6[e]	8.5[b]	3.7[f]	29.8	−17.9
M	All transactors	85.4	22.9	304.0	412.3	107.0	186.5	111.1	404.6	7.7

* Less than $50 million.

[a] Monetary gold stock plus silver dollars, silver bullion, and subsidiary silver included in Treasury currency.

[b] From a preliminary draft of R. L. Sammons' paper, 'Foreign Investment Aspects of the Measurement of National Wealth'.

[c] Includes the part of Treasury currency not included in col. 1.

[d] Currency and deposit liabilities.

[e] Gold stock.

[f] Savings and loan association shares are included in col. 6, not in col. 7.

3) Savings and loan association shares have been transferred from column 7 to column 6 since they do not involve a valuation discrepancy problem.

4) The entry in column 5 for the rest of the world represents the entire monetary gold stock, not cumulative net imports.

Although these changes eliminate several sources of incomparability as between asset and liability totals, several types of deviation from accounting uniformity still remain. The most important are:

a) Valuation differences as between columns 2 and 5 due to the existence of reserves for bad debts.

b) Valuation differences as between the stock included in columns 3 and 7.

c) Similar but very much smaller valuation differences between other obligations included in columns 3 and 6. In what follows we shall for the sake of simplicity assume that these differences are so small we can afford to neglect them.

d) Minor technical differences (having to do with Treasury currency) between the assets in columns 1 and 3 and the liabilities in column 5, line G, and column 6, line E. We shall assume that (except for the silver question) we can afford to neglect these technical differences.

The discrepancies resulting from (a) and (b), especially (b), are major defects in Table 2 for purposes of developing a national balance sheet. Table 2 is deficient also in that accrual claims are omitted. To illustrate how Table 2 might be further adjusted so as to take accruals into account in the claims data we shall add rough figures for private insurance policy reserves. We shall omit various other accruals claims since figures for them are not conveniently at hand. I believe that in general to take them into account would not greatly alter the outlines of the financial structure picture. Social insurance reserves could of course be added and, as noted above, they are substantial. Many purposes, however, can be served by a balance sheet that does not take account of them. If one desires one may easily add them to the exhibit I shall shortly propose; house-

holds would be richer and governments poorer by the amount of the reserves.

The extent to which Table 2 falls short of providing the claims information needed for a national balance sheet depends upon the plan of the national balance sheet proposed. Our financial structure has come to be extremely complex, and there is, I think, the serious danger of attempting too complex a picture of it, a picture that would be too difficult to be grasped readily and could not be constructed with available information.

One direction of possible elaboration of the national balance sheet about which I am skeptical, except as a means of improving estimates or as a step in valuation adjustments, may be called the to-whom-from-whom type of claim exhibit—the attempt to provide a cross-classification of obligor and owner sectors for each type of claim, so that one can say how much any sector owes each other sector on account of any type of claim. Table 29 gives some of this kind of information. Table 2 does not go very far in this direction.

Even if we do not aim to present much to-whom-from-whom detail in a national balance sheet, it is urgent for us to distinguish debt claims (currency and deposits, gold, trade credit, bonds, notes, debentures, mortgages, internationally held direct titles to assets, and accruals) from corporate stock and the proprietorship equities of unincorporated enterprises. One reason for this as noted above, is that debt claims are not very differently valued in their asset and liability aspects. A further and stronger reason is that the values of debt claims are largely independent of the valuations placed on tangible assets. We can, therefore, attempt a net debt estimate for each sector of the economy. I propose that we regard sector net debt (or 'net credit') estimates as a major objective in any attempt to develop a national balance sheet.[9]

For purposes of a national balance sheet it seems to me we must distinguish three main types of transactor:

9 'Net credit' is here to be understood to mean negative 'net debt'.

1) Unincorporated businesses. These transactors are mere intermediaries, so far as final ownership of national wealth is concerned. If we neglect their small holdings of stock, we can say that their proprietorship equities equal tangible assets minus net debt, and are claims held by households. Tangible assets plus claims held minus claims outstanding equal zero.

2) Business corporations. Corporations too are mere intermediaries in wealth ownership. Tangible assets plus claims held minus claims owed equal zero. But the claims of the corporate sectors involve special problems.

3) Final owners of wealth—households, governments, and private nonprofit institutions. For these transactors tangible assets plus claims held minus claims owed equal net wealth. The net wealth of an individual transactor may be either greater or less than zero. The total of net wealth for all domestic final owners equals the wealth owned in the United States. We may wish for some purposes to include the rest of the world as a final owner. When we do, total net wealth of final owners equals total tangible assets in the United States (plus intangibles if any allowance is made for them).[10]

In Table 2 we attempted to regroup transactors so as to separate out the three types just enumerated. The proprietorship equities of unincorporated enterprises present no special valuation problem. Once one has fixed the values of tangible assets, of debt claims, and of any stock they may hold, the valuation of the proprietorship equities of unincorporated businesses is a mere matter of computation by the formula stated above.

For three reasons corporate stock presents a special valuation problem in connection with a national balance sheet:

1) We must value stock consistently in its asset and in its liability aspects.

2) We must value the stock outstanding against any sector as a residual, i.e., as equal to tangible assets plus claims against others minus debt claims owed.

[10] This parenthetical qualification is to be understood each time the term 'tangible assets' appears below.

3) Since stock is a residual equity that may be held by intermediary wealth owners, we must allow for the fact that the way we value the tangible assets of one sector will affect the stock valuation not only for that sector but also for other corporate sectors holding stock of that sector.

The first two of these propositions alone would not create a special problem. It is the combination of the three that does it.

Tables 3 and 4 are intended to indicate the nature of the problem. The figures are for illustrative purposes only; although based mainly on Table 2, they are extremely rough—they neglect various minor technical difficulties, and the adjustments are arbitrary.

I have raised a question as to how far we should go in the direction of to-whom-from-whom information. In dealing with stock, at least, a guess at this kind of detail is an essential step. Table 3 presents such a guess. The assumptions on which it rests are not an intrinsic part of my argument. If any one cares to go into them, they are indicated in the notes to the table. Column 1 gives crude estimates of the stock that was combined with other securities and loans in Table 2, column 3. These stock holdings are valued on one basis and the stock liabilities in line K, columns 3 through 8, are valued on another. Clearly one of these two sets of figures must be adjusted so as to put both on the same basis. Column 3 illustrates such an adjustment. The totals in column 3 are distributed by issuer in the remaining columns of Table 3.

In Table 4 I attempt to indicate how the claims information can be fitted into a national balance sheet. Various boxes for which no illustrative figures on tangible assets are here provided have X's in them in column 1. Each line on which an X is entered carries also a Y in column 5 or a Z in column 7. When tangible assets are treated as an unknown some other item in the sector balance sheet is an unknown also.

Column 2, net debt, was derived by adjusting the debt claims data from Table 2, columns 1, 2, 5, and 6, and the figures for other securities plus loans held from Table 3, column 2, to

Table 3

An Arbitrary Revaluation and Distribution of Stock Holdings

(billions of dollars; as of December 31, 1939)

		Loans & Securities Held at Table 2 Values		Total, Col. 4-8 equals Col. 1 revalued	Stockholders Classified by Issuer				
		Stock (1)	Other sec. & loans (2)	(3)	Indust. corp. (4)	Banks & U.S. mon. funds (5)	Private insur. carriers (6)	Corp. sec. & realty firms et al (7)	Rest of the world (8)
A	Households	69.7	50.0	69.7	31.4	3.7	1.0	33.6	0
B	Nonprofit institutions	1.4	1.3	1.4	1.4	0	0	0	0
C	Industrial corporations	12.8	10.4	11.0	9.1	0	0	0	1.9
D	Fed., state, & local govts.	2.8	12.8	2.8	0	2.8	0	0	0
E	Banks & U.S. monetary funds	.3	54.8	.2	.2	0	0	0	0
F	Private insur. carriers	2.1	29.4	1.8	1.8	0	0	0	0
	Security & realty firms et al:								
G	Corporate	22.4	14.6	19.2	17.4	0	0	0	1.8
H	Noncorporate	.3	9.7	.3	.3	0	0	0	0
I	Business proprietors & partnerships	0	.4	0	0	0	0	0	0
J	Rest of the world	5.7	3.1	5.7	5.7	0	0	0	0
K	All holders	117.5	186.5	112.1	67.3	6.5	1.0	33.6	3.7

Line K (except col. 1 and 2) is from Table 2, col. 7. $1 billion was added for private insurance carriers.
Col. 1 plus col. 2 equals Table 2, col. 3.
Entries in col. 1, lines A, B, D, E, F, and J are crude direct estimates. Entries in col. 2 on these lines are residual estimates.
The total in col. 2 equals the total in Table 2, col. 6. The residual was prorated to lines C, G, and H on rough estimates of interest income. Entries in col. 1 on these three lines are residual estimates.
It is arbitrarily assumed that all stock issued by private insurance carriers and security and realty firms et al is held by households, that the federal government owns only stock of banks and U.S. monetary funds, and that the remaining stock issued by banks and U.S. monetary funds is held by households.
Col. 3 is col. 1 with the discrepancy (112.1 minus 117.5) prorated in col. 1 for industrial corporations, banks and U.S. monetary funds, insurance carriers, and corporate security and realty firms et al.
Holdings of foreign stock are assumed to be divided equally between industrial corporations and corporate security and realty firms et al. All remaining entries are residuals.

Table 4

An Outline of a National Balance Sheet Based on Table 2 and an Adjusted Table 3 (billions of dollars; as of December 31, 1939)

		TANGIBLE ASSETS	NET DEBT	CAPITAL STOCK		NONCORPORATE PROPRIETORSHIPS		NET WEALTH
				Outstanding	Held	Liabilities	Assets	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
A	Households	X_1	−89.5	0	92.0	0	$Y_1 + Y_2$	Z_1
B	Business proprietors & partnerships	X_2	8.8	0	0	$Y_1 = X_2 - 8.8$	0	0
C	Nonprofit institutions	X_3	−2.2	0	2.1	0	0	Z_2
D	Industrial corporations	97.0	14.2	97.9	15.1	0	0	0
E	Fed., state, & local govts.	X_4	45.2	0	2.8	0	0	Z_3
F	Banks & U.S. monetary funds	3.5	−6.2	10.0	.3	0	0	0
G	Private insurance carriers	.5	1.0	2.1	2.6	0	0	0
	Security & realty firms et al:							
H	Corporate	16.0	6.1	37.0	27.1	0	0	0
J	Noncorporate	X_5	2.7	0	.4	$Y_2 = X_5 - 2.3$	0	0
K	Rest of the world	X_6	19.9	3.7	8.3	0	0	Z_4
L	All transactors	X_7	0	150.7	150.7	Y_3	Y_3	Z_5

Col. 2 equals (Table 2, col. 5, plus Table 2, col. 6) minus (Table 2, col. 1, plus Table 3, col. 2, plus 1.025 times Table 2, col. 2) plus the following adjustments: line G + $32 billion, line A minus $30 billion, line D minus $1 billion, and line H minus $1 billion a/c private carrier life insurance policy reserves; line F + $2 billion a/c silver (see the next note).

Col. 1, line F, includes $2 billion of silver. Other tangible asset figures are based on *Statistics of Income, 1939,* Part 2.

Stock entries in col. 3 and 4 are from Table 3, col. 4 through 8, adjusted as follows: Table 3, col. 4, was increased 45.5 percent. Other figures were changed accordingly in conformity with the condition imposed: that col. 1 plus col. 4 equal col. 2 plus col. 3. This fixes col. 3 as a residual for lines D, F, G, and H, and fixes col. 5 as a residual for lines B and J. No change was made in Table 3, col. 7.

