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1 Secular Overview

The summary of the findings of the study consists of two parts. The first, presented in this chapter, is centered on a set of tables which provide information on the structure of the national balance sheets for 1900 and 1929 to give historical perspective, as well as for 1980 to bring the picture as far up to date as possible. The second part, which constitutes chapter 2, is limited to the years 1953–75 with which chapters 3–7 deal, but covers this period in greater detail and on an annual basis.

Similarly detailed balanced sheets for additional benchmarks between 1900 and 1953 (1912, 1922, 1933, 1939, and 1945) and for each year between 1945 and 1958 can be found in an earlier study (Goldsmith, Lipsey, and Mendelson 1963, vol. 2). The corresponding basic statistics are available on an annual basis for the years following 1975, for reproducible tangible assets in the *Survey of Current Business* (Musgrave 1976, 1979, 1980, 1981), and for financial assets in the Federal Reserve Board's flow-of-funds accounts. These are summarized in chapter 8.

Three concepts of national assets are used in this study. The narrowest concept, illustrated by table 1, is limited to land, nonmilitary structures and equipment, consumer durables, and inventories. The broader concept, illustrated by table 2, includes in addition consumer semidurables, military structures, equipment and inventories, standing timber, subsoil assets, collectors' items, capitalized research and development expenditures, unfunded pension claims, the difference between the adjusted book and the market value of corporate stock, and households' equity in unincorporated farm and nonfarm business enterprises and in bank-administered personal trust funds, the last three because these enterprises and funds are treated as separate sectors. An intermediate concept, used throughout chapters 3–6, does not include standing timber, subsoil assets, colllectors' items, research and development expenditures, unfunded pension claims, and the stock valuation difference.

The additional items included in the broader concept are of very different character. Four of them—military structures, equipment, and inventories; standing timber; subsoil assets; and collectors' items—represent tangible assets which conceptually should be included in national wealth and hence in national balance sheets but which are usually omitted because of the difficulty of measurement and the necessarily very large margin of error in the estimates. Capitalized expenditure on basic and applied research may be regarded as a type of reproducible asset embodied in tangible assets, particularly equipment, and thus contributing to output. The inclusion of two others—equities in unincorporated business and in personal trust funds—depends on whether or not farm and nonfarm unincorporated business enterprises and personal trust funds administered by banks and trust companies are regarded as separate sectors or are consolidated with the household sector. Inclusion of the unfunded liabilities of social security and other pension funds is determined by the degree to which they are viewed by creditors, households, and debtors as part of their assets and liabilities, and how they influence portfolio policies and consumption and investment decisions.

The question naturally arises which of these three concepts is preferable. The answer will depend on the purposes that analysis of the figures is to serve; on the span, the frequency, and the up-to-dateness of the estimates; and on the margin of error in the estimates the user is willing to tolerate. On the last two criteria the broad concept ranks last, but it comes nearer to meeting the requirements of a comprehensive system of national account than the narrow and intermediate concepts. In the United States the narrow concept has the advantage that the official estimates of reproducible tangible and financial assets, though not of land, are available on an annual basis from 1925 and 1946 on respectively and that the narrow—as well as the intermediate—concept is being kept up to date. The intermediate concept has been adopted in chapters 3–6 on an annual basis for the period 1953–75 because it is regarded as conceptually preferable to the narrow one, even though it can be applied before 1953 for only a few benchmark years.

To put the changes in the structure of the national balance sheet of the United States between 1953 and 1975, which constitute the subject of this study and are discussed in chapters 3–6, into historical perspective, comparable estimates are provided in this section for 1900 and 1929. A preliminary estimate for 1980 is added to bring the pictures as much up to date as possible. The choice of the benchmarks of 1900 and 1929 was dictated by the availability of estimates of national balance sheets in an earlier study (Goldsmith, Lipsey, and Mendelson 1963, 2:72ff.), but is also justified by the fact that 1900 is near to the mid–1890s, which are often regarded as a watershed in American economic development, while 1929 constitutes another important turning point in economic and finan-

Table 1 **Structure and Growth of National Balance Sheet, 1900, 1929, 1953, and 1980: Narrow Concept**