Col. 7 is the sum of the assets (col. 1, 4, and 6) minus the sum of the liabilities (col. 2, 3, and 5) for all lines.

eliminate various deviations from accounting uniformity. Three adjustments were made:

1) $2 billion of silver was included as a tangible asset in column 1, line F, instead of being treated as a claim held.

2) Accounts receivable was increased 2.5 percent on account of bad debt reserves.

3) Rough figures for private insurance carrier policy reserves were added to the liabilities on line G and to the holdings on lines A, D, and H.

When there are no deviations from accounting uniformity we can expect the down-total of Table 4, column 2, to be zero. The net debt picture presented by column 2 is incomplete in that it does not take account of accrual claims other than private insurance carrier policy reserves and of internationally held direct titles to tangible assets. Even the incomplete picture is very rough.

Once valuations have been fixed for columns 1 and 2 we can derive the valuations for the other columns. The information needed for these derivations is that given in Table 3 together with the following equations:

For private corporations (intermediaries), col. 1 + col. 4 = col. 2 + col. 3.

For unincorporated businesses (intermediaries), col. 1 + col. 4 = col. 2 + col. 5.

For other sectors (final owners), col. 1 + col. 4 + col. 6 minus col. 2 = col. 7.

Since, as Table 3 tells us, the stock that is a liability for industrial corporations is an asset for several sectors including industrial corporations, we must fix its value first. We do this by imposing the condition that the sum of columns 1 and 4 equal that of columns 2 and 3. The figures in Table 3, column 4, represent a paid-in capital valuation, excluding earned corporate surplus. The figures in Table 4, column 1, represent asset book values. To make the sums of columns 1 and 4 and of 2 and 3 equal on line D we raised each figure in Table 3, column 4, 45.5%.

This step fixes the value of stock holdings for several other

sectors including corporate security and realty firms et al. We can, therefore, now apply the column 1 plus 4 equals column 2 plus 3 formula to determine the entry in line H, column 3, and the other entries in column 3 of Table 4 until we have completed what amounts to an adjusted Table 3. Since the down-total of Table 4, column 3, is the down-total of column 3 of the adjusted Table 3, and since the down-total of Table 4, column 4, is the cross-total of the adjusted Table 3, line K, the two are equal.

In the case of unincorporated enterprises we now impose the condition that the sum of columns 1 and 4 equal that of columns 2 and 5. We can thus determine column 5 as a residual, since the values for columns 1, 2, and 4 are fixed. The down-total of column 5 equals the down-total of column 6, the only sector entry in column 6 being on line A.

For all holders of wealth who are mere intermediaries, the entries in column 7 are zero. For the other entries in column 7 we have the following formulas:

$Z_1 = X_1 + Y_1 + Y_2 + 181.5$

where 181.5 is stock held minus net debt, or 92.0 minus (minus 89.5);

$Z_2 = X_3 + 4.3$
$Z_3 = X_4$ minus 42.4
$Z_4 = X_6$ minus 15.3
$Z_5 = Z_1 + Z_2 + Z_3 + Z_4 = X_7$

Thus Z_5 represents the total wealth in the United States. If we wish the total wealth owned in the United States we must take (Z_5 minus Z_4) or ($Z_5 + 15.3$ minus X_6).

D Conclusions

The moneyflows study focuses on moneyflows. The claims estimates presented in it are in a sense a byproduct; they are confined to what we call negotiable claims and trade credit claims. Accrual items, proprietorship equities of unincorporated busi-

nesses, and internationally held direct titles to tangibles are not included.

For purposes of a national balance sheet there is a fundamental distinction between what may be called debt claims and proprietorship claims or residual equities. Debt claims may be defined as claims that can be evaluated independently of the methods adopted for tangible assets. The segregation of debt claims from proprietorship claims is incomplete in Tables 28, 29, and 31, but a rough illustrative segregation is offered.

For debt claims the problems due to deviations from accounting uniformity, though by no means easy, are less formidable than the corresponding problems with respect to corporate stock. A major objective should be to provide a national account of each clean-cut major category of debt claims covering all transactors, an account corrected for deviations from accounting uniformity. I suggest as a general rule applicable to most categories of debt claims that the governing method of valuation should be that employed on the books of the obligor. Each such national debt claims account should, apart from statistical discrepancies, be a balancing account.

I have said that for purposes of a national balance sheet the distinction between debt claims and residual equities is fundamental. For moneyflow accounts this distinction is helpful but hardly fundamental; the basic question is, what exchanges took place during the period under consideration and what moneyflows did these exchanges involve? This question applies to both stocks and bonds, notes, etc. and we can answer it for stocks as well as for bonds without reference to tangible asset values.

For purposes of a national balance sheet the basic valuation question refers not to the claims that changed hands during a given period but to all claims outstanding on a given date. Unless we set up a valuation difference account as Goldsmith has proposed,[11] this question can be answered for stocks—and for the residual equities of unincorporated businesses—only after valuations of tangible assets and of debts have been fixed

[11] 'Measuring National Wealth in a System of Social Accounting', above.

and only in the light of these valuations. Residual equities are necessarily valued as residuals, no matter what basis of tangible asset valuation we adopt; i.e., regardless whether our tangible asset valuation formula runs in terms of an imputed capitalization, of historical cost minus depreciation, or of market value.

We have illustrated the nature of the residual equity valuation problem, including the way in which it is complicated by the fact that some kinds of residual equities may be held by transactors who as wealth owners are mere intermediaries. In illustrating this complication, however, we indulged in oversimplification. I shall attempt to indicate only one of the respects in which a real attempt at a national balance would necessarily be more complicated. Our first step in residual value computations was to revalue the stock of industrial corporations held by various sectors; we applied a uniform percentage write-up to all the entries in column 3 of Table 3. In doing this we were in effect treating the stock of industrial corporations as if it consisted of the homogeneous shares of a single stock issue. A more refined procedure is clearly called for.

The statement of this assumption suggests two directions in which refinement of the residual computations should proceed. First, the category, stock of industrial corporations, should be detailed into various industrial subcategories, railroads, utilities, etc., and a separate residual computation made for each subcategory. Second, if possible, one or more categories of preferred stock should be separated out and treated as if they were what we have called debt claims, i.e., claims that can be valued independently of the methods adopted for tangible assets. If we proceed along these lines toward an exhibit of the type outlined in Table 4 I think we shall be attempting a feasible task and one that promises a widely useful form of national balance sheet.

Comment

Martin Bronfenbrenner

Mr. Goldsmith's excellent paper is the best introduction I know to the basic issues involved in national wealth statistics. In many parts, it is itself so much a summary of the present state of the debate as to make further summary largely a work of supererogation.

Mr. Goldsmith is an optimist on what I consider the five basic issues of national wealth estimation. I hope subsequent studies will bear him out on all five. My theoretical doubts, however, will become obvious in the course of this discussion.

1) Mr. Goldsmith is an optimist, first of all, in giving a clear operational meaning to the concept of national wealth. By 'clear' I do not mean exactly 'unequivocal'. What I mean rather is that Mr. Goldsmith has faith in the ultimate quantitative convergence of the various concepts involved.

Three such concepts are: first and broadest, the hedonic, which includes, in Kuznets' words, "the sources of events for which the aggregate of individuals who comprise a nation are willing to make sacrifices"; second and narrowest, the material, which limits the concepts to physical, tangible, and sometimes only reproducible assets; third and intermediate, the accounting concept, which builds up the totals by combining and consolidating actual and estimated balance sheets constructed in accordance with current accounting theory and practice. In his paper Mr. Goldsmith himself works entirely with the third concept.

2) Mr. Goldsmith is an optimist, secondly, in believing that national wealth can be made a welfare concept at the same time that it is an accounting total, a measure of productive capacity, and a useful adjunct in studying the structure of claims or of moneyflows. I suppose we all agree that there is some kind of positive correlation, significantly larger than zero, between national wealth and economic welfare. Mr. Goldsmith goes much further. I interpret him as maintaining that the correlation can be made very high indeed—let me ascribe to him the

figure .90, purely for illustrative purposes—and holding furthermore that it is worth while making sacrifices of speed, verifiability, and perhaps comparability in framing our concept of wealth so as to raise the correlation by a point or two.

3) Mr. Goldsmith is an optimist, thirdly, in anticipating the day when national wealth and income statistics can be based on what he calls *economic* as distinguished from *business* accounting. As concerns wealth, the distinction requires the elimination of values uncorrelated or negatively correlated with economic welfare—primarily capitalized monopoly gains. Mr. Goldsmith aims also at evaluating all reproducible assets at the marginal social money cost of their physical reproduction. Patents, trade-marks, 'good-will', 'going concern value', etc. would be eliminated. Such social costs as smoke and illness would be borne. Economic accounting in Mr. Goldsmith's sense involves also capitalization by 'pure' discount rates which have not been loaded with risk and uncertainty premia or, I should suppose, with appreciation factors designed as inflation hedges. Although he has seen the vision, Mr. Goldsmith is perfectly aware of all the difficulties in the way of a reliable system of national economic accounting, and he does not expect that even a national accounting income statement will be set up before this paper is published! But he has the faith that moves mountains. If faith can move mountains, can it not adjust a few statistical series?

4) Mr. Goldsmith is an optimist, fourthly, in seeking to link the national wealth and income accounts together by a formula I think we can translate into the terminology of the Department of Commerce series:

$$(\text{National Wealth})_2 = (\text{National Wealth})_1 + (\text{National Income})_2 - (\text{Personal Income})_2$$

Such an equality would be a useful enough cross-check on the consistency of the various statistical assumptions made in wealth and income estimates. For it to be valid, there are three requisites: National wealth must be computed as of the end of each period, and all personal income must be assumed to con-

sist of direct services or highly perishable goods. (As far as durable assets are included in personal consumption, it holds only asymptotically for periods long enough to permit most durable consumption goods to be treated as perishable.) Second, national wealth must be deflated by an acceptable price index. Third, the discovery and depletion of natural resources must be treated symmetrically in wealth and income accounts. If newly discovered values are added to national wealth accounts, they must likewise be added to national income accounts. The same rule holds in the case of omission, and converses can be set up to cover the depletion case. Many current proposals regarding national balance sheets would add discoveries and deduct depletions, while both are ignored on income statements. Under these proposals, the equation would not hold.

5) Mr. Goldsmith is an optimist, finally, in believing that, despite relative price and interest rate differences, national wealth figures can be made comparable—again, with perhaps a 90 percent correlation—between all nations that employ standard accounting techniques and do not include human capital as wealth. He makes a particular point of including the USSR, where capitalization ratios are allegedly somewhat arbitrary, so that the assets producing a given income stream may be valued at any figure over a wide range and without too close a relation to either production or reproduction costs.

I do not agree with all these viewpoints, stimulatingly and provocatively outlined as they are by Mr. Goldsmith. Aside from dividing economic units into 'ultimates' and 'intermediaries', and assets into 'physical assets' and 'claims', Mr. Goldsmith's skeletal framework avoids many basic issues of classification. Measures of liquidity position and moneyflows suggest classifications of the types presented by Hart and Copeland. The basic accounting framework, however, remains approximately the same.

On the technical side, the discussion accompanying Mr. Goldsmith's basic tables seemed unduly brief. I became quite confused in attempting to follow these tables, and have not

succeeded in reconciliations at all points. Trouble was encountered on three problems especially:

1) Is item II 6, equity securities owned by intermediaries, to be entered in the national balance sheets at market or book value?

2) Items II 9 and 15 are each labeled 'valuation difference'. Which purports to revalue the assets of *all* intermediaries and which to revalue only assets held by one or another category of economic subjects?

3) If in Table 1, Section A (pertaining to ultimate economic units) balances, and Section B (pertaining to intermediaries) does not, how can Section C, their sum (pertaining to the nation as a whole), balance?

To me at least, it would seem logical to enter item II 6 at market value, consistently with item I 6. In this event, item II 15 would become the valuation difference on *all* assets. Item II 9 would become the valuation difference on the assets held by *ultimate units only*. The section would balance as it stands, with items II 1 through 9 equaling items II 10 through 15. This solution would modify the fifth and sixth equations in the second group of Mr. Goldsmith's identities in Table 2, while validating the second identity.

Another solution, to enter item II 6 at book value, would confirm Mr. Goldsmith's fifth equation. Item II 9 would then become the valuation difference on assets held by *intermediate* economic units, item II 15 remaining as in the preceding paragraph. A balance is struck once more, but the sixth and second of Mr. Goldsmith's second family of equations in Table 2 must be modified.

A third solution might be to add a separate valuation difference equation as I 15 on the right side of Table 1. This would of course make Sections I and II completely symmetrical, since II 9 could be eliminated. Were this solution adopted, numerous minor changes would be required in the first two sections of Table 2, but the entire structure might be more readily comprehensible.

The status of money also raises technical problems under

Mr. Goldsmith's schema. As I understand his procedure, all domestic money is to be classified on the asset side as a claim, and on the liability side as a special sort of government or bank liability. It is cancelled out in the combination-consolidation process, which entails the liquidation of all claims.

This expedient impinges to some extent on recent economic theories about money, which ascribe to money the capacity of rendering a service (the provision of liquidity) quite independent of the goods it can buy. These theories appear to entitle cash balances to a role in the total of wealth in the same sense as other consumer assets. Unless one holds an ultra-rigid quantity theory of money, a nation holding x dollars of other assets plus y dollars of cash balances is better off than if it holds identical other assets, also valued at x dollars, plus only $(y - k)$ dollars of cash balances. Mr. Goldsmith's proposal seems to strain the concept of a debt or claim in the two extreme cases of fiat money and full-bodied commodity money, although of course the great bulk of debt or promissory money is formally a claim. It seems to lead to the anomalous result that a gold standard country can increase its wealth by shifting part or all of its metallic reserves to use in industry and the arts, and vice versa in the case of a shift in the other direction.

But let me hasten to point out in closing that I know of no solution for the problems raised by money in the national balance sheet that does not lead to some sort of anomaly. The treatment toward which my theoretical prejudices incline is the inclusion of all fiat and all full-bodied commodity money as wealth. This may involve anomalies much larger numerically and more important in practice than that arising from Mr. Goldsmith's proposal. Furthermore, if the criterion for the inclusion of an asset in national wealth is to be economic *productivity* rather than mere *utility*, the elimination of money rests on a more secure footing.

Everett E. Hagen

VALUATION OF PUBLIC WEALTH

It has been suggested that public wealth not used for production for the market should not be included in the aggregate value of the economy's wealth because the value of its services is capitalized into the value of the private wealth which benefits from those services. To include the value of both public and private wealth would be double counting.

If this statement of the argument is correct, I think the argument unsound. The services rendered by public wealth such as a street are financed by tax levies. Suppose that the taxes are property taxes on adjoining property. The reduction in income from the private wealth caused by the property tax is reflected in the capitalized value of that private wealth. If the income yielded by the public properties equals its cost, the increase in the income yielded by the private wealth because of public services, and the reduction in the income from the private wealth because of property taxes, are equal, and the value of the private properties does not include capitalization of any services rendered by the public wealth. The correct total for the value of wealth in the economy must therefore include both private and public wealth.

In two cases, simply adding public and private wealth may lead to a total that in a true sense is 'incorrect': when the services rendered by public wealth do not equal their costs and when they are paid for by taxes (or other revenues) levied upon the income from labor, not upon the income from property.

These cases present anomalous situations. The anomaly in the first case arises because public services not sold in the market cannot consistently be measured by market tests, but must be so measured in an economy dominated by the market if we insist on having a single total for the entire economy. In the second case, the anomaly arises because the institutions of our economic system do not put a capital value on human capacities. Both these anomalous situations cause far-reaching difficulties in many types of economic computation. Their solu-

tion is not approached by excluding public wealth from total wealth.

'INDEX NUMBER PROBLEMS' IN MEASURING WEALTH

It has been suggested also that the measure of wealth should be independent of the income flowing from it. Since the value of wealth is merely the capitalization of the income expected to flow from it in the future, this suggestion at first seems absurd. However, as the discussion has made clear, the issue is merely one aspect of the old familiar 'index number problem': what weights should be used in aggregating items of wealth; in other words, what common characteristic of the items of wealth should be measured.

The usefulness of wealth lies purely in the flow of income it will produce. The income is made up of a flow of services (or of commodities, which in turn may be analyzed into a flow of services). The services or commodities produced by different pieces of wealth cannot be added, for they differ physically. Aggregating them, or aggregating the magnitude of the wealth that produces them, therefore, is a problem in devising weights with which to combine them.

Estimates of wealth are useful only to compare two situations—most commonly the wealth of two economies or of the same economy at different times. The relations between the two situations will depend upon the weights used in aggregating. One set is the market values of the services rendered. If they are used as weights, wealth consists simply of the capitalized value of the services expected to flow from it. A variant of course is the services that would flow from the wealth if used at capacity.

However, weights other than values may be appropriate for various purposes. If one is judging the capacity of the economic system to wage war, the weight given to automobile plants, or steel mills, or to Oak Ridge relative to other items of wealth would properly be far greater than the market value of the plants relative to other items of wealth.

Therefore, conceptually wealth may be independent of the

income flowing from it as the income is measured in the market. Each item of wealth should be given the importance appropriate to the purpose for which the estimate is being made. The object is not to eliminate circularity, or to make possible a comparison of income with the wealth from which it flows, the latter being measured independently of the former. Such attempts arise from the illusion that wealth has some economic (i.e., value) significance independent of the income it can produce.

In a fundamental sense, the statement that different sets of weights should be used for different purposes is simply a way of saying that a given item of wealth will produce more income (relative to other items of wealth) in some situations than in others. If we get away from the market valuation of wealth, we abandon also the market valuation of income. In this broader sense, the importance attaching to wealth is always a reflection of the importance attaching to the income expected to flow from it; wealth has no other meaning.

Franco Modigliani

My comments are prompted by the question: What should be included under wealth in carrying out wealth estimates? I feel that it can be decided only after one has clearly stated the purposes of the estimates. One important purpose of wealth estimates, for instance, is to establish the size distribution of wealth among individuals or groups. If this is our purpose, we should include all assets that can be sold in the market and value them, as far as possible, at their market prices. Among these assets will be such things as monopoly rights (whether they have a legal or only an economic nature) and also all sorts of natural resources (including rivers!) if they are privately owned and have a market value. This concept of individual wealth will not coincide with the capitalized value of an individual income, even if a proper rate of capitalization could be established, mainly because income originates partly from labor and in a system in which slavery does not exist it is impossible to sell the source of labor power as an asset.

While this definition of wealth will be useful in analyzing wealth distribution, it will not be very meaningful for other purposes; for instance, to compare 'national wealth' over time or between countries. For one thing, the aggregate of all individuals' wealth as defined above might well increase under conditions in which the community as a whole is not at all richer or conceivably even poorer from the viewpoint of welfare. Thus, an increase in population will tend to increase the value of land by increasing rents and thus their capitalized value. Yet it will obviously not enhance the welfare of the community. Similarly, the creation of a monopoly will presumably impair the welfare of the community, though it will increase the wealth of the monopolist. To avoid such difficulties it therefore seems advisable, for purposes of comparison of national wealth over time or between regions, to count only the aggregate of all reproducible physical assets at reproduction cost, including publicly owned assets such as roads, bridges, etc. It goes without saying that for certain types of comparison over time (or between regions), adjustment will have to be made for changes in the price level; i.e., for the two periods (or regions) compared, physical assets will have to be valued at reproduction costs of the same period (or region).

Of course national wealth may also be defined, in a way closer to individual wealth, to comprise all sorts of natural resources, including rivers and natural harbors whether privately or publicly owned (and why not sunshine?), and also reproducible physical assets on the basis of capitalized returns rather than reproduction cost. But if we keep shifting our concept consistently in this direction and at the same time want to avoid difficulties of the type discussed above, we shall soon find that the emerging concept of national wealth is nothing more than national income capitalized at some proper rate. But then the question may well be raised why we should engage at all in national wealth estimates. Indeed such estimates would not give us any information not already contained in national income estimates and we might as well give up this task and concentrate on refining our estimates of national income.

R. T. Bowman

My comments are confined to one general aspect of Mr. Goldsmith's paper: the valuation of tangible wealth. Most current discussion of this topic introduces social accounting. Mr. Goldsmith divides social accounting into national business and national economic accounting, defining the latter as national business accounting adjusted to the requirements of economic theory. Presumably social accounting includes income as well as capital accounts.

I find some difficulty in thinking of any type of social accounting that is not economic accounting. Certainly its purpose must be to record economic activity and, by doing so, to provide the basis for explaining it. But the division may be useful, and certainly does no harm, as long as it is recognized that the guiding principle of social accounting, if it is to be something more than a mere gathering together of business accounts, must be economic accounting.

In general the business aspect of social accounting seems to require little more than combining the accounting records of business activity into useful groups and adjusting for incompleteness and contradictions. The consolidation of such records, however, requires a theoretical basis in addition to that established by the rules of business accounting. Such a basis must come from economic theory. Whether present theory can do a good job or must be modified to some better future theory can never be established positively, but current theory is all we have for orientation today.

The data must of course be in the terms and units of the records. When the social accounts are drawn up, however, they must go beyond the original data. The purpose or purposes to which the data are to be put must be known or specified before an appropriate organization of the materials and a significant selection of summary measurement units can be decided upon.

Present economic theory seems to indicate that two measures of wealth would be useful for economic analysis: substantive wealth and claims on it. For immediate purposes, the former

should be given some priority because progress in the measurement and use of national income data is essential. An urgent need is to combine estimates of substantive wealth with those for the labor force and for national income in order to give a more complete account of the resource input and output of the economic system.

In the longer run, considerable attention should be given to the claims approach. The collection and theoretical orientation of balance sheet data, emphasizing the claims positions of various groups, the influences of such positions, and of changes in them, upon economic activity is essential for measuring the personal distribution of wealth and its effect upon the level of income and well-being.

In measuring wealth, many problems are encountered, beginning with the concept itself. I would define wealth as all sources of services, just as I would define income as all services received in a given period, plus net additions to wealth arising from the productive process. Such definitions have little worth, however, except to explain a point of view toward a certain class of data. If we are to accomplish anything analytically by using quantitative data, our generalizations must be directed toward recognizable social categories. The categories chosen must be consistent for wealth and income. In the following discussion I shall proceed in only one such direction, the valuation of substantive assets in the national balance sheet.