	Distribution (percent)				Rate of growth[a] (percent per year)		
	1900 (1)	1929 (2)	1953 (3)	1980 (4)	1901 to 1929 (5)	1930 to 1953 (6)	1954 to 1980 (7)
I. Land	20.4	13.4	9.1	13.7	4.88	2.61	10.13
1. Agricultural	10.0	4.0	2.8	3.1	3.08	2.82	8.81
2. Other	10.4	9.4	6.3	10.6	6.06	2.52	10.61
II. Reproducible tangible assets	40.4	33.9	40.0	37.6	5.79	5.00	8.20
1. Residential structures	11.8	11.2	12.6	11.8	6.21	4.79	8.22
2. Other private structures	11.0	6.4	5.4	6.0	4.46	3.52	8.93
3. Government structures	1.7	3.5	5.7	6.3	9.11	6.41	8.78
4. Equipment	4.2	3.9	5.6	5.1	5.61	5.93	8.05
a. Private	4.1	3.8	5.0	4.6	5.58	5.62	8.10
b. Government	0.1	0.1	0.6	0.5	8.95	10.40	7.55
5. Inventories	4.8	3.9	4.6	3.6	5.69	5.05	7.41
a. Private	4.7	3.8	4.1	3.3	5.66	4.61	7.51
b. Government	0.1	0.1	0.5	0.3	6.94	23.25	6.43
6. Livestock	2.1	0.7	0.5	0.2	2.59	0.61	5.77
7. Consumer durables	4.1	4.3	5.7	4.6	6.61	5.47	7.61
III. Tangible assets	60.8	47.3	49.0	51.3	5.95	4.45	8.63
IV. Monetary metals	1.0	0.5	0.9	0.8	4.19	6.74	8.14
V. Financial assets	38.2	52.2	50.1	47.9	7.57	4.17	8.28
1. Currency and deposits	6.3	6.5	9.5	8.9	6.50	6.23	8.10
2. Insurance and pension claims	1.1	2.2	4.2	4.2	9.00	7.09	8.48
3. Loans (excluding line 4)	4.5	5.6	5.0	6.2	7.24	3.77	9.38

a. By financial institutions	3.9	3.9	2.9	4.8	6.50	2.89	10.61
b. Other	0.6	1.7	2.1	1.4	10.08	5.35	6.78
4. Mortgages	4.7	5.3	4.2	6.7	6.85	3.33	10.74
5. Federal government securities	0.8	1.8	9.6	4.6	9.39	11.70	5.58
6. State and local government securities	1.4	1.9	1.4	1.5	7.61	3.11	8.87
7. Corporate and foreign bonds	3.6	4.3	2.2	2.3	7.11	1.46	8.59
8. Trade credit	3.9	2.9	2.0	2.4	5.33	2.64	9.23
9. Other claims	3.7	4.5	4.0	3.2	7.15	3.76	7.59
10. Corporate stock	7.6	16.3	7.4	6.9	9.25	0.90	8.09
11. Direct foreign investments	0.6	0.9	0.7	0.9	11.90	2.93	9.81
VI. Foreign assets and liabilities							
1. Assets	0.7	1.8	1.6	2.4	10.31	3.36	10.21
2. Liabilities	2.9	0.9	0.9	1.9	2.59	4.08	11.54
VII. National assets							
1. Gross	100.0	100.0	100.0	100.0	6.76	4.28	8.46
2. Net	97.8	99.1	99.1	97.9	6.80	4.28	8.41

[a]Calculated, as in tables 2, 3, 4, 6, 18, 19, 41, 47, 52, 84, 85, 89, 90, and 92, as the geometric average ratio of increase between the values of the year preceding the first year of the period indicated and the last year of the period.

Sources:

Col. 1 — Goldsmith, Lipsey, and Mendelson 1963, 2:72 ff., eliminating deposit holdings among financial institutions and stockholdings among nonfinancial corporations to make figures comparable with those in cols. 2–4.

Col. 2
- Line I — As for col. 1.
- Line II — Printout from Department of Commerce, Bureau of Economic Analysis (figures are almost identical with those of Musgrave 1979, 1980).
- Lines IV, V — As for col. 1.
- Line VI — *Historical Statistics*, p. 868.

Col. 3
- Lines I, II — As for col. 2.
- Line IV — Derived from International Monetary Fund 1980, pp. 40 ff.
- Line V — Federal Reserve Board, *Flow of Funds Accounts, 1949–1978*, Dec. 1979.

Col. 4 — Preliminary estimates, mostly obtained by extrapolation of 1975–79 data in same sources as for cols. 2 and 3.

Table 2 **Structure and Growth of National Balance Sheet, 1900, 1929, 1953, and 1980: Broad Concept**