From my point of view, the valuation most appropriate for reproducible substantive wealth is depreciated reproduction cost, i.e., the current year money value of the resource inputs currently required to produce tangible wealth similar in productive output to the existing stock. Such a measure allows us to think of wealth as income in process, in terms comparable with national income in current dollars. Furthermore, since the depreciation figures used to 'net' the national income figures are generally considered to be in terms of reproduction cost, beginning and ending inventories of reproducible wealth can be compared more directly with the portion used up during the income period. This is not an attempt to evaluate in

conformity with the 'economic principle' but would enable us to make generalizations concerning the degree to which reproducible resources are being allocated in accordance with that principle. This method makes it much easier to choose the values at which to include certain government tangible reproducible assets. Whatever the market value of such assets, their reproduction would necessitate resource inputs comparable in most respects to inputs required in other sectors of the economy.

Nonreproducible tangible assets cannot be valued in this fashion. Moreover, they are comparable with reproducible assets only at the margin. Since, generally, they do have alternative uses and may be substituted at the margin for reproducible assets, it would seem best to value them at current market prices. The over-all supply of nonreproducible assets cannot increase; hence their special short and long run positive rent elements do not have the same consequences as the quasi-rent elements in reproducible assets. They may, however, be shifted from one use to another; their market values reflect these shifts.

The method of valuation suggested for the two classes of tangible wealth assumes that the usefulness in economic activity of specific types of tangible goods changes slowly and that their input costs, therefore, have significance for the production of income. Unless such an assumption can be made, no measure of wealth can have any permanent meaning. The method assumes too that resources not transferred or transferable in the markets, or not essentially similar to them, will be excluded. The 'free' resources of rivers, of air, and of sunshine are excluded only because their utility permeates all other resources and their use for any one purpose does not preclude their use for other purposes. Their exclusion from wealth is in accordance with the same principle as their exclusion from income.

If this method is used for each current period it becomes immediately necessary, for purposes of comparison, to convert a time sequence of such measures into one that indicates an increase or decrease in the amount of wealth devoted to the

economic process. In the case of assets valued at depreciated reproduction cost, considerable difficulty is encountered, as in estimating current depreciated reproduction values themselves. Presumably it can be done only in terms of indexes of construction cost for different kinds of assets. The usual values appearing in business accounts are original costs at different past dates for the several classes of assets.

If we consider only the general input-output problem, we need not estimate wealth as frequently as national income. Once an estimate for a comprehensive base period has been made, the important categories of reproducible wealth can be kept up to date from current estimates of national income. National income accounting, however, will have to be broadened to provide a complete record of all additions to or subtractions from wealth. Specific attention should be given these items so that a current and historically comparable series of wealth estimates may be maintained.

W. S. Woytinsky

National wealth can be defined by analogy with national income. Both concepts are derived from the consolidation of estimated wealths and incomes of individuals. On the side of national income we list such items as wages and salaries, profits, interest and rents. The items to be included in national wealth depend upon the purpose for which the aggregate is computed.

In my opinion the main purpose of estimates of national wealth is to provide a yardstick for appraising the growth and distribution of national resources in relation to current national production. If it is, the aggregate of national wealth can be built up in various ways; for example, by recording the wealth of each individual or each family in each city block as in a census of population; or by using a stratified sample and inflating recorded figures by some carefully established formula. The method of estimating national wealth by capitalizing national income should be excluded, since it would give no insight into the distribution of national resources (or national wealth) in relation to current production.

Of the various procedures, the following seems logical: classify current incomes in such a way that each group of incomes is related to certain assets; compute the value of each group of resources, and consolidate the single items. For example, incomes of farmers and farm laborers are related to the value of farms, which includes improvement of land, the value of buildings, livestock, equipment, and the like. The aggregate value of all farms is entered in national wealth as a separate item.

Incomes of manufacturers and factory workers are related to the value of factories. This item, including the value of the ground, buildings, machinery, patents, inventories, and the like—in other words, the entire capital in manufacturing industries—constitutes another item of national wealth.

Proceeding in this way one can cover a large part of national income and various items of national wealth. The aggregate of assets and liabilities. If, as Professor Hart and I both believe, a wealth this item corresponds to the rents received by house owners and the imputed value of dwellings occupied by owners. Likewise, the value of publicly owned utilities will be included.

Such an enumeration will not be exhaustive, however. It will not cover persons in professional, personal, or public services. On the asset side, publicly owned harbors, bridges, highways, hospitals, schools, national parks, recreational grounds, and the like are conspicuous by their absence. Not accounted for also are such items as potential resources—subsoil, unutilized water power, publicly owned forests, and rivers.

Some of these residual items of national assets parallel residual items of income just as the value of farms or factories parallels the incomes in the respective sectors of the economy. For example, services of persons in educational professions are performed in an environment provided by investments in schools and other educational institutions; medical services are supported by hospitals, sanitation facilities, water supply, and the like. The fact that no profit is calculated on these investments does not alter their economic nature. They are assets in

the strict economic sense. Their dividend appears in the increased productivity of the national labor force, lower death rates, a longer life span. A nation whose children must go to school for at least 8 years and may expect to live to be 65 years old is richer than a nation whose children can leave school after 4 years and cannot expect to live longer than 35 years. It is richer not only in terms of welfare but also in dollars and cents, because its output per manhour—however measured—is larger. Consumers receive the dividends just as they pay the current cost of the production of the respective services.

For similar reasons the capital value of highways, harbors, bridges, dams, and public buildings should be counted in aggregate national wealth. All these assets bring dividends directly to consumers. It would be illogical indeed to count in national product the work performed in constructing a bridge and not to record its value in national wealth. The duplication arising from counting in national wealth the increment to the value of ground adjacent to a new highway as well as the value of the highway itself does not matter, for some neighboring land may be impaired in value. Similarly, the construction of a factory, apartment house, or theatre changes values in the entire neighborhood.

Computing national wealth as the sum of items with market value or measurable capital value would exclude such items as unexploited, or undiscovered, soil resources, sun- and moonlight.

J. B. D. Derksen

I would like to comment on two points that did not, I believe, receive sufficient attention in the discussion of Mr. Goldsmith's stimulating paper.

The first is the effect of price controls upon wealth estimates. A well known example is rent controls, which affect the prices of houses. Should the value of real estate not be adjusted for this influence? For the United States it may not be easy to ascertain the effect of rent controls upon the prices of real estate, but in countries where there are official ceilings on the

prices of houses, as well as rent controls, the situation may be different. In principle, at least three methods of evaluation are possible: based on the established ceilings; the capitalized controlled rents minus costs of maintenance, repairs, etc. borne by the owners; and replacement costs.

In a controlled or planned economy, interest rates are usually kept artificially low. Thus in estimating national wealth by capitalizing returns, it may be necessary to substitute a 'true' interest rate, based on the actual supply of capital goods. Such a procedure has been suggested for countries where capital goods are scarce, as the official interest rates cannot be used as a basis for decisions regarding investment programs. The method is, however, extremely difficult to apply as it requires factual knowledge of production functions. These problems may seem rather theoretical, but they are important, for example, if the national wealth, by totals and major groups, of different countries are to be compared.

The second point is the problem of evaluating national wealth in countries where all major industries are nationalized. In the more familiar case, where only some industries, usually public utilities, the central bank, or some railroads or mining companies are owned by the government, wealth is estimated by the same principles as wealth in the private sector. If all major industries are nationalized, these principles cannot be applied and it seems rather difficult to establish others. When only some enterprises are owned by government, they are usually managed in accordance wtih rules that prevail in private industry; after nationalization has become complete, the profit motive does not play the same role.

Gardiner C. Means

I have been requested to comment not only on Professor Hart's paper but also on the broader aspects of measuring wealth. Three matters seem to me most worthy of comment: one has to do with the use of words, one with accounting theory, and one with Professor Hart's discussion of uses of national balance sheet data.

First, the question of words: I wonder if we are not introducing serious confusion into our thinking and discussion by regarding the immediate problem as one of estimating national wealth. Among the eleven papers prepared for this meeting which I checked, five indicate that they are concerned with estimating national wealth or some wealth component. Three papers do not mention wealth, but are concerned with estimating assets or assets and liabilities for a particular sector of the economy. Three others seem to use 'wealth' and 'assets' as if they were more or less interchangeable. It seems to me that the present undertaking has to do with assets (and liabilities), not with wealth.

You may think this is a minor matter of words. My experience suggests otherwise. When Adolf Berle and I began working on *The Modern Corporation and Private Property* we used 'wealth' and 'property' more or less interchangeably. After a while we found each of us was using the terms quite differently. When Berle said property or wealth he was referring to a legal situation; for example, he was envisaging what a man could get the courts to do if somebody appropriated his possessions. When I used the terms, I was referring to an economic situation; for example, how much a man would get in exchange for his possessions. Once this difference in use was clear, we agreed to restrict the term 'property' to the complex of legal relationships and 'wealth' to the complex of economic relationships. In most concrete situations both wealth and property might be involved though bootleg liquor could be wealth without being property and a worthless piece of land could be property without being wealth. What is more important here, however, is that when we wanted to bring into view the history and logic of law we used the term property and when we were seeking to bring into the foreground the history and logic of economics we used the term wealth.

This Conference is concerned with neither the history and logic of law nor that of economics. We are seeking to apply the history and logic of accounting. Yet wealth is not an accounting term. The term 'asset' plays the role in the logic of ac-

counting that is played in economics by 'wealth' and in law by 'property'. Indeed, an accountant will not include an item in a balance sheet as an asset unless it is *both* wealth and property. The item must have value and the company must have property rights in it.

Income and wealth are customarily discussed as closely associated concepts in a system of thought. It may seem natural, therefore, to assume that having made estimates of national income, a complementary action would be to make estimates of national wealth. But 'income', unlike 'wealth', belongs to the history and logic of accounting as well as the history and logic of economics. When we estimate national income through a process of social accounting we are applying the logic of accounting, not that of economics. The end product is an estimate of income, using that term to refer to the accounting concept of income, not the economic concept, even though the two may be closely parallel. If this conclusion is accepted, the estimate complementary to national income is national assets, not national wealth, i.e., an estimate resulting from an application of accounting principles, not those of economics.

The relevance of this distinction can be indicated by referring to Mr. Goldsmith's paper. He distinguishes between 'business' and 'economic' accounting. The first leads to estimates of assets (and liabilities). The second is not a matter of accounting but of valuation and leads to estimates of national wealth. Mr. Goldsmith presents very cogent reasons for not accepting as an estimate of national wealth the estimate of the net assets of a nation arrived at by applying the principles of business accounting. I would go further and say that the application of the most perfectly designed system of social accounting would not yield an estimate of national wealth. It could provide a starting point for applying economic concepts in order to arrive at an estimate of national wealth. But this application of economic concepts would be the economic revaluation of accounting results, not a process of economic accounting.

The practical implications of this analysis lead to two sug-

gestions. First, I suggest that in oral and written discussion, we refer to the estimates that are the immediate objective of this Conference as estimates of national assets and liabilities or perhaps better as national balance sheets, not as estimates of national wealth. This would follow the 'pure accounting approach' employed in three of the eleven papers I examined.

Second, and with some trepidation, I suggest that this Conference limit its activity to social accounting and leave the much more treacherous task of estimating national wealth to other agencies.

My second major comment is to suggest the need for an intensive examination of the logic of social accounting. Here I am not referring to what Mr. Goldsmith calls economic accounting. Rather I am referring to business accounting as applied to the creation of national balance sheet and income statements. Nor am I suggesting that the perfect logic of business accounting would not serve as the perfect logic of social accounting. I would say that the perfect logic in the two cases would be identical. But business accounting as we know it today is full of practical compromises which are useful to business accounting and not necessarily useful to social accounting.

Take, for example, the business accounting practice of valuing inventories at the lower of cost or market. This is good conservative practice and quite appropriate to many businesses. It is a matter of practical business conservatism, however, not a product of accounting logic. Or take the problem of real versus money values. Business accounting has, for the most part, stuck to money values, though the Germans developed some methods for introducing changes in the value of money. The logic of accounting would almost certainly depart from these practical compromises and it is the logic of accounting, not the practical business compromise, that is relevant to the theory of social accounting. Social accounting will have its own practical compromises to make, some of which will grow out of the practical compromises reflected in business statistics. But I believe that we would have a sounder basis for developing national balance sheets if we were clearer about the logic of

accounting and fully recognized the compromises as they are forced upon us.

A reexamination of accounting theory for social accounting purposes should give attention to the historical development of accounting thought. Until quite recently accounting theory has been almost entirely a cost accounting theory. Its objectives were to allocate costs to final products, or, more exactly, to relate the amounts of money paid out for goods and services to the amounts of money taken in for goods and services by allocating the first to the second. This procedure has run into serious logical difficulties because all goods are produced under conditions of joint cost. The problem of depreciation is one of joint cost, with the time factor as an added complication. In some industries such as meat packing the most immediate operating costs are joint costs. In all businesses overhead costs are joint costs. Indeed, the really knotty problems of traditional accounting grow out of joint costs.

More recently a new approach has been creeping into business accounting—an approach I would like to call 'utility accounting'. Exemplified in the practices of some department stores which value their inventory at what they expect to sell it for minus the normal mark-up, this procedure reverses the ordinary process of accounting. The line of allocation moves backward from the amounts of money expected to be taken in rather than forward from the amounts paid out. This approach opens up a whole new realm of possibilities, some of which are well developed in Professor Canning's brilliant book, *The Economics of Accounting.*

But utility accounting must face a difficulty no less serious to its logic than joint cost is to the logic of cost accounting. It has the problem of joint utility. The meat packer who chops a cow up into parts has no cost accounting logic to establish the cost of each part. The automobile manufacturer who assembles many separate parts into a single product has no utility accounting logic to establish the utility of each part. The meat packer can use utility accounting; the auto maker, cost accounting.

But both cost and utility accounting are in difficulty when it comes to problems of overhead and depreciation. I believe, perhaps quite without warrant, that a combination of the pure logic of cost accounting and the pure logic of utility accounting would go far toward providing a more satisfactory basis for a comprehensive accounting logic. Such a logic would be useful to both business and social accounting, setting up standards by which to judge whether the practical compromises adopted in either business or social accounting practice seriously compromise the objectives of accounting.

I, therefore, propose that some work be undertaken in the logic of accounting. For the carrying out of such studies I have three suggestions: that combining the logics of cost and utility accounting be emphasized; that attention be given to the German accounting studies made after the first World War, which attempted to adjust for changes in the value of money by measuring capital in real rather than money terms; and that for purposes of clarifying accounting logic, dead concerns, either real or hypothetical, be analyzed. The purpose of business accounting is to describe as clearly as possible the condition and development of a concern at some time between its birth and death. By taking a concern whose life cycle is complete, one can, with the aid of hindsight, determine its condition at intermediate points more precisely than with foresight alone. If logical methods for the accurate description of a concern's condition at different times can be developed by the aid of hindsight, it may be easier to develop the appropriate logic from foresight. I think much could be accomplished along these lines.

Now I come to Professor Hart's paper. To me, of course, his subject is 'Uses of National Assets Estimates', not 'Uses of National Wealth Estimates'; or better still, 'Uses of National Balance Sheet Data'. I am fully in accord with his emphasis on motivating relationships as the prime use of national balance sheet data. Such data can perform a useful service in the mechanics of checking income estimates. And our sense of logical elegance requires a national balance sheet to place alongside

our national income figures. The balance sheet would provide also an aggregate asset figure from which it might be possible, with sufficient theoretical and statistical travail, to derive an estimate of national wealth, though I am more skeptical than Mr. Goldsmith about the usefulness of the results. Presumably a nation gets poorer if its natural resources are depleted. But the depletion can raise the *value* of the remaining resources so that the figure for national wealth increases. Of what social usefulness is such a figure?

To come back to the national balance sheet—I believe that some of the very bad forecasting of national demand and employment at the close of the war was due to the failure to take account of the changed asset position of individuals and enterprises. Under normal peacetime conditions, changes in asset and liability position are likely to be so gradual that their effects on individual behavior get lost in the catch-all of trends. The war vitally altered both the amount and the liquidity of assets and liabilities. If, as Professor Hart and I both believe, a change in assets is likely to modify the propensities to consume and to invest, then the war increase in assets could be expected to raise more or less permanently the level about which the propensities to consume and invest fluctuate. This shift in propensities, which is, I think, clearly reflected in current statistics, could explain the major error of those who projected prewar propensities adjusted only for the temporary backlog of demand.

A little consideration of some items in the balance sheet raises some fascinating questions concerning economic behavior. From 1935 to 1939 the money holdings of individuals increased more rapidly than the money holdings of business, according to Mr. Copeland's paper. But from 1939 to 1942, the opposite was true. Some preliminary current figures suggest that more recently money holdings of individuals have been increasing while the money holdings of business have been going down. What do these relative shifts in money holdings mean for economic behavior?

Or consider the great mass of government securities out-

standing. Will it constitute an undigested hunk of dough in our body politic or will it be built into our structure of assets in a stable fashion? Who owns these securities? How is the ownership shifting? And what are the implications of the shift?

Or take the plant and equipment of industry in relation to output; the debt of farmers in relation to the value of their land and their incomes; the assets and liabilities of insurance companies in relation to other investment assets and liabilities; or the question Homer Jones is stressing, the relation of debt to equity investment.

It is characteristic of each of these questions that it can be answered, or at least adequately analyzed, without national balance sheets. Each requires asset and liability data on only one sector of the economy. But complete national balance sheets will provide essential data for each and is likely to raise many more similar questions. For these problems, balance sheet data will render the same kind of service that income data render for problems of economic development and behavior. In my opinion the balance sheet data as a whole and in their separate parts are just as essential as the corresponding income data. In combination they are the factual starting point for a real understanding of our economy.

Roy J. Burroughs

Mr. Means' suggestion that in preparing a national balance sheet the concepts of accounting and law are likely to be more appropriate than those of economic theory merits serious consideration. Goldsmith's desire to relate balance sheet concepts to those of economic theory cannot be entirely satisfied. The business enterprise is the institution to which business accounts apply. The national economy, however defined, is the institution to which social accounts apply.

The eminent accounting theoretician, W. A. Paton, always emphasized that the balance sheet is an equation. The sum of the values of the objects of the inventory are by convention necessarily equal to the sum of the values of the property rights ('equities' he calls them, 'claims' we are calling them). Prop-

erty is a legal concept. 'Value' is an economic concept with various connotations. The values on a firm's balance sheet are usually not the current or 'normal' exchange values of the economist. Rather they represent an historical statement of former outlays minus an expiration of value in production. The accountant's cost is not the economist's cost. To the accountant, cost is figured prior to the residual profit. 'Normal' profit to the neo-classical economist is often regarded as a necessary social cost of production. Other differences will doubtless occur to those who give the subject a little thought.

Business accounting shows how financial resources are allocated among production uses; it permits the computation of net returns after allowance for expenses including depreciation; and, from the schedule of claims on the right side of the typical American balance sheet, it provides for the distribution of income. It thus measures results in terms of values.

Conceivably, social accounting could be used for somewhat similar purposes. But the balance sheet and income statement would have to be consistent.

Many are the conventions and implicit assumptions that underlie business accounting.[1] The conventions and assumptions underlying the balance sheet phase of social accounting are largely unformulated. It therefore behooves us to consider our postulates while we are struggling with expediency. Moreover, let it not be forgotten that expediency is often a more significant guide to business accounting than consistency. Attempt consistency, but don't expect to attain it.[2]

The capital consumed in producing national income can be computed with more certainty from the balance sheet. Many valuations of the balance sheet expire as income is produced. There is a transmutation, as it were, of capital into gross income. Net income cannot be determined without an allowance for capital consumption.

1 See, for example, W. A. Paton, *Accounting Theory* (Ronald Press, 1922), Ch. XX, 'Postulates of Accounting'.

2 If you would be a man of good conscience, pay high honor to *Consistency*—but honor Her at a distance. For unless you would suffer madness, seek not to hold Her to your bosom—She will elude all but your merest touch.

Were a national balance sheet employed, depletion could be charged against income just as depreciation is now charged. Newly discovered resources would not be credited to income but would be entered directly in the balance sheet, both as assets and as valuable claims. Even an allowance for depletion of agricultural land might be in order. The nonmonetary human costs of production—disease, injury, premature aging, etc. —would be more difficult to recognize, as human capital cannot well be placed on a chattel basis for inclusion in the balance sheet, though theoretically it can.

Obviously, balance sheets will not reveal relative welfare as between countries or periods. When any class of goods is more plentiful than usual, balance sheet values shrink. The better the weal, assuming appropriate balance, the smaller the assets. Moreover, current balance sheets do not recognize the claims of posterity on natural resources. The valuations placed on our natural resources are astonishingly low. Even high values may not properly reflect the long run importance of agricultural land to the nation. Apart from the costs of extraction and processing, many generically important resources with limited reserves—petroleum, copper, iron, etc.—are virtually free goods. This is rational from the viewpoint of any given generation. Possibly it is rational from a longer run point of view if we are sufficiently optimistic about our capacity to develop alternative sources of energy and material. Conceivably, however, a socialistic state might wish to place a higher value on resources, charge present users a higher rate, and discount future incomes at a much lower rate. This could be done with the tools of social accounting.

One of the first decisions facing the Conference concerns the nature of the assets to be included in the national balance sheet. For the purpose of determining how resources are allocated and for computing the expiration of capital values in the process of production, it would seem that tangible assets to which property rights can be taken, plus intangibles with a determinable cost of production or with a separate market value apart from attachment to a going concern, might be in-

cluded. Patents and copyrights are in the latter class; goodwill is not. By this criterion the assets would represent the sum of the values of the separate items of an inventory of existing goods, including transferable processes or ideas other than the going concerns themselves.

The objection to the inclusion of goodwill, except possibly that arising from foreign sales, is that goodwill is not a resource to be allocated or used to compute the expiration of capital values in production. Nor is it generically significant to the society in which it exists; i.e., society is neither the better nor worse equipped for production whether goodwill is or is not existent. In business accounting goodwill appears when a new owner takes over a going concern having an element of monopoly income, and it is usually written off rapidly—not as a charge to income but as a charge to surplus (claims). Recognizing such monopoly values is inconsistent with the concept that assets are an inventory of separate items without respect to the institutional patterns that may be used to organize them for production.

Goodwill contributes nothing to national real income. On the theory that monopoly income could be taxed away without reducing incentive or output, so goodwill could be removed by competition or taxation without any loss of real income or of real capital. If goodwill is included in the national balance sheet, it will be on the ground of expediency rather than of logic. Its inclusion may permit an easier matching of assets with claims.

In the case of patents a temporary monopoly is granted as an incentive to invention. Although the legal monopoly is sometimes abused and even used to stifle progress, as long as the incentive theory is held by the law and is at least substantially true, the social accountant had best recognize it.

Reference has already been made to Goldsmith's paper, especially to his dictum that the "values entering into the system of national accounts" should conform to "economic principle". It may be added that there is no practical method for evaluating everything as it would be valued under pure com-

petition. Even if there were a practical method it would not necessarily be ideal. Society might choose to place a floor under some values out of consideration for human personality irrespective of economic productivity. Perhaps no theory of economic value would fit all possible judgments derived, say, from a system of morals in which an individual of this and succeeding generations was given a high value. Moreover, on practical grounds again, who is to say what the 'logical pure market rate of interest' is, apart from evidences of the market itself?