	Distribution (percent)				Rate of growth (percent per year)		
	1900 (1)	1929 (2)	1953 (3)	1980 (4)	1901 to 1929 (5)	1930 to 1953 (6)	1954 to 1980 (7)
I. Land	17.0	13.1	7.1	10.7	4.97	2.98	10.07
1. Agricultural	7.5	3.4	1.8	2.0	3.08	2.82	8.81
2. Other	7.9	8.2	4.0	6.9	6.06	2.52	10.61
3. Subsoil assets	1.6	1.5	1.3	1.8	5.71	5.14	9.77
II. Reproducible tangible assets	34.2	32.6	31.1	29.3	5.74	5.45	8.15
1. Residential structures	9.0	9.6	8.0	7.6	6.21	4.79	8.22
2. Other private structures	8.3	5.0	3.4	3.9	4.46	3.52	8.93
3. Government structures	1.4	3.4	4.0	4.3	9.20	6.35	8.67
a. Civilian	1.3	3.1	3.5	4.0	9.11	6.21	8.96
b. Military	0.1	0.3	0.5	0.3	10.26	7.43	5.71
4. Standing timber	1.8	0.7	1.3	0.9	2.42	8.54	6.86
a. Private	2.0	0.5	1.0	0.7	2.42	8.54	6.86
b. Government	0.6	0.2	0.3	0.2	2.42	8.54	6.88
5. Equipment	3.7	3.4	4.7	3.8	5.73	7.01	7.56
a. Private	3.6	3.2	3.2	3.1	5.58	5.62	8.10
b. Government	0.1	0.2	1.5	0.8	8.95	14.11	6.07
(1) Civilian	0.1	0.1	0.4	0.3	6.67	10.40	7.55
(2) Military	0.0	0.1	1.1	0.5	...	16.50	5.44
6. Inventories	3.7	3.3	3.7	3.1	5.69	6.10	7.50
a. Private	3.6	3.3	2.6	2.1	5.66	4.61	7.51
b. Government	0.1	0.0	1.1	0.9	6.94	18.60	7.46
(1) Civilian	0.1	...	0.3	0.2	6.94	23.25	6.43
(2) Military	...	...	0.8	0.7	...	17.05	7.84
7. Livestock	1.6	0.6	0.3	0.2	2.59	2.21	5.77

8. Consumer durables	3.1	3.7	3.6	3.0	6.61	5.47	7.61
9. Consumer semidurables	1.6	1.6	1.1	0.7	6.03	4.10	6.23
10. Collectors' items	0.0	0.3	0.1	0.2	9.79	1.20	12.00
11. Research and development	...	0.0	0.8	1.7	...	...	11.60
III. Tangible assets	51.2	45.7	38.1	40.0	5.09	7.01	8.63
IV. Monetary metals	0.7	0.5	0.6	0.5	4.19	6.74	8.14
V. Financial assets	48.1	53.8	61.3	59.5	6.33	6.23	8.28
1. Currency and deposits	4.8	5.6	6.1	5.7	6.50	6.02	8.10
2. Insurance and pension funds, funded	0.8	1.9	2.7	2.7	9.00	7.09	8.48
3. Insurance and pension funds, unfunded	...	0.1	18.4	20.8	...	31.40	8.90
4. Loans (excluding 5)	3.4	4.9	3.2	4.0	7.24	3.77	9.38
a. By financial institutions	2.9	3.5	1.8	3.1	6.50	2.89	10.61
b. Others	0.5	1.4	1.3	0.9	10.08	5.35	6.78
5. Mortgages	3.6	4.6	2.7	4.4	6.85	3.33	10.36
6. Federal government securities	0.6	1.6	6.1	3.0	9.39	11.70	5.58
7. State and local government securities	1.0	1.7	0.9	1.0	7.61	3.11	8.87
8. Corporate and foreign bonds	2.7	3.8	1.4	1.5	7.11	1.46	8.59
9. Trade credit	3.0	2.5	1.1	1.6	5.33	2.07	9.23
10. Other claims	2.8	3.9	2.6	2.1	7.15	3.80	7.59
11. Corporate stock	5.8	14.2	4.7	4.5	9.25	0.90	8.19
12. Stock valuation adjustment	2.5	−3.0	2.6	2.5	...	...	8.25
13. Direct foreign investment	0.5	0.8	0.4	0.6	7.43	2.93	9.81
14. Equity in unincorporated business	15.0	8.2	7.4	4.5	3.74	5.21	6.39
15. Equity in personal trust funds	1.6	3.0	1.0	0.7	8.26	1.10	6.96
VI. National assets: Gross	100.0	100.0	100.0	100.0	5.91	5.66	8.40
VI. National assets: Net	97.9	99.2	99.4	98.6	5.96	5.67	8.37
VII. Foreign assets and liabilities: Assets	0.5	1.7	1.0	1.6	10.31	3.36	8.46
VII. Foreign assets and liabilities: Liabilities	2.1	0.8	0.6	1.4	2.59	4.08	8.41

Sources:

Cols. 1-4 As for table 1 with the exception of lines I-3, II-4, II-10, II-11, V-3, and V-12, the sources of which are indicated in the discussion of chapter 7; lines II-3b and II-5b (2), which are from Musgrave 1980, or roughly estimated in col. 1; II-6b, which was supplied by Musgrave; and V-14 and V-15, derived from Goldsmith, Lipsey, and Mendelson 1963, 2:72ff., or, for 1980, roughly estimated.

cial history, the two benchmarks bracketing the upward phase of a long (Kondratieff) upswing. Table 1 shows the structure of the national balance sheet of the United States for four benchmark dates between 1900 and 1980 in current prices using the narrow concept of national assets, and thus permits us to follow changes in the composition of the balance sheet over the last eight decades. Table 2 provides the same information for the broad concept of national assets. Since in the aggregate liabilities are equal to claims except for the relatively small net foreign balance, while tangible assets are equal to net worth, the two tables also reflect the structure of the other side of the national balance sheet. Changes in the distribution of national assets among components are the result of differences in the rates of growth between benchmark dates. Columns 5 to 7 of tables 1 and 2 therefore show these rates for both the narrow and the broad definitions of national assets. Changes in the current value of the components of the national balance sheet may be regarded as the combination of changes in the "quantity" and the price of these components, and the current values may be expressed in terms of constant prices. The result of these calculations are shown in table 3, though because of conceptual and statistical differences only for the three main components of national assets—land, reproducible tangible assets, and financial assets—and in table 4 for eight components of reproducible assets.

1.1. Trends in the Distribution of National Assets in Current Prices

The changes in the structure of the national balance sheet of the United States are evident, first, in the shares of the three main components of national assets, which are of different economic character.

The share of land decreased, using the broad concept of national assets of table 2, sharply from 17 percent in 1900 to 7 percent in 1953, continuing the downward movement observed during the nineteenth century (Goldsmith, forthcoming), but then recovered slowly but steadily to fully 10 percent in 1980. Most of the decline was accounted for by agricultural land whose share has remained slightly below 2 percent of the national assets during the last three decades compared to one of nearly 8 percent in 1900. The share of other land has moved irregularly and slightly downward since the turn of the century, held up by a large expansion of urban land and, in the later part of the period, very substantial price increases. The value of subsoil assets declined in comparison to national assets until the 1960s but rose sharply in the second half of the 1970s reflecting increases in the price of oil, gas, and coal, with the result that their share in 1980 was slightly higher than it had been at the turn of the century.

Reproducible tangible assets have on the average accounted for slightly more than 30 percent of national assets, declining slowly from 34 to 29 percent. If attention is concentrated on differences in the share of the various components in the value of all reproducible tangible assets between 1900 and 1980, the outstanding change is the increasing importance of government structures and equipment, whose share rose from less than 5 to nearly 20 percent, only one-fifth of the increase being attributable to military items. This increase was offset primarily by reductions in the share of private nonresidential structures from about one-fourth to one-eighth, and secondarily by declines in the shares of timber, inventories, livestock, and consumer semidurables. Residential structures, the largest single component, accounted for about one-fourth of all reproducible capital throughout the period.

Through most of the period financial assets increased more rapidly than tangible assets so that their share in total national assets rose from one-half in 1900 to three-fifths or slightly more in the postwar period. The sharp difference in the structure of financial assets between the two halves of the period was due to the large proportion of all financial assets accounted for during the second half by unfunded pension claims. Apart from them, the main differences between 1900 and 1980 were the doubling of the share of currency and deposits and of funded insurance and pension claims from 11 to 22 percent; the increase in the share of mortgages from 7 to 11 percent and that of government securities from 3 to fully 10 percent; and the declines in the share of corporate bonds from 7 to less than 4 percent, and that of the household sector's equity in unincorporated business enterprises from 30 to 12 percent. The share of corporate stock happened to be about the same in 1980 and in 1900—fully one-tenth on the basis of market prices, but about one-sixth if allowance is made for the excess of adjusted book over market value—though it showed wide fluctuations in the intervening eight decades.

1.2. Differences between Broad and Narrow Concepts of Assets

The differences in the structure of the national balance sheet according to either the narrow or the broad concept, i.e., between tables 1 and 2, arise primarily from the inclusion in the latter, but not in the former, of two financial assets: household's equity in unincorporated farm and nonagricultural enterprises and their unfunded pension claims. These differences are large in both halves of the eighty-year period, but their effect is mitigated by the fact that the one (equity in unincorporated businesses) is large though declining in the first half of the period, while the other (unfunded pension claims) is very large but fairly stable in the postwar period, but negligible before the 1930s.

The share of land declines by about one-third under both the narrow and the broad concepts, and the fall is only slightly less pronounced in the former case. If the narrow, and conventional, concept of national assets is used, as in table 1, the share of reproducible tangible assets is virtually the same in 1980 as in 1900, while it declines by about two-fifths under the broad definition of national assets, but the lowest point is reached in both cases in the mid-1960s. The distribution among the various types of reproducible assets is very similar under both concepts.

Because of the elimination of households' unfunded pension claims and their equity in unincorporated business and in personal trust funds and of the stock valuation adjustment, which account for 20 percent of total financial assets broadly defined in 1900 and for nearly 30 percent in 1980, the shares of all other financial assets are under the narrow concept considerably higher than under the broad concept, and more so in 1980 than in 1900, but their relative sizes are the same in both cases. The differences in the structure of national assets under the two concepts are summarized below (percent of total assets).