The 'earned net worth' approach to national accounting discussed by Goldsmith is followed by the Bureau of Agricultural Economics. However, in contrast to conventional business accounting, the base values against which depreciation is computed are adjusted each year to the market. Then depreciation figured on current values is subtracted as an expense—essentially as it would be in an 'earned net worth' procedure.

Concerning Hart's paper, just a minor question: Are the 'mechanical' and 'motivating' relationships anything more than a backward look at resources and results before setting goals? The 'motivating' aspect comes from the intelligent allocation and direction of economic resources in the light of the accounts. This is done by the going concern; it is a legitimate use of social accounts to persuade enterprisers to agree on goals or to permit direct social management of resources.

Homer Jones

If steps are taken to improve estimates of wealth, a great deal of attention should be given to changes in equity relative to debt. Of course if we improve both our total wealth and debt figures, the equity figures will automatically be improved. We should get annual data and give full weight to changes due to fluctuations in prices. When prices are rising, equities increase at a faster rate. The opposite holds when prices are declining. The windfall to equity holders when prices rise is of great significance to spending. They are and they feel wealthier. They are willing to go into debt to get funds with which to increase their cash balances and their real investments. Even

the equity holder who is not in debt and whose holdings increase in value only *pari passu* with the general price level and with his income probably feels richer and is willing to act accordingly.

The farmer whose equity increases relative to debt because the value of his land and other assets has increased will not behave as he would if prices had not risen. Any increase in his wealth, deflated for changes in the price level, is just as real and just as significant for his actions as if the increase had come from savings. If this observation has validity for farmers, it surely holds also for the operators of other unincorporated businesses and owners of houses. In the case of corporations the redistribution of wealth resulting from inflation may have an effect at two points: on the actions of stockholders or on the decisions of corporate managers. At present the latter seem to be more affected. The difference between the market value of corporate shares and the value the shares represent as measured by other means is significant. One benefit that should follow from improving estimates of wealth is capacity to analyze this difference and its changes.

The uses of wealth data to which I have alluded imply a knowledge of changes in many wealth components at frequent intervals. But this does not mean that we need frequent censuses of wealth. Once we have a fair knowledge of the wealth in various sectors and of the chief categories of claims in each, we can keep it up to date by information concerning new construction and changes in prices of various categories of wealth.

Curiously enough, in the 1930's interest in wealth data in general declined almost to the vanishing point, and considerable attention was devoted to debt statistics. The debt data have been kept current and have continued to be of interest. But surely for these debt data to be of substantial significance we need comparable equity data. And we need to know something about debt charges in relation to property income in various significant categories. I believe we should invest considerable effort in improving our debt data. Even more impor-

tant is knowledge concerning equities, debt charges, and property income in various economic categories.

Not only do we need to know more about the structure of liabilities and equities of households and business units but also about who holds the claims and equities and how they are managed. For example, we have only a vague idea how much wealth is in the hands of trustees. We know little about the distribution of various types of debt and equity claims among income groups. The ownership of and changes in the wealth of women, old men, and others who are inactive in a business way are surely of great significance.

Traditionally the relation between equity and debt from the standpoint of ultimate claimants as a whole has been substantially identical with that from the standpoint of users of wealth as a whole. But we may be seeing the beginnings of a development that will alter this situation. To the extent that intermediary institutions such as life insurance companies and mutual savings banks acquire equities while securing their funds through the issue of debts, equities may decline in significance from the standpoint of ultimate claimants and play an increasing role from the standpoint of managers of real wealth. It will probably not be difficult to consider this development in the formation of wealth and claims statistics.

One objective should be a close coordination between wealth and income statistics. From one significant standpoint a rise in prices reduces the income of creditors; when prices decline, the effect is the opposite. Likewise the equity holders who are in debt receive an addition to their income when prices rise and suffer a loss when prices fall.

The adequacy or inadequacy of depreciation charges may be pertinent in connection with an analysis of the redistribution of wealth due to inflation and deflation. Inadequate depreciation charges during inflation may be thought of as counteracting an improvement in the relative status of equities. If they are treated, as they should be, as an adjustment of profits, equities from retained earnings will be smaller. But the old equity will nevertheless increase relative to debt. The sugges-

tion has been made also that great technological advances in important fields in the last few years have caused an obsolescence far outstripping the depreciation charges, quite aside from the inflation factor. This may well be; nevertheless, the position of equity relative to debt is better than it would be had we not had the inflation.

The need for much better information concerning the relation of debt service costs to profits and property income as a whole takes us out of the immediate field of wealth statistics, but is so closely connected with the relation of debt to equity that both fields should be cultivated.

I am not sure whether, strictly speaking, statistics of corporate security issues and their retirement belong to wealth statistics but it seems so to me. Data on the issue and retirement of claims against corporations are far from adequate. It is just as important to understand changes in claims better as to know the status of claims at particular times.

Wealth statistics should be pushed ahead until good estimates are available for the end of each year and are tied in reasonably well with income statistics.

I agree with Morris Copeland that preferred stock should receive special consideration. For most purposes of economic analysis preferred stock has more in common with debt claims than with equity claims.

Original cost figures are not always the most useful basis for wealth data. But in one respect they seem to me important. Intermediary institutions should not have to be concerned with declines in the value of their assets except when the decline is larger than in economic assets in general. For example, the housing projects of life insurance companies and mutual savings banks should be valued on a cost basis no matter what happens to the general price level or business activity.

Useful purposes may be served by estimates of global wealth. In fact, a variety of global concepts may be in order. Even if agreement cannot be reached on concepts of global wealth or if the concept is deemed meaningless, we should try to get better data on wealth in various important categories. It is by

category of wealth, or by class of persons, or by classes of business enterprises that the debt-equity ratios and the debt charge-equity income ratios are of most significance.

The use of wealth statistics for sectors of the economy bears upon the question whether land should be treated as wealth. From the standpoint of certain global concepts of wealth, land may or may not be an appropriate significant part. But in the debt-equity ratios of sectors of the economy, land values are just as significant as any other capital assets and should not be omitted.

Professor Hart has said that the chief reason for discontinuing the collection of wealth data was the misuses made of them. I do not know whether this was the controlling reason, but in my opinion it is not a cogent one. If there is a demand for statistics they should be collected even though the collectors fear they will be misused. Those who wanted to misuse wealth data have not hesitated to concoct their own. It is unfortunate that wealth statistics have been ignored for a quarter of a century; we have a great deal of ground to make up. Just as economic theory in certain respects marks time awaiting better wealth statistics, so economic analysis of the mechanics of the flow of savings into investment, in which I am currently interested, is impeded by a lack of data.

E. D. Domar

What interested me especially in Mr. Hart's paper was its implications for further developments in economic theory. The well-known maximization of profits objective permeates so much of our thinking about business that we are not always aware that our conclusions on such subjects as tax incidence and wage policy are colored by it. For instance, we all know the textbook conclusion that a corporate income tax does not affect a firm's decisions regarding the scale of output and of investment. Since, however, the firm may minimize risk as well as maximize profits, this conclusion no longer holds in the general case. Similarly, if you decide (as Professor Marschak did in an unpublished paper) that the results of a firm's decisions

should be expressed as some probability distribution rather than a single specific value, the conclusion that the income tax does not affect output is not true.

What Mr. Hart did was to bring the balance sheet into the picture. Clearly, the balance sheet is important to business men, yet it plays a very small role in economic theory. For instance, we are told in accounting that the ratio between current assets and current liabilities is important. Evidently its size may affect business decisions. Yet this ratio is scarcely mentioned in economic theory.

The argument whether national wealth should be estimated from the viewpoint of historical cost or by capitalization has led me to feel that the method should depend upon the purpose. For instance, when we conceive national wealth as made up of individuals' claims or when we talk about the distribution of wealth by groups (such as size groups) the capitalization method is called for. Or to give another example—I noticed in Mr. Goldsmith's paper a small table showing the historical decline of the capitalized value of land as a share in total national wealth. I can hardly think of a better illustration of the decline of the power of the landed aristocracy. And here the capitalization method is called for.

In other problems the capitalization method would make little or no sense. For instance, if you are concerned with the industrialization of an undeveloped country such as India or China, and you ask yourself how much capital will be needed to achieve a certain increase in total output, clearly what you have in mind is an increase in capital stock from the cost point of view. However difficult it is to define capital stock, conceptually and statistically, problems of this kind must be faced. Surely we cannot assume that output per manhour in an undeveloped country will grow at a certain rate irrespective of capital accumulation, as we often—incorrectly—do.

C. Reinold Noyes

THE QUESTION OF WEALTH AGGREGATES

The Conference project looking toward the development of estimates of wealth seems to have great possibilities. However, there are certain special conditions in this field that pose difficulties which have not been encountered in income studies. The following suggestions are purely cautionary: they are made on the basis of personal experience with a wholly different approach to this subject—the property structure or financial structure as presented in *The Institution of Property*—and they are made by one who is almost completely ignorant of the statistical material available. Nevertheless, they may have some value to those who work in the field.

1) It will be well to keep separate the estimates for the public economy and the private economy. In fact, it will also be well to divide the public economy into its two parts, the federal government on one hand, and the state and local governments, on the other, since the status of the two are so different. The efforts to combine government with private income have been difficult and not entirely satisfactory. The efforts to combine public and private wealth would be even more difficult and even less satisfactory. A few of the reasons for the above suggestion may be given briefly:

a) The bases of valuation for real assets in the public economy are quite different from those in the private—for instance, land values, military and naval equipment.

b) The economic function of the public economy is largely different from that of the private economy—more so in the case of the federal government than in the case of state and local governments.

c) It will be possible to draw up estimates both of real wealth and of net worth for the two parts of the public economy, whereas that will not be possible for the private economy. This, because the problem of valuation of 'equities' is not met in the public economy.

d) The federal deficit is either a bad debt or a contingent

liability of the private economy. If the two statements were to be consolidated, the federal deficit would disappear; but the fact that it had been made to disappear would be concealed. That is, such treatment would not make it evident either that the holdings of federal securities had been written down in the statement of the private economy or that a corresponding reserve had been set up on the asset side.

2) In the estimates for the private economy it will be well to continue the present practice of keeping separate estimates for land values and estimates for reproducible wealth. The reasons for this are:

a) The quantity of land does not increase, whereas that of reproducible wealth normally does so.

b) The bases of valuation are wholly different, since raw land has no real cost.

c) Land values cannot be deflated with a price index.

d) Aggregate land values seem to increase with population growth and particularly with economic centralization. Deflated values of reproducible wealth seem to reflect economic progress in general.

2a) The subsidiary question arises as to whether it is possible to separate man-made improvements, other than buildings, from the values of land. I doubt that it is possible. One could not now estimate what it cost the Pennsylvania Dutch and the Scotch Irish to clear northeastern Pennsylvania. But to Tucker and Carey, one hundred years ago, that clearing was an outstanding example of very costful man-made improvements. On the other hand, on the western prairies there was, practically speaking, no such cost.

2b) Another subsidiary question is that of segregating subsoil resources from other land values. Generally speaking, land values reflect all natural resources located thereon or therein or accessible thereto. There seems to be no sound reason for treating subsoil resources differently from others, such as soil resources, forests, or fish in lakes and rivers. Again, the list of subsoil resources has changed greatly even in our lifetimes. Exhaustion, new discoveries, obsolescence of types of resource

and new types of resource are almost accidental variables. Finally, the basis for estimating subsoil resources is so partial as to misrepresent the probable aggregates. Many are not estimated at all, and the 'discovery values' of those which are estimated are largely artificial, being a form of immunity from taxation to encourage discovery and exploitation.