	Level		Change	
	1900	1980	Absolute	Relative
I. Land				
1. Narrow concept	20.4	13.7	−6.7	−32.8
2. Broad concept	17.0	10.7	−6.3	−37.1
II. Reproducible tangible assets				
1. Narrow concept	40.4	37.6	−2.8	−6.9
2. Broad concept	34.2	29.3	−4.9	−14.3
III. Financial assets[a]				
1. Narrow concept	39.2	48.7	+8.5	+24.2
2. Broad concept	48.8	60.0	+10.7	+21.9

[a]Including monetary metals.

1.3 Changes in the National Balance Sheet in Constant Prices

The changes in the structure of national assets, as well as the growth rates shown in tables 1 and 2, are all based on values in current prices and thus are the combined results of changes in the price levels of the different components and in their quantities. One would, therefore, for purposes of analysis want to separate these two factors, i.e., to show estimates in constant prices, as proxies for quantity measures that are impossible to obtain and are conceptually not additive. The available statistical data, as well as theoretical considerations, however, permit the derivation of price indices, and hence of estimates in constant prices only for reproducible tangible assets under the narrow concept. Even these are affected by a larger margin of uncertainty than the estimates in current prices because of the many well-known statistical and conceptual problems, particularly the doubt that the price indices used make sufficient allowance for quality improvements resulting in overstatement of price rises and consequently understatement of rates of growth in constant prices, i.e., in "quantities." In the case of financial assets probably the only available and to some degree meaningful index is that of the general price level represented by the implicit deflator of gross national product or possibly of consumer expenditures. This leads to an expression of all components of financial assets in terms of the purchasing power of money of the base year of the indices, and hence does not alter the relative shares of growth rates of the various components. In the case of land, three approaches may be considered. The estimates in current prices may be expressed, like financial assets, in terms of the base period's purchasing power. Or the current value of land in the base period may be used for all dates on the argument that the "quantity" of land is by definition unchanging, though allowance may be made for changes in the share of the different types of land. A third approach, the deflation of the value of the different types of land by the use of land price indices is more in line with the procedures applied to reproducible tangible assets, but is difficult to implement statistically, except for agricultural land. In the case of land underlying residential and other structures, a fourth possible approach is to apply the land/structure ratios derived from current price figures to the constant price estimates of structures.

In order to permit at least a rough picture of the secular changes in the national balance sheets in constant prices table 3 shows the rates of growth of the three main components of the national balance sheet using specific deflation for reproducible tangible assets and the national product deflator for land and financial assets. The resulting rates of growth for total national assets for the entire period are only half as large as those expressed in current prices, and the difference is largest for the postwar period. Since the deflators for reproducible tangible assets do not greatly differ from the national product deflator, which is applied to about three-fifths of national assets, the distributions of national assets among the three main components—land, reproducible tangible assets, and financial assets—are quite similar.

The changes in the distribution of the stock of reproducible tangible assets in constant prices and the divergences in the underlying rates of growth, shown in table 4 differ somewhat from those in current prices. These differences reflect those in the relative prices of the various components. In particular, the generally less rapid rise in the prices of equipment compared to those of structures results in the share of equipment and consumer durables in total reproducible assets increasing more rapidly in constant than in current prices. Thus the share of structures declined between 1900 and 1980 by 1 percent of reproducible assets in current prices but by 11 percent in constant prices, while the share of

Table 3 **Growth Rates of Main Components of National Assets, 1901–80**
(percent per year)

	Current Prices				Constant Prices			
	1901 to 1929 (1)	1930 to 1953 (2)	1954 to 1980 (3)	1901 to 1980 (4)	1901 to 1929 (5)	1930 to 1953 (6)	1954 to 1980 (7)	1901 to 1980 (8)
I. Land								
1. Narrow definition	4.88	2.61	10.13	5.93	2.17	0.07	5.48	2.69
2. Broad definition	4.97	2.98	10.07	6.05	2.26	0.43	5.42	2.80
II. Reproducible tangible assets								
1. Narrow definition	5.79	5.00	8.20	6.36	3.36	1.68	3.60	2.80
2. Broad definition	5.74	5.45	8.15	6.46	...	...	...	...
III. Financial assets[a]								
1. Narrow definition	7.52	4.13	8.28	6.74	4.77	1.55	3.71	3.47
2. Broad definition	6.30	6.24	8.28	6.95	3.56	3.61	3.71	3.67
IV. National assets								
1. I-1 + II-1 + III-1	6.43	4.28	8.46	6.46	3.09	1.45	3.89	3.02
2. I-2 + II-1 + III-2	5.94	5.54	8.43	6.65	3.38	2.71	3.84	3.34
3. I-2 + II-2 + III-2	5.91	5.66	8.40	6.67	...	...	...	...

[a]Including monetary metals.
Sources: Absolute figures underlying tables 1 and 2 for current prices; table 4 for constant prices.

Table 4 **Distribution and Growth of Reproducible Tangible Assets, 1900–1979: Constant (1929 or 1972) Prices**

	Distribution (percent)					Rate of growth (percent per year)		
		1929				1901 to 1929	1930 to 1953	1954 to 1979
	1900 (1)	A (2)	B (3)	1953 (4)	1979[a] (5)	(6)	(7)	(8)
I. Structures	60.3	61.7	71.0	61.3	58.5	3.44	1.07	3.45
1. Residential	27.5	29.2	35.6	29.4	26.8	3.58	0.88	3.28
2. Other private	26.8	23.2	23.6	15.3	15.4	2.85	−0.14	3.67
3. Government	6.0	9.3	11.8	16.6	16.3	4.87	3.20	3.56
II. Equipment	11.0	12.4	10.1	14.1	14.8	3.80	3.08	3.86
1. Private	10.9	12.2	9.8	12.6	13.4	3.74	2.77	3.89
2. Government	0.1	0.2	0.3	1.5	1.4	6.37	7.57	3.00
III. Inventories[b]	15.0	12.0	9.7	13.5	10.7	2.57	3.11	2.48
1. Private	15.0	12.0	9.5	10.0	8.8	2.57	1.87	3.16
2. Government	0.0	0.0	0.2	3.5	1.8	. . .	18.10	1.08
IV. Consumer durables	13.7	13.8	9.1	11.1	16.0	3.40	2.49	5.13
V. Reproducible tangible assets								
1. Percent	100.0	100.0	100.0	100.0	100.0			
2. $ bill. of 1929 or 1972	123[c]	321[c]	1,005	1,500	3,805	3.36	1.68	3.65

[a]The 1980 distribution is virtually identical with that of 1979, and the total (line V 2) is only 1.5 percent higher (Bureau of Economic Analysis, printout).
[b]Including livestock.
[c]Dollars of 1929.
Sources of basic data:
Cols. 1, 2 Goldsmith 1952, 307.
Cols. 3-5 U.S. Department of Commerce, Bureau of Economic Analysis, printout.

equipment and consumer durables increased by 3 and 13 percentage points respectively.

1.4. Sectoral Distribution of Assets

The past eight decades have also witnessed considerable changes in the distribution of national assets, which reflect differences in sectoral rates of growth. These can be followed in table 5 in current prices for the narrow concept of national assets.

Three changes stand out: the tripling of the share of the government; the doubling of the share of financial institutions; and the sharp reduction of the share of unincorporated business, primarily agriculture. These changes have almost offset each other with the result that the share of the household sector was close to two-fifths in 1980 as well as in 1900.

The main trends have, however, occasionally been modified, and such modifications would be more visible if the calculations were made for a larger number of benchmark years.[1] In particular, the extraordinarily high share of the household sector in 1929 reflects the then very high level of stock prices, while that of the federal government in 1953 is due in part to its asset accumulation during the Great Depression and World War II.

1.5. Decomposition of Rates of Growth of National Assets

For the entire period fully one-half of the rate of growth in current prices of 5 percent is attributable to the rise in prices resulting in an average rate of growth in constant prices of 3.0 percent per year in the aggregate and of 1.7 per head. This is fractionally lower than the rate of growth of real national product per head.

The decomposition of the growth rate of national assets and of their three components for the period as a whole as well as for the three subperiods of about a quarter of a century is shown in table 6. In the case of national assets, the share of the three components has not varied greatly among the three subperiods except that changes in the price level and in population accounted for a somewhat larger proportion of the growth of national assets in current prices in the 1930–53 period, with the result that the share of real assets per head was substantially lower. The differences would be larger if shorter subperiods were used, in particular if the inflationary periods of the late 1940s and late 1970s were isolated. The differences between the three components are also moderate if attention is concentrated on the period as a whole, but are substantial in some cells for the 1930–53 period. These differences are in part explained

1. Similar figures can be derived for 1912, 1922, 1933, 1939, and for each year from 1945 to 1958 from estimates in Goldsmith, Lipsey, and Mendelson 1963, vol. 2, and those for the 1953–75 period are shown in table 27.

Table 5 **Sectoral Distribution of National Assets, 1900, 1929, 1953, 1975, and 1979: Narrow Concept (percent)**

	1900 (1)	1929 (2)	1953 (3)	1975 A (4)	1975 B (5)	1979 (6)
1. Households[a]	38.1	47.5	38.1	38.1	39.2	39.5
2. Unincorporated business	24.8	12.8	12.9	9.7	26.7	25.8
3. Nonfinancial corporations	22.2	21.0	15.8	17.2		
4. Federal government	0.9	0.4	8.5	4.3	13.5	4.0
5. State and local government	3.7	4.7	6.4	9.5		9.5
6. Financial institutions	10.3	13.6	18.5	21.2	20.6	21.2
7. All sectors, percent	100.0	100.0	100.0	100.0	100.0	100.0
8. All sectors, $ bill.	145	884	2,534	12,440	12,170	19,300

[a]Includes nonprofit institutions.