3) If the estimates of private real wealth in the form of land and that in the form of reproducible wealth are kept separate, they will both be of great value and interest. Reproducible wealth estimates need much work to improve their accuracy, particularly in the direction of reconciling census estimates with those derived from capital formation data. However, any attempt to reconcile the figures for aggregate private real wealth (land and reproducible wealth) with the figures for aggregate private net worth will, in my judgment, be fruitless. The reasons for this are discussed below.

4) There is a grave question whether estimates of aggregate net worth would have any validity whatever. My studies lead me to conclude that aggregate private net worth is the sum of the net worth of what I termed "final personal and final impersonal funds" (*The Institution of Property*, Ch. 7). These correspond approximately to what Mr. Goldsmith terms "ultimate economic units". On the asset side, this aggregate includes real wealth in possession of such ultimate units, but it also includes the value of all their property interests in intermediate units. The reasons for believing that a consolidated statement of private net worth would be a fruitless undertaking are:

a) Property interests in intermediate units, when these are sole proprietorships and partnerships, are actually valued at the net worth of such units. This regardless of the income derived. However, when such property interests are represented by the securities in corporations, their value almost never coincides with the book value of the corporation's assets. They are valued at a market which represents some rate of capitalization of the income to security holders. Thus these two segments are actually valued on two different bases.

b) Many of the interests in corporations have no market.

For these, as for interests in sole proprietorships and partnerships, one cannot safely impute a rate of capitalization in order to derive a quasi-market value from the earnings. Members of the Conference are certainly not competent to make such appraisals, and it is doubtful whether even competent appraisers would attempt to do so in the mass.

c) Those interests in intermediates which do have a market will show wild gyrations. It is my recollection that the aggregate market value of stocks listed on the New York Stock Exchange dropped from about ninety billion dollars to about thirty billion dollars from 1929 to 1932. Such aggregates vary radically with business cycles. But it would be difficult to derive anything meaningful from their changes over longer periods.

d) Theoretically, the aggregate of net worth and the aggregate of real wealth are merely two aspects of the same thing. Actually, the two levels of proprietorship—ultimate property and possessory property—are and should be valued on different bases. The basis of the first varies as noted above; that of the second is cost, or reproduction cost. To attempt to impose the capitalization of earnings basis on both, as Marshall did with his quasi-rent on reproducible wealth, seems to me to be a plain case of ignoring the facts. Real wealth cannot be valued on the basis of capitalization of income, whereas a share of stock is only valued on that basis. The difference here is as radical as is that between the basis for land values and the basis for reproducible wealth values. Moreover, in the case of the net worth of ultimate units, these two bases of valuation are necessarily jumbled together to the extent that the assets are a mixture of real wealth used for domestic purposes or for business purposes (sole proprietorships and partnerships), or, on the other hand, are securities representing property interests in intermediate units. It is true that the individual balance sheet is drawn on this heterogeneous basis. But, when the individual balance sheets are aggregated, the result will have little significance.

It might be possible, as Professor Hart has suggested, to

escape this difficulty by consolidating the balance sheets of intermediate units at the book value of their assets rather than at the market value of their liabilities. That would make possible an imputation at such values to the ultimate units, in place of the market values of the bonds and stocks. And that would derive a formally correct balance sheet of the private economy. It would be based on a single valuation basis and would thus have significance. It would not, however, represent the meaning of aggregate net worth of individuals as a factor in decisions. Nor would it coincide with the book values of these individuals. Moreover, when all that had been done, it would merely constitute a duplicate of the aggregate values of land and reproducible wealth in the private economy. All financial resources which are a liability to one and an asset to another would be eliminated. The government debt in private hands would fail to cancel out. As stated above, however, the federal deficit is not an asset to the public in the aggregate. Thus, with the exception of that part of government debt which is backed by real assets and with the exception of international property interests both ways, the aggregate net worth derived by this method would show the same total as the aggregate of land values and reproducible wealth values. For the purpose of making these minor corrections alone, the immense task seems not to be justified.

5) There has been discussion as to making estimates of so-called 'intangibles'. In *The Institution of Property,* I analyzed this type of property under the heading 'Property in Protected Processes' (p. 451). A glance at these headings will illustrate the difficulty in making such estimates.

Property created by statutory grant or authority
- Franchises (true)
- Licenses
- Patents
- Copyrights (statutory)
- Trade-marks (registered)
- Trade name (special, registered)

Property created by common law right
Copyrights (common law)

Property created by equitable right
Trade-marks (not registered)
Trade names (special, not registered)

Property created principally by contract
Goodwill
Memberships in Exchanges

The reasons for believing that the formation of aggregates of intangibles would be a fruitless undertaking are:

a) Such property can be bought and sold. When it is bought, it may be carried at cost. But most of it is never bought, therefore never gets valued and therefore is not included in assets.

b) Even where it has been bought, such property is no longer valued on most private balance sheets. For both these reasons, aggregates taken from actual statements would be so small a part of the actual total that they would misrepresent the facts.

c) It would be impossible to make estimates of the value of intangibles which were not shown on statements. Such value is reflected in a higher rate of income from a given quantity of real wealth. But no estimate of that excess would have validity, since there are other causes of such excess which never appear as intangibles.

These suggestions may be summarized as follows:

a) Segregate the aggregates in the separate sectors. Significance will arise from keeping them separate, not from combining them.

b) The aggregates for the public economy should be divided into two parts: (1) federal government; (2) state and local governments. For each of these, land and reproducible wealth should be kept separate. For these, however, consolidated balance sheets showing net worth will be meaningful.

c) In the private economy, derive estimates of land values

without attempting to separate nonstructural improvements or natural resources.

d) Derive more accurate estimates of the reproducible wealth in the private economy.

e) It seems hardly worth while to undertake consolidated balance sheets of the private economy in order to derive aggregate net worth.

f) It is probably not possible to secure valid estimates of the value of so-called 'intangibles'.

All these suggestions are based on a single scientific principle. If one desires to measure aggregates in a meaningful way, one does not add together magnitudes, some of which are measured by weight, some by length, and some by count.

Simon Kuznets

ELEMENTS OF AGREEMENT

Wealth is a stock of goods designed to facilitate current and future production. In a society that recognizes private property, this stock is the basis for a complex network of claims and obligations by households, firms, and collectives.

We measure wealth by assigning weights to either real goods (physical assets) or claims, because they affect production and economic activity at large. If a stock of goods is indispensable in producing current goods of a certain amount and character, and if it exists in one situation and not in another, we can explain differences between current output in the two situations. Likewise, if for a household, firm, or nation, a complex of claims and obligations makes for a certain pattern of economic behavior in pricing, spending, saving, etc., while another complex, *ceteris paribus,* makes for different patterns, our measures of this complex have important analytical uses.

The purpose of estimates of wealth is to reveal magnitudes of physical assets or of claims because they are determinants of economic behavior—past, present, and future. Therefore, the emphasis on motivation is as relevant to the approach via physical assets as, according to Mr. Hart, it is to the study of the structure of claims. In the former approach the motivation of

economic behavior lies in the relations between the stock and the flow of real goods; in the latter it lies in the relations between pecuniary claims—obligations and economic behavior. Though the two sets of relations may be correlated in some degree, there is no one-to-one agreement. Even though the behavior of a household, firm, or other unit is determined by *both* the physical stock-physical flow and claims-activity relations, it is best to analyze them separately, then combine the analyses and introduce other factors. The physical assets and the claims-obligations (called in my 1938 article, 'On the Measurement of National Wealth', the substantive and the claims) approaches to wealth measurement serve two distinct *proximate* purposes.

Among the issues upon which agreement has been expressed throughout the discussion are: concepts and estimates of wealth should be geared to analytical purposes, not made in such vague terms as 'strength of nations', 'welfare', 'economic power'; estimates by the physical assets approach and the claims approach are suitable for different purposes; and classification should be by groups reflecting the motivation of the economic behavior—past, present, or future—of the households, firms, and collectives that are the active economic units in our society.

The issues upon which disagreement continues are treated under the general heading of inclusion, valuation, and the aggregates.

PROBLEMS OF INCLUSION

Agreement seems to be general that 'human' capital and non-reproducible natural resources not subject to control by human agents, and hence not a basis for a network of transferable claims, should be excluded from any stock of goods or claims. In this I am among the majority; the broader definition of wealth in my 1938 article was designed for the purpose of exploring the area fully, and the conclusions concerning qualifications on estimates geared to this broader concept would obviously call for a much narrower definition. But when we exclude these two items we should be aware that we are restrict-

ing the measurable concept of wealth to a narrowly defined group of factors that falls far short of approximating the productive capacity of a nation or any smaller unit and to a narrowly defined group of claims that falls far short of the complete network of claims exercised by nations, regions, or smaller units vis-a-vis others.

At the other extreme of the range in scope, there is general agreement on the inclusion of all tangible reproducible goods and of all claims connected with them. One possible important exception has been overlooked in the discussion: the stock of war materiel. Its relevance for further production or the direct satisfaction of consumer wants and its role as a basis for claims are highly dubious. However, if we assume that the world is made up of competing nations and that a national economy requires military stocks to function, they should be included in national wealth (even though their current services are best classified as intermediate product, and are not included in national income).

The treatment of two other items is a source of perennial controversy: nonreproducible resources subject to property rights (minerals and the like) and nontangible capital, also subject to property rights (patents, franchises, etc., and goodwill).

That minerals and similar nonreproducible resources facilitate current production is no reason for including them: the same argument applies to rivers, coastlines, climate, etc., which we exclude. But as long as they are subject to property rights a definite argument exists for including them in wealth conceived of as a stock of claims, an argument that holds whether the rights belong to individuals or to a collective (e.g., the state).

Whether they should be included in wealth viewed as a stock of physical assets depends upon how they are valued. If we value, e.g., coal resources by development expenses, or national parks by the expenses incurred to make them fit for use, there would be no question, for we would be including the *reproducible* element of the value of the nonreproducible

assets alone. Difficulty arises only because, on some grounds, the value may be set well above (rarely below) that of work performed in making them available. If we include this excess, the 'nonreproducible' elements of value, why should we not do likewise for other nonreproducible resources of cardinal technological significance (rivers, sunshine, etc.)? If we exclude these resources, do we not omit from wealth elements (particularly if they are subject to private property rights) important in economic activity and whose consideration is important for the analytical purposes stressed above?

However we decide the issue we shall be arbitrary or inconsistent. Admitting the inconsistency and the difficulty of valuation, I prefer to include such resources at their values which well exceed their development costs. The decisive factor is that the resources are subject to property rights, and even when wealth is viewed as a stock of physical assets, the interests of economic analysis compel us to look at the stock not only as an embodiment of the past use of resources but also as one of a complex, subject to allocations by individuals, firms, or collectives. The fact that these nonreproducible resources (in contrast to 'free' resources such as air and rivers) are subject to property rights indicates that they are pieces in the economic game. Therefore, more would be lost in the way of insight provided by wealth estimates if they were excluded than would be gained by being consistent.

The ground for including 'intangibles' is different, even though here also it is simple for the claims approach, and difficult for the physical assets approach. As long as patents, franchises, goodwill, etc. are a basis for claims and, therefore, for corresponding obligations or limitations upon those who do not hold the claims, it is hard to see how they can be excluded from wealth conceived of as a stock of claims. If it is conceded that the specific usefulness of this approach lies in establishing the claims-obligation position of important transactor groups, not in getting nationwide net aggregates, the case for inclusion is irrefutable.