Sources of basic data:

Cols. 1, 2 Goldsmith, Lipsey, and Mendelson 1963, 2: 72 ff.

Cols. 3, 4 Derived from printouts underlying table 26.

Cols. 5, 6 Derived, with some adjustments, from Bureau of Economic Analysis printout for reproducible assets, Federal Reserve flow-of-funds accounts for financial assets and rough estimates for land.

Table 6 **Decomposition of Rate of Growth of National Assets (Narrow Concept), 1901–80**

	Growth rate (percent per year)				Distribution (percent)			
	1901 to 1929 (1)	1930 to 1953 (2)	1954 to 1980 (3)	1901 to 1980 (4)	1901 to 1929 (5)	1930 to 1953 (6)	1954 to 1980 (7)	1901 to 1980 (8)
	I. National Assets							
1. Assets, current prices	6.43	4.28	8.46	6.46	100	100	100	100
2. Prices	2.53	2.82	4.39	3.34	39	65	52	52
3. Assets, constant prices	3.80	1.45	3.89	3.02	59	34	46	47
4. Population	1.62	1.15	1.22	1.34	25	27	14	21
5. Assets, constant prices per head	2.15	0.30	2.64	1.66	34	7	31	26

	II. Land							
1. Assets, current prices	4.88	2.61	10.13	5.93	100	100	100	100
2. Prices	2.65	2.54	4.41	3.16	54	97	44	53
3. Assets, constant prices	2.17	0.07	5.48	2.69	44	3	54	45
4. Population	1.62	1.15	1.22	1.34	33	44	12	23
5. Assets, constant prices per head	0.54	−1.08	4.21	1.33	11	−41	42	22
	III. Reproducible Tangible Assets							
1. Assets, current prices	5.79	5.08	8.20	6.36	100	100	100	100
2. Prices	2.35	3.34	4.44	3.46	41	66	54	54
3. Assets, constant prices	3.36	1.68	3.60	2.80	58	33	44	44
4. Population	1.62	1.15	1.22	1.34	28	23	15	21
5. Assets, constant prices per head	1.71	0.52	2.35	1.44	30	10	29	23
	IV. Financial Assets							
1. Assets, current prices	7.52	4.13	8.28	6.74	100	100	100	100
2. Prices	2.65	2.54	4.41	3.16	35	62	53	47
3. Assets, constant prices	4.79	1.55	3.71	3.47	64	38	45	51
4. Population	1.62	1.15	1.22	1.34	22	28	15	20
5. Assets, constant prices per head	3.12	0.40	2.46	2.10	41	10	30	31

by the fact that the current values of land are reduced to constant prices by the national product deflator, so that they reflect differences between the price of land and of total output, rather than changes in the "quantity" of land, which cannot easily be measured.

There are, however, considerable differences in the relation between the rates of growth of real assets and real national product per head. In the first three decades both grew at about the same rate. In the 1930–53 period, however, real assets increased much less rapidly than real product, while the opposite relation prevailed in the postwar period. Thus the relation, in real terms, between assets and product has not shown a secular trend, though it has exhibited substantial offsetting movements over the period. That the relation between assets and product was similar in current prices, the ratio rising only from 7.1 in 1900 to 8.0 in 1980, is due to the fact that the secular trends in the prices of tangible assets do not seem to have deviated substantially from those in the price of output.

1.6. National Balance Sheet Ratios

1.6.1. Capital-output Ratios

National balance sheets permit the calculation of asset/output ratios of different scope, those relating the value of the stock of tangible assets to that of national product being generally known as capital/output ratios. These provide an indication, though not a perfect one, if only because they do not adjust for the level of capacity utilization, of capital intensity or productivity. Table 7 shows these ratios for the most important components of assets on the basis of current prices.

In comparison to the far-reaching changes which have occurred in the American economy since the turn of the century, the movements of the asset/output ratios appear moderate, at least if only the beginning and the end of the period are compared. Thus the ratio of tangible assets to national product changed only from 4.5 to 4.1 between 1900 and 1980, and there was no change at all for reproducible assets. Reflecting the increasing importance of governments and households, the ratio of reproducible business type assets declined substantially between 1900 and 1953, and regained only about one-fourth of its decline in the postwar period. An explanation of this movement would require a breakdown of the business sector. It is obviously related to the declining share of nonresidential private structures. The ratio of financial assets to product has, on the other hand, shown a definite upward trend, particularly if the broad definition is used, even disregarding the high ratio for 1929, which under the narrow definition in part reflects the extraordinarily high level of stock prices. As a result, the hybrid ratio of total national assets to

Table 7 **Capital/Output Ratios,[a] 1900, 1929, 1953, and 1980**

		1900 (1)	1929 (2)	1953 (3)	1980 (4)
I. Narrow definition of assets					
1. Land		1.50	1.22	0.60	1.10
2. Reproducible	All	2.97	3.10	2.65	3.01
3. assets	Business[b]	1.65	1.34	0.96	1.11
4. Financial assets		2.89	4.82	3.38	3.91
5. National assets		7.37	9.13	6.63	8.02
II. Broad definition of assets					
1. Land		1.65	1.37	0.74	1.33
2. Reproducible	All	3.32	3.41	3.24	3.63
3. assets	Business[c]	1.79	1.39	1.18	1.44
4. Financial assets		4.75	5.69	6.45	7.46
5. National assets		9.70	10.48	10.43	12.42

[a]Divisor is year-end rate of gross national product (cols. 1-3: *Historical Statistics*, p. 224; col. 4: *Economic Report of the President*, 1981).
[b]Private nonresidential structures, equipment, and inventories.
[c]As for 1, plus standing timber and capitalized research and development expenditures.
Sources: Tables 1 and 2.

national product has shown an upward trend, which is much more pronounced if the broader rather than the narrower concept of assets is used.

1.6.2. Other Balance Sheet Ratios

Six other balance sheet ratios of interest for economic or financial analysis are shown in table 8 on the basis of both the narrow and broad concepts of assets. Under the narrow, more familiar, concept the financial interrelations ratio, which measures the relative size of the financial superstructure, increased sharply between 1900 and 1929 under the influence of a rapid expansion of financial intermediaries and rising stock prices, but has declined moderately, though not steadily, over the past half-century, and in 1980 was about one-sixth lower than in 1929. Using the broad concept the level of the ratio is considerably higher; the rise continues to the mid-1960s, and the 1980 ratio is still one-fourth above that of 1929 though one-fifth below the peak of 1964. The differences are due mainly to the partly offsetting movements of households' equities in unincorporated business and their unfunded pension claims which varied considerably from those of other financial assets.

The financial intermediation ratio, an indication of the importance of financial institutions within the financial superstructure, rose under both definitions, though considerably more and more regularly if the narrow concept is used. In that case it increased from about one-fourth to two-fifths, mostly between 1929 and 1953, indicating that the proportion

Table 8 **Additional National Balance Sheet Ratios, 1900, 1929, 1953, and 1980**

	1900 (1)	1929 (2)	1953 (3)	1980 (4)
	I. Narrow Concept of Assets			
1. Financial interrelations ratio[a]	0.65	1.12	1.04	0.95
2. Financial intermediation ratio[b]	0.26	0.26	0.36	0.40
3. Debt ratio over national assets	0.33	0.36	0.42	0.45
4. Debt ratio over tangible assets	0.49	0.75	0.86	0.85
5. Liquidity ratio[c]	0.13	0.15	0.24	0.15
6. Foreign balance ratio[d]	−0.021	0.010	0.007	0.005
	II. Broad Concept of Assets			
1. Financial interrelations ratio[a]	0.95	1.19	1.62	1.49
2. Financial intermediation ratio[b]	0.16	0.22	0.19	0.21
3. Debt ratio over national assets	0.23	0.31	0.45	0.47
4. Debt ratio over tangible assets	0.44	0.68	1.18	1.16
5. Liquidity ratio[c]	0.10	0.13	0.15	0.09
6. Foreign balance ratio[d]	−0.016	0.009	0.004	0.003

[a]Financial assets (including monetary metals) : tangible assets.
[b]Financial assets of financial institutions (excluding interfinancial assets) : all financial assets.
[c]Gold, currency, deposits, open-market paper, and debt securities : national assets.
[d]Net foreign assets : national assets.
Sources: Tables 1 and 2.

of financial assets in which financial institutions acted either as holder or issuer advanced from about one-half to four-fifths, a reflection of the increasing institutionalization of the financial process.

The ratio of debts to either total or tangible assets only rose substantially and mostly before the 1950s under both concepts. From there on, the level of the ratios was considerably higher under the broad concept because of the large values assigned to unfunded pension claims. At the end of the period, debts were equal to nearly 50 percent of national assets and to about 85 and 115 percent respectively of national wealth.

The liquidity of the national balance sheet, for which no conceptually or statistically satisfactory measure exists, appears not to have shown any trend over the period irrespective of the concept used. This is the result, however, of an increase between 1900 and 1953—the then peak reflecting wartime increases in currency, deposit, and Treasury securities—which was offset during the following quarter-century.

The net foreign balance showed marked fluctuations, a transformation under the narrow concept of assets from a net debt ratio of over 2 percent of national assets at the turn of the century to a positive balance of about 1 percent from the 1920s to the 1960s followed by a decline to one-half that magnitude at the end of the period.