The case for inclusion or exclusion from wealth conceived of

as a stock of physical assets is different. That the items have no physical shape similar to goods that are included is not decisive. If one firm attracts customers by carrying a large inventory of hairpins and another by advertising the superiority of its brand of hairpins, should we include the first firm's larger inventory in the stock of wealth and exclude the goodwill the second firm has accumulated? The input of resources is the same for both firms; the yield to the firms is also the same; and from the standpoint of technical facilities for distribution, viewed for the nation as a whole, there may not be much choice between a large stock of hairpins and the re-education of consumers that would make them satisfied with a small stock. Should we exclude the latter type of capital just because it does not have the physical form of a large inventory or of a machine? A similar question can be raised concerning franchises or patents in which the legal right is evidence of either past input of resources or of a facility indispensable to the proper operation of a productive enterprise.

Such items should be excluded from wealth conceived of as a stock of physical assets for two reasons. First, as far as the intangible does not represent either addition to knowledge or the education of consumers (by means of advertising) but merely a legal privilege, there is no reason why the market value (and it cannot be anything except a market value) of that privilege should be included. It is a means of production for the given firm, but not for society as a whole. Second, as far as the intangible represents an addition to knowledge or the education of consumers, two obstacles to inclusion arise. First, it is extremely difficult to assign values to such additions to knowledge or to education—in no event does the value of the intangible even remotely approximate its real economic significance. Second, and more important, we do not include the much more diverse and in the aggregate much larger accretions to knowledge and capacities of individuals that occur otherwise. It is clearly inconsistent to exclude 'human' capital from wealth and expenses on education from capital formation, and include such dubious items as education of consumers by

advertising. By admitting these types of wealth and capital formation, we lift the lid of a Pandora's box of doubtful items ranging from 'morale', private and public, to the indubitable additions to knowledge and power that are completely outside the range of economic valuation and analysis.

PROBLEMS IN VALUATION

The current value of wealth, properly defined, is the sum of services discounted over the foreseeable future. The argument for weighting the existing wealth items by their current market value, emphasized in Goldsmith's paper and in the comments by Hagen, is compounded of two implicit assumptions: that wealth should be measured in current values; that current market prices are a good approximation to current values. Both assumptions are challengeable.

The first is suspect on the ground that while current values can legitimately be applied to national income, which is a current flow, it is incongruous to apply them to wealth, which is a residue of a long past. To make this argument more concrete, we should consider the question of valuation in the light of the major analytical uses to which the estimates of wealth are likely to be put.

Wealth as a stock of physical assets is of interest to us primarily because it enables us to gauge, in many specific cases (depending upon the classification of both assets and production), the relation between stock and flow. It is one of several productive factors, and from it we can trace differences in the capital-flow ratios among industries or over time. For any given year, additions to capital are in terms of original cost or current market price; existing stock, for comparative purposes, should obviously be at original cost, adjusted for accumulated consumption and differences in price levels. The comparison would then be between the net volume of resources (except nonreproducible resources, of which later) embodied in the existing stock of capital and output, both in current prices. To analyze the stock-flow ratios, is not the valuation suggested, adjusted original cost, the relevant one? And while it uses

market prices (no valuation approach can get away from the market), it employs them to weight the resources embodied in the capital stock. It does not use the current market price of each unit of capital goods as the latter would be derived through a process of sale, except under such artificial assumptions as would equate market price and adjusted original costs.

Only by accident would the adjusted original costs be the current value of capital stock: they are the original cost of capital stock adjusted for past consumption and for differences in price in different periods. To analyze the historical record for the role of technological and economic factors in determining the ratio of capital to current output, the adjusted original cost basis would seem not only adequate but indispensable, for it tells us the magnitude, in current prices, of the actual stock of capital goods being used. As far as current *market* prices of capital goods differ at all from original adjusted cost, i.e., as far as they are not in fact used to approximate the latter, they would distort the ratio for purposes of analysis. Current market prices of most capital goods (physical assets) are a biased sample (usually of distress categories) subject to short term speculative fluctuations that have little to do with either the long term or even short term functions which connect current output with the stock of real factors needed to turn it out.

Granted that for analyzing the *historical* growth of capital and its relation to output, adjusted original cost is the relevant basis of valuation,[1] what is the significance of such an analysis for the future and what can it tell about wealth as at least a partial index of capacity and hence about the future need for capital on varying assumptions concerning prospective output? For such purposes would the current value of wealth not be a more relevant basis? It would call for direct appraisal of possible future yields (productive service) which could then be properly discounted. In other words, when looking into the past the stock of wealth should probably be valued at adjusted

1 This basis is, in practice, quite close to current reproduction cost (*Studies in Income and Wealth, Volume Two,* pp. 28-33). Adjusted original cost, however, describes the procedure and results better than 'reproduction cost'.

original cost, but when looking into the future, it should be given current value based upon discounting future returns.

This argument is valid. But to apply it properly, one must consider explicitly prospective future services as well as know what pure interest rate to use in discounting. That the current market price of capital goods takes future services into account at a riskless interest rate is a big assumption indeed. I would be inclined to argue that even for the look into the future, the assumption implied in using adjusted original cost is perhaps no more difficult to swallow than the assumption that the current market price equals the true current value of capital goods. Obviously, one could use adjusted original cost for future analysis on the assumption that the past trends or levels of wealth and flow will persist. This would be tantamount to substituting for the judgment of the market concerning the future services of capital and the proper discount rate the judgment of the investigator based upon an analysis of the past. It is not clear to me that the choice must necessarily be in favor of the current market's judgment.

Thus in the physical assets approach, adjusted original cost seems more relevant and expedient; and the current market price basis should be used either as an approximation to adjusted original cost or for nonreproducible goods for which no original costs are, in the nature of the case, available. For the latter, current values are indispensable since as far as no past input of resources is involved, there are no trends or levels of values to project. For these resources analysis must be based upon the past and the current view of the future as expressed by the market—not as recorded by any actual input of resources.

The valuation of wealth as a stock of claims raises an entirely different set of questions. The major analytical purpose is to see how the structure of claims and obligations contributes to different patterns of short and long term behavior of various transactor groups. The magnitudes of some claims and obligations, e.g., cash and other liquid assets, short or long term fixed obligations, are rigidly fixed by their very nature. Since the magnitudes are set, no question of valuation arises. The prob-

lem is with claims and obligations that have no fixed values, and for which some choice exists concerning the basis of valuation; e.g., equity claims and corresponding nonfixed obligations. One would be inclined to say at first that current market prices are the only adequate basis. That the current price could obviously not be realized if *all* such claims were dumped on the market is not relevant: the market is assumed to take care of only the marginal amount of claims that ordinarily change hands, and from the viewpoint of each possessor unit the existence of a market adequate for contingency purposes is the relevant fact. But the market may often fail to perform its function adequately, and its appraisals may not reflect the true long term valuations of claims as viewed by their possessors. Current market prices are therefore a highly equivocal gauge of the claims as conceived by the transactors and as they affect economic behavior. Hence, we may prefer to accept the valuations business firms themselves put upon their equity claims and obligations (e.g., balance sheet values) rather than those of the stock market. Would not such an argument hold for accepting individuals' valuations of their balance sheet items rather than the market judgment as expressed in current market prices?

For claims and obligations whose value is not legally fixed, the valuation important in its effect upon the behavior of holders is a combination of current market price and either prospective market price or prospective yield of the claim. The fluctuating current market price as the sole basis of valuation would not be very revealing. Book values would be meaningful only if they were revised when the future yield or price is expected to change. One may conclude that comparison of values derived from more than one basis of valuation might prove illuminating. At any rate, it seems to me that we are greatly in need of further explicit discussion of the problem.

NATIONAL AGGREGATES

Is there much use for estimates of wealth that exclude 'human' capital and natural resources? Or should we confine ourselves

to estimating physical assets and claims and obligations by relatively narrow categories of users and transactors, and give up national aggregates?

The answer obviously depends upon whether national aggregates have any value except that of sentiment. For wealth viewed as a stock of physical assets, useful purposes are clear. If there is meaning in comparing stocks of goods with current flows by narrowly defined categories, there is meaning in similar comparisons of national aggregates—even though the ratios of the latter are weighted averages of those for the component categories. If our interest in the total output of the economy, as measured by national income, is legitimate, so is our interest in the relation between the aggregate stock of goods and aggregate output. International comparisons or comparisons for one nation in different periods, looking toward an analysis that would explain differences in total and per capita output and factors in economic growth and change, would obviously call for national aggregates of wealth viewed as stocks of goods servicing production—past, current, and on some assumption, future.

In short: to fulfil the various functions of wealth estimates, two national aggregates should be computed. Like any aggregate of wealth viewed as the stock of physical assets at the disposal of a nation, both would be modified by the net balance of claims against foreign countries. One would include all reproducible commodities, stocks held in any and all hands—households, business enterprises, and collectives of various descriptions. The main practical question is the coverage of inventories in the hands of consumers: they ought surely to include durable and perhaps semidurable commodities. The treatment of perishable goods in households is a matter of expediency; they may not warrant the effort involved in adequate estimation.

This total of reproducible wealth would gear in with both net and gross national product—on the assumption that the latter is net of any development expenses and that the former is before the subtraction of depletion charges. The treatment

of the government sector in such product totals has no bearing here: the congruence between reproducible wealth and national product totals would be preserved whether the Department of Commerce assumption, that government activity is all final product, or my assumption, that only direct services to consumers plus government capital formation constitute the final product of governmental activity, is adopted. However, to satisfy the equation mentioned by Mr. Bronfenbrenner (wealth at point 1, presumably valued at adjusted original costs, plus current national product minus current expenditures equals wealth at point 2) the Department of Commerce procedure would require the inclusion under current expenditures not only of personal consumption but also of such government activity as does not constitute additions to government capital.[2]

The second national aggregate would differ from the first in covering also such nonreproducible resources as are not 'free', i.e., those subject to property rights. It would parallel a national product total which, if gross, takes account of development expenses and additions to nonreproducible resources due to exploration and discovery (over and above development outlays); and if net, excludes depletion allowances. It is quite close to the definitions that were customary before recent changes by the Department of Commerce as far as they deducted depletion charges and ordinarily included among income items gains (corporate or entrepreneurial) associated with discoveries, and corresponds to the variant designated in my 1938 article by SC-I-3. The first national wealth aggregate, excluding nonreproducible resources, is the variant designated SC-I-4 (p. 18 of my article). As already suggested, adjusted original cost is the base for both except that for nonreproducible resources market value must perforce be used. This adjusted original cost may be taken gross or net of accumulated depreciation, depending upon the investigator's confidence in the validity of the data on depreciation and the degree to which

[2] In the procedure I prefer, current expenditures would include personal consumption and free services from government.

he thinks that such depreciation as is measurable affects the ratio between the capital stock and the flow of current output.

National aggregates can obviously be derived for wealth viewed as a stock of claims; e.g., Hart's net claims of 'ultimates'. However, viewed not as a substitute for a total of physical assets but as an aggregate in its own right, can a total of net claims serve any important uses? Perhaps further exploration of the claims approach would reveal some. At present I cannot think of any. Even if we disregard differences that may result from different bases of valuation, the net claims total would differ from any national aggregate of physical assets in that it would include all intangibles. At present, a national aggregate of wealth as a stock of claims might lead only to confusion